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JPLers thanked for helping inner-city kids

By Mark Whalen

Above: Ray Garcia of Section 353 works with students at Albion Elementary School in Los Angeles as part of the LA's BEST program.



a June 13 ceremony was held on Lab to thank those who participated late last year in an educational outreach program to inner-city elementary schools throughout the Los Angeles Unified School District.

In December, 38 JPLers visited 36 LA's BEST (Better Educated Students for Tomorrow) school sites, discussing with students in grades 3 through 5 such subjects as the search for life, how the planets formed, radar and hurricanes, and spacecraft design. They also give general career advice during these one-hour workshops scheduled throughout the city.

JPL promotes such community and educational outreach activities through VOICES (Validating Outreach Innovations for Community and Education Services).

"This is a unique contribution to students that a place like JPL can make," said Richard Shope, JPL education and public outreach coordinator. He noted that the program was successful in "communicating to

children hungry for real-world knowledge . . . in some of the hardest to reach rural and urban communities in America."

Shope said the participating scientists, engineers and technologists helped to "create an outreach testbed; not only for our own missions, but for space exploration itself."

JPL Director Dr. Charles Elachi presented each participant with certificates of recognition, and thanked them for their efforts. "Nothing you can give is more valuable than your time," he said, noting that NASA is JPL's major customer, "but our direct customer is the general public."

Elachi also thanked JPL supervisors for supporting their employees' volunteer efforts.

Tom Nolan of the Mission Systems Engineering Section, who visited Gratts Elementary School in Los Angeles, said he most enjoyed the challenge and level of interest brought to the kids, to where "they want to discuss it at the lunch table and on the playground. Their passion for learning will never change."

LA's BEST director Carla Sanger said the program continues to add school sites to its roster. She thanked Shope for his leadership of JPL's efforts, in "moving from impulse to intention to implementation." Recalling last month's Los Angeles city elections, Sanger said, "all candidates agreed on the value of LA's BEST and in its expansion, and we want JPL to be there with us."

The visits were arranged as a result of a partnership between LA's BEST and JPL's Education and Public Outreach Office. LA's BEST celebrates science in its after-school enrichment program, reaching more than 13,000 students in 78 inner-city elementary schools throughout the LAUSD in partnership with the Office of the Mayor of Los Angeles.

As part of the ceremony, Elachi received a special award for his support of the For Inspiration and Recognition of Science and Technology (FIRST) robotics competition in which JPL participated. Dr. Ayanna Howard and Shonte Wright presented the director with the competition's National Rookie All-Star trophy, which was earned by King Drew Medical Magnate School, one of 20 schools that received financial support from JPL during the competition. The school decided to pass the trophy on to Elachi and to JPL, because, Howard said, "they couldn't have done it without JPL's support."

New Optical Interferometry Development Laboratory breaks ground

From left: Mike Shao, Interferometry Center of Excellence; Tam Antoine, Construction of Facilities Program manager; Mike Devirian, Origins Program manager; Carl Simon, JPL construction project manager; Dr. Charles Elachi, JPL director; Bruce Fischer, Facilities Division manager; Ted Fujisawa, president of OC America, general contractor.

A groundbreaking ceremony was held June 5 for the new Optical Interferometry Development Laboratory (OIDL), Building 318, to be located just south of Building 170 along Surveyor Road.

JPL Director Dr. Charles Elachi noted the potential for new business in stellar interferometry at the Lab, emphasizing that this building would "bring unique capabilities providing a sub-nanometer-class development and test facility in a clean-room environment."

The OIDL building is needed because current development-laboratory space is inadequate and existing personnel overflow current facilities that are scattered across the Laboratory. The location of the new building, in the vicinity of buildings 171, 301 and 306, was needed to cluster it in proximity with existing vibration-isolated and clean environments used for interferometry development. Presently, Building 306 is capable of nearly comparable vibration isolation, but its space is fully occupied by preliminary interferometry technology development, as well as hardware dedicated to other flight missions.

Origins Program Manager Michael Devirian said the financing of the new building was unique in that it is the first at JPL to be financed directly by program funds. Currently the Space Interferometry Mission (SIM), managed by Tom Frascchetti, and Starlight, managed by Leslie Livesay, are sharing the costs. Dr. Michael Shao, manager of the Interferometry Center of Excellence, expressed his desire for OIDL to be a premier facility for interferometry technology development. Shao also acknowledged the efforts of his deputy manager, Bill Goss, in the planning, design and procurement of the building.



The new facility is designed to meet extremely demanding criteria for control of temperature, humidity, vibration and noise sufficient for development of picometer-class control technology. The building is a 1,346-square-meter (14,500-square-foot) structure containing a 458-square-meter (4,930-square-foot) high bay with an 11-meter (36-foot) ceiling, a 185-square-meter (1,990-square-foot) ground support equipment room, and three development laboratories, each at 219 square meters (2,360 square feet).

Construction of the building will eliminate 22 trailers along with Building 11, built in 1947, and Building 121, built in 1952, all of which are antiquated and maintenance-intensive laboratory and office space.

Construction of the OIDL was scheduled to begin June 18. The facility is expected to be completed in July 2002.

News Briefs

JPL Photo Lab



JPL Director Dr. Charles Elachi (second from left) with QWIP camera team members (from left) Dr. Sumith Bandara, Dr. Sarath Gunapala and John Liu.

QWIP camera gets hall of fame nod

An advanced sensor developed at JPL has been inducted into the U.S. Space Foundation Hall of Fame in recognition of its potential uses in medicine, firefighting and industry, as well as astronomy.

The Quantum Well Infrared Photodetector (QWIP) technology has been licensed for various commercial applications, including non-invasive detection of breast and skin cancers. Physicians use it during brain surgery to visualize a tumor's perimeter. The camera's ability to see through dust and smoke has proven useful to firefighters and helicopter camera crews by allowing them to see fire hot spots from the air through heavy smoke. The technology also has many other potential uses,

including search and rescue, and volcano observation. "It is a great pleasure to see something we developed being used for

public benefit," said DR. SARATH GUNAPALA, co-inventor and principal engineer of the sensor developed at JPL, "especially in medical applications, such as the early detection of cancer."

QuikScat captures Catalina Eddy

The elusive swirl of breezes called the Catalina Eddy, responsible for helping cool the Los Angeles basin, is captured in a new animation of sea-surface winds measured by JPL's SeaWinds instrument on the QuikScat satellite. During the hot, dry summer months these gentle winds are welcomed because they direct the offshore marine layer toward the Los Angeles basin. Because the flow is more on-shore than normal, this cooling oceanic influence of the eddy has been described as nature's purifier or air-conditioner for Los Angeles.

The animation is online at <http://www.jpl.nasa.gov/videos/earth/california>.

While the Catalina Eddy, an atmospheric vortex or eddy with a counterclockwise rotation pattern, can occur at any time of the year, it is most often seen during May and June. It can develop when the winds from the northwest along the Southern California coast are stronger than normal and interact with the local coastal and land topography.

A brighter Mars this summer

Hold on to your hats and keep a pair of binoculars handy: After a 26-month sprint around the track of the solar

system, we are about to lap Mars again.

Today, the red planet is in "opposition," an event that puts Earth between Mars and the Sun. On June 21, Mars was at its closest distance from Earth since 1988, a mere 67.3 million kilometers (about 42 million miles). All summer long, Mars will be brighter than usual, particularly for sky-watchers in the southern United States and those in the Southern Hemisphere.

On average, Mars is 50 percent farther from the Sun than Earth is. Because of its tighter orbit, Earth passes Mars every couple of years. The reduced distance between the two planets and better solar illumination angle give Earthlings the best Mars-viewing opportunity. Through October, Mars will be easy to spot looking south, especially around midnight. The more south the observer is, the higher the red planet will appear in the sky.

Radio clubs to have a field day

The JPL and Caltech Amateur Radio Clubs will join forces in the annual Field Day activity on the weekend of June 23 from atop Mount Gleason. This activity demonstrates radio amateurs' readiness to provide needed help to the public during times of emergencies, when normal communications services are either out of commission or overtaxed.

This year, the clubs plan to field eight stations for the first time. New to this year's operation will be usage of new radio amateur digital communications modes. Also in operation will be an automatic positioning mode used last year to determine how specific floats in the Rose Parade were progressing down Colorado Boulevard on New Year's Day.

Visitors are welcome to the event, said JPL Radio Club member BOB POLANSKY. Mount Gleason is located 30 miles north of JPL by auto and can be reached via Angeles Crest Highway.

Operations start at 11 a.m. on June 23 and run for 24 hours. For more information, call Polansky at ext. 4-4940 or JAY HOLLADAY at ext. 4-7758.

Attention office professionals

JPL's Office Professionals Mentoring Group is now accepting applications for its September 2001 program.

The group, which meets twice monthly during the lunch period, works to identify secretarial needs, gather appropriate resources, gain required permissions and provide solutions.

Formed in September 1999, the group recently developed a Web site (<http://hr/officepros>) that provides access to office procedures, and was invited to form a pilot group for the new JPL portal being developed by ICIS.

For more information, call JOY HODGES at ext. 4-7041.

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—No meetings are scheduled for July; next meeting is Aug. 16. For location, call the Employee Assistance Program at ext. 4-3680.

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

Friday, June 22

Von Kármán Lecture Series—"From Galileo to Gossamer: 400 Years of Telescope Technology" will be presented by Art Chmielewski, manager of JPL's Large Telescope Concepts Office, and Mark Dragovan, JPL research scientist, at 7 p.m. in The Forum at Pasadena City College, 1570 E. Colorado Blvd. Open to the public.

Saturday, June 23

CEC Wine-Tasting Benefit—The Child Educational Center's annual fundraiser will be held from 6:30 to 11 p.m. at Caltech's Avery House. Wines, food, auction items, gaming and live music by the Chad Edwards Quartet will be featured. Tickets are available at the ERC and the CEC office, 140 Foothill Blvd., La Cañada (adjacent to La Cañada High School), at \$30; 10 tastes of premium wines will be served at a special Connoisseur table, for which tickets are \$60. All proceeds will benefit the nonprofit child care center. Call the CEC at ext. 4-3418.

Monday, June 25

Caltech Ballroom Dance Club—The first in an eight-week series of Salsa lessons will be offered from 7:30 to 9 p.m. in Dabney Lounge. The professionally taught lessons cost \$8 each or \$56 for all eight. No partner is required. Refreshments and a half-hour practice period will follow each class. For more information, contact Megan Knight at knight@its.caltech.edu.

Tuesday, June 26

Investment Advice—Fidelity will hold one-on-one counseling sessions. For an appointment, call (800) 642-7131.

Wednesday, June 27

JPL Toastmasters Club—Meeting at 5:30 p.m. in the Building 167 conference room. Guests welcome. Call Jim Raney at ext. 4-6301.

"The Indispensable Elements Required to Successfully Build Your Career and Perform Your Job"—As people work to move ahead in their careers they often forget some of the "fundamentals" in performing their jobs. Associate Lab Director Kirk will give some examples from his personal experience during his noon in von Kármán Auditorium. Sponsored by The Director's Advisory Council for Women.

Thursday, June 28

JPL Golf Club—Meeting at noon in Building 306-302.

Tuesday, July 3

Ethics Training—Available to all personnel from 9 to 10 a.m. in Building 180-101. A list of training sessions is available at online at <http://hr/et>; search on "Ethics." The one-hour session is offered monthly or can be arranged for group presentations; call Martha Avina, ext. 4-3154.

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

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

Thursday, July 5

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

Space Flight Awareness honorees tour D.C.

Photo courtesy Nancy Kapell



Space Flight Awareness Program honorees, from left: Phillip Barela (Section 506), Stuart Imai (261), Sharon Langenbeck (352), Kathryn Weld (314), Roger Lee (174).

Five JPL employees have received Mid-Level Management Awards, part of NASA's Space Flight Awareness Program.

Honorees Phillip Barela (Section 506), Stuart Imai (261), Sharon Langenbeck (352), Roger Lee (174) and Kathryn Weld (314) recently traveled to Washington, D.C. to attend ceremonies held in conjunction with the 20th anniversary of the first space shuttle launch. They attended receptions at the Air and Space Museum with senior NASA and industry management, shuttle astronauts and international representatives supporting both the International Space Station and shuttle programs.

In addition, honorees attended a special tour of the Paul E. Barber facility, which refurbishes artifacts for the Smithsonian museums.

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>.

NOVA awards

The following employees received JPL's Notable Organizational Value Added (NOVA) awards in May:

Division 210: Josephine Ahumada, Noel Alejandrino, Michelle Hernandez, MeiYan Lin-Kao, Richard Niccoli, Kathie Reilly, Jose Rodriguera, Balta Rosales, Celine Sargan, Alice Smilgis, Rodney Stanley, Jennifer Unsen.

Division 230: Katrina Evans, Amanda Gibbs, Mary Ellen Robertson, Cynthia Rowland, Manick Sivarajah.

Division 250: Luis Arenas, Erica Beam, Brian Beeler, Cal Chambers, Kristy Dell'Aquila, L. Bruce Gibby, Annette Green, Charlene Hazelton, Robert W. Johnson, J. Steven Joines, Sharmon Keasler, H. Ming Kwong, Sharon Kyle, Cathy Lemaster, Brigid Lewis, Genevieve Lopez, Myriam Lopez, Melinda van der Geugten.

Section 312: Peter Antreasian, Vijayarag Alwar, Darren Baird, Brian Barden, Ramachand Bhat, Eugene Bonfiglio, John Bordi, George Carlisle, Eric Carranza, Steven Chesley, Stuart Demcak, Pasquale Esposito, Eric Graat, Mark Guman, Clifford Helfrich, Jennie Johannesen, James Miller, William Owen Jr., Mark Ryne, Tseng-Chan Wang, Bobby Williams, Roby Wilson.

Section 313: Steven Broberg, Louise Hamlin, Wayne Lee, Joel Krajewski.

Section 314: Duane Bindschadler, Roy Gladden, Kevin Grazier, Katherine Moyd, Taifun O'Reilly.

Section 323: Scott Bolton, Sandra Dewegeli.

Division 330: David Rochblatt, Charles Ruggier.

Section 366: Sandy Gutheinz, Gerald Humphrey, Paul Ottenfeld.

Section 367: Demetri Capetanopoulos, Russell Knight, Kacie Shelton.

Section 368: Robin O'Brien.

Section 385: Shannon Jackson.

Section 900: Duane Bindschadler, Scott Bolton.

Section 920: Rose Nadjarian, Byron Yetter.

Section 940: Richard Markley, Lorraine Suwa.

Section 970: Charles Steizler.

The following employees received NOVA's in June:

Division 190: Laura Chin-Loy, Sandra Dennis, Sheri Leigh, Viviana Navarro, Ivette Nicholls, Gail Rasmussen.

Section 335: Debra Coler, Vicky de La Trinidad, James Kohel, Sara Katrdzhyan, Carol Lorre, Kathleen Nielsen, Yvonne Vigue-Rodi.

Section 351: Pattie Broom, Christopher Carson, Daniel Cortez, Nancy Chiang, Melissa English, Terry Fisher, Guy Labrador, Michael McKee, Cindy Nguyen, Michelle Lyn Tuazon, Philip Withington, Bruce Woodward.

Section 352: William Allen, Mark Balzer, David Braun, Hugh Briggs, Carl Buck, Stephanie Buck, James Colvin, Gerardo Flores, Virginia Ford, Angel Garnica, Peter Illsley, Christopher Landry, Paul McGrath, Annette Nasif, David Otth, Chia-Yen Peng, Christopher Porter, Tommaso Rivellini, Karen Russo, Terri Scribner, Donald Sevilla, Adam Steltzer, James Stone, Frank Tillman, Wan Tsoi, Richard Webster.

Section 354: Chuck Jennings: Michael Schmelzel, Christopher White.

Section 367: Barbara Engelhardt, Benjamin Smith.

Section 368: Alexander Novati.

Section 369: Christine Aguilera, Tamara Andres, Joe Diep, Angela Esser, Rosemary Estrada, Jill Figueroa, Dana Flora-Adams, Carol Glazer, Gaylord Hammerwold, Marian Kuri, Katherine Levister, Amalaye Oyake, Judith Ryken, Tatiana Stalker, Sheila Tews.

Section 387: John Bousman, David I. Brown, Thomas Chrien, Michael Eastwood, James Gerhard, Jason Koelliker, Sarah Lundeen, Ian McCubbin, Betina Pavri, Beverly St Ange.

Division 500: Kirk Gerbracht, W. Darrol Houser Jr., Geoffrey James, Isik Kanik, Patricia Westerlund.

Division 800: Alfred Pappano, Jennifer Schlickbernd.

NEW DIRECTIONS

JPL studies for Earth science and missions to Mars and Pluto have recently received the go-ahead by NASA for further development

THE SOLAR SYSTEM

JPL IS INCLUDED IN TWO PROPOSALS selected by NASA for detailed mission feasibility studies as candidates for a Pluto-Kuiper Belt mission.

"For this mission to be possible, new funding would have to be provided in NASA's FY 2002 budget," said Gregg Vane, manager of JPL's Discovery Pre-Projects

Office. "There would be a \$500 million cost cap for the mission, which would include the launch vehicle and power source," Vane said.

The president's FY 2002 budget request does not contain development funding for a Pluto mission, and Congress requested that NASA "not do anything precipitous that would preclude the ability to develop such a mission until it is considered in the context of the FY 2002 budget." If

a Pluto-Kuiper Belt mission is developed, launch would be in the 2004-06 time frame and the spacecraft would arrive at Pluto before 2020.

The selected investigations are:

- Pluto and Outer Solar System Explorer (POSSE).

Principal Investigator is Dr. Larry Esposito of the University of Colorado, Boulder.

- New Horizons: Shedding Light on Frontier Worlds. Principal Investigator is Dr. S. Alan Stern of Southwest Research Institute in Boulder.

On POSSE, JPL co-investigators are Dr. Candy Hansen, leading the mission planning team and a member of the atmospheric and geology teams; Dr. Bill Owen, leading the optical navigation team and a member of the geology and geophysics teams; Dr. Nicole Rappaport, leading the radio science team and a member of the atmospheric team; and Dr. Tom Spilker, a member of the atmospheric team.

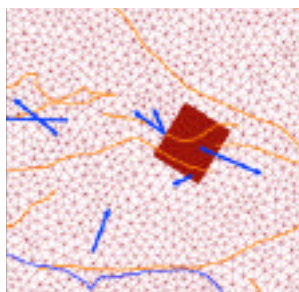
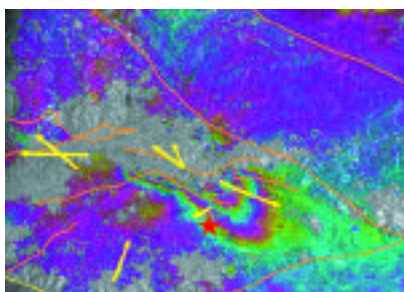
Each proposal team will receive \$450,000 to conduct a three-month concept study, which will culminate in a written proposal that documents technical implementation approach and cost feasibilities. Later this year, if funding is available, NASA will determine if either proposal is selectable.

Each proposal includes a remote sensing package that includes imaging instruments, a radio science investigation, and other experiments to characterize the global geology and morphology of Pluto and its moon Charon, map their surface composition, and characterize Pluto's neutral atmosphere and its escape rate.

If POSSE is selected for development, JPL's role would also include project management and overall implementation; mission design and operations; system engineering; safety and mission assurance; and launch approval management. If New Horizons is selected, JPL would provide Deep Space Network support.

Global positioning system measurements are indicated with arrows that show seismic activity during the 1994 Northridge quake.

Colored areas show interferometric Synthetic Aperture Radar data. Scientists will use the mesh overlay shown at right to help them assimilate seismic and geologic data into earthquake modeling studies.



THE MARS

THE 10 MOST PROMISING MISSION CONCEPTS of the 43 proposed to NASA for possible launch to Mars in 2007 were selected earlier this month to receive funding for six months of continued studies. Of those 10, two would be led by principal investigators from JPL.

Included in the 10 concepts selected for study are missions to return samples of Martian atmospheric dust and gas, networks of small landers, orbiting constellations of small craft and a rover that would attempt to establish absolute surface ages of rocks and soils.

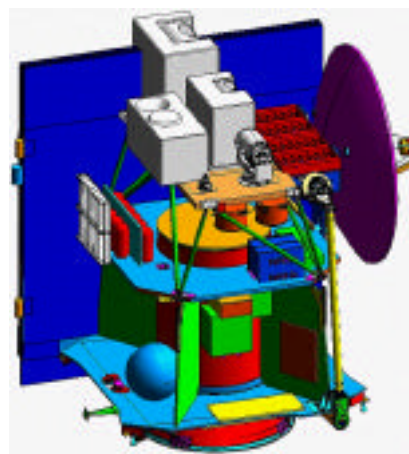
The missions that would be led by JPL principal investigators are:

- Mars Environmental Observer, led by Dr. Michael Janssen. This science orbiter would intensively explore the role of water, dust, ice and other materials within the Martian atmosphere to understand parts of the hydrologic cycle.

- CryoScout, led by Dr. Frank Carsey. This mission, designed to use heated water jets to descend through Martian polar ice caps, could potentially probe to depths of tens to hundreds of meters, or yards, while measuring composition and searching for organic compounds.

NASA plans to evaluate the 10 innovative concepts using rapid six-month studies as a means for jump-starting the identification of new Mars Scout missions that will compete for a possible launch in 2007. The proposals were submitted to NASA's Mars Exploration Program in response to a call for proposals in March 2001. Those selected will receive up to \$150,000 each for the study.

Fifteen of the 43 proposals to NASA involved JPL partnership, noted Gregg Vane, manager of JPL's Discovery Pre-Projects Office. These proposals called for the Lab to be responsible for project management and overall implementation; mission design and operations; system engineer-

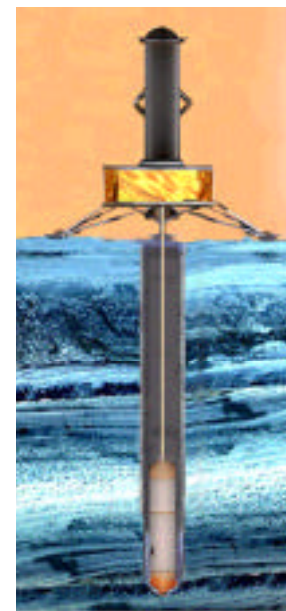


Schematic diagram of the proposed Mars Environmental Observer.

ing; safety and mission assurance; and a requirement for significant JPL science participation. All 10 principal investigators selected have asked JPL to be their project-manager partner if their eventual mission proposal were selected for implementation via the upcoming NASA Announcement of Opportunity that will be released next year, Vane said.

Dr. Ed Weiler, NASA's associate administrator for space science, selected the 10 winners on the basis of overall scientific merit and potential for implementation under a total mission cost cap of \$300 million.

Next year, NASA plans to initiate a competition for small Scout missions to Mars to broadly involve the scientific and aerospace communities in the Mars Exploration Program. The 10 concepts selected in June will not be given any advantage in that competition.



Artist's rendering of the proposed Mars CryoScout.

THE EARTH

JPL RESEARCHERS HAVE BEEN SUCCESSFUL in two peer-reviewed solicitations for new work. One call for proposals focused upon grand challenges in science, and the other focused on data studies applicable to the Earth Observing System Aqua Platform.

In a call for proposals for "Grand Challenge Investigations-Increasing Interoperability and Performance of Applications in the Earth, Space, Life and Microgravity Sciences," NASA made nine awards nationally. JPL either leads or participates in four of the activities.

- JPL's Dr. Andrea Donnellan leads a team including researchers from JPL, Brown University, Indiana University, UC Irvine, USC and the University of Colorado. The team will be studying the physics of earthquakes using state-of-the-art modeling and data analysis tools.

- Caltech professor Thomas Prince (who is also JPL's chief scientist) will lead a team developing high-performance computing to support development of the National Virtual Observatory. The observatory will support astronomical observations and investigations through digital representation of the sky and associated electronic information archives. It will be distributed, and use the next generation of high-speed networks as its infrastructure.

- JPL's Dimitris Menemenlis is co-investigator on a UCLA-led project on high-performance computing that will be used to increase the interoperability of an Earth system model of atmosphere-ocean dynamics.

- JPL's Dr. Paulett Liewer is supporting a University of Michigan research effort to develop an adaptive simulation framework for space-weather modeling.

In response to a call for "Validation Studies for Data Products from the Earth Observing System Aqua (PM) Platform and EOS-Related Spectroscopic Studies," NASA made 27 awards; five of these include JPL leadership or involvement. The selected JPL proposals and principal investigators are:

- "Infrared Laboratory Spectroscopy for Atmospheric Infrared Sounder, Thermal Emission Spectrometer and High Resolution Dynamics Limb Sounder," Dr. Linda Brown.

- "Laboratory Measurement of Air Broadened Linewidths in Support of EOS Microwave Limb Sounder," Dr. Ed Cohen.

- "Validation of Advanced Microwave Scanning Radiometer-E Rainfall Using an Airborne Precipitation Radar," Dr. Eastwood Im.

- "Spectroscopy Evaluation Using Mark IV Balloon Spectra," Dr. Geoffrey Toon.

In addition, a JPL team including Dr. Mike Gunson and Bill Irion will be supporting an award for "Validating AIRS Ozone Observations."

For extended coverage of these stories, including a list of additional selected mission concepts, principal investigators and participating teams, log on to <http://dailyplanet>

Flight hardware program dedicates facility

Project Support Office Manager Ron Ploszaj cuts a ribbon to dedicate the Flight Hardware Logistics Program Bonded Stores. Left to right: Ken Van Amringe (FHLP project element manager), Kevin Clark (FHLP program manager), Ploszaj, and Clifford Smith (FHLP Bonded Stores Lead).

The Flight Hardware Logistics Program (FHLP) has dedicated FHLP Bonded Stores for residual flight hardware capture, registration, storage and disbursement in Building 251.

"This facility responds to the needs of the many JPL projects to more efficiently transfer residual flight hardware from past to future projects," said FHLP Program Manager Kevin Clark, who added that the program plans to open a larger bonded store later this year to address all JPL residual flight hardware.

The new facility consists of two 300-square-foot rooms, which house residual inventory from prior projects and ongoing common-buy procurements. One of the rooms has both Class 100,000 clean room and electrostatic-discharge certifications.

To help JPL achieve its goal to provide critical hardware to projects faster and more effi-

ciently, the FHLP brokers common flight procurements, develops supplier agreements and provides information to projects and proposers about flight hardware availability. FHLP's online catalog at <http://fhlp> provides Lab-wide access to a registered inventory that includes 300 different line items comprising more than 2,000 pieces. Inventory includes most spacecraft subsystems, science instruments, parts and ground support equipment.

The program's most notable successes to date, Clark said, include the delivery of 31 RAD6000 flight computers to nine JPL projects, achieving significant delivery-time savings and cost savings of more than \$3 million, and the establishment of a flight parts service center, which enables anticipatory procurement and replenishment of flight electronic parts to drastically reduce their delivery time.



Bob Brown / JPL Photo Lab

DailyPlanet

news for the JPL community

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

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

JPL's new online news source

Passings

ARTHUR FERRIN, 73, a retired security guard, died May 28 at his home in Escondido.

Ferrin joined JPL in 1972 and retired in 1992. He is survived by sons Gary and Mark, daughters Tammie Hutchen-son and Cathy Cadin, eight grandchildren, brother Dale, and sisters Omaha Kee and Shelda Allison.

Services were held June 4 at Mountain View Cemetery in Pasadena.

Retirees

The following employees retired in June:

John Garba, 42 years, Section 352; Boris Seidel, 39 years, Section 333; Carol Hix, 35 years, Section 185; Davona Cazier, 34 years, Section 662; Paul Penzo, 31 years, Section 312; Paul Koskela, 30 years, Section 314; Thomas Sweeney, 22 years, Section 333; Margaret Dietrich, 16 years, Section 387; Patricia Parrett, 12 years, Section 261; Stephen Fox, 11 years, Section 351; Mary Brancheau, 10 years, Section 335.

Letters

I would like to thank everyone who attended my retirement party. All of you made it a fantastic success, and it will always remain a special moment in my life. A very special thank you to Tracy (351) Tere (387), Jesse and Bob (380) for everything they did to make this all possible, and to everyone in Division 38 who made me part of their family, and allowed me to be of service over the years.

Steve and Doris Fox

Classifieds

For Sale

AQUARIUM, 60 gal., salt water, w/oak stand & lid, exc. cond., incl. \$500 chiller syst. & \$400 compact light syst., in working order, \$2,500 new, first \$750 takes it all. 626/335-7398.

BBQ, natural gas w/side burner, Sears Kenmore, 484 sq. in. cooking area, used only once, exc. cond., extra large warming rack, 3 storage shelves, also includes heavy duty full-length vinyl cover, and brand new gas connect kit, \$350 value, all for \$199. 626-0075.

BIKE, Nishiki Rally, 58 cm, road bike, gd for commuting, incl. lights, pump, rear rack & cargo bag, can be seen on Lab, \$100. 236-2888.

BUNK BED, Oak Loft, w/ladder, loft desk and bookcase/chest, good cond., \$250; **DAYBED**, with white porcelain finials & casting, trundle included, \$150. 626/915-1278, eves.

CABINET, antique curio, exc. cond., refinished, must see, \$1,800/obo. 248-4613.

CELL PHONE, Panasonic Duramax, exc. cond., 2 months old; includes battery, earbud, plug-in charger, manuals, leather cover and cigarette lighter charger; one of most durable on the market, only usable on AT&T Wireless system, \$150. 626/233-2957.

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

COMPUTERS, notebooks, Toshiba Satellite 4080 XCDP with Pentium III 366 MHz CPU, 192 MB RAM, 6 GB HD, 14" active matrix screen, internal modem, 24 x CD-ROM, floppy, good cond., \$700/obo; Fujitsu 655TX with Pentium 155 MMX CPU, 80 MB RAM, 1 GB HD, 12.1" active matrix screen, 33.6 modem, floppy, ultrathin about 1", under 4 lbs, 3 units avail., \$250/ea. 626/308-2163.

COMPUTER CART, w/casters, solid wood and

veneers, no particle board, warranty, sliding trays for keybd. and printer, 37.5 L x 18.5 D x 30 H, stained lite oak, lots of storage, exc. cond., \$100. 626/793-3561.

DOG, Chow Sheltie mix needs home, 35 lbs, good, loving, very friendly, neutered, shots, 5 yrs. old, donation sought. 562/693-2986.

ESTATE SALE, Sat., June 23, 8 a.m.-3p.m., furn., clothes, china/glassware, new books, great misc. items. 5061 Angeles Crest Hwy, La Canada.

EXERCISE MACHINE, Nordic Track Pro Ski, exc. cond., a \$550 value for \$200. 249-5611.

EXERCISE MACHINE, Solo Flex, with accessories, wooden bench, vg cond., \$125. 310/454-7133, eves.

FURNITURE: dresser, black, 5' long, 8 drawers, from Ikea, \$20; nightstand, black, 2 drawers, from Ikea, \$5; bed frame, metal, heavy-duty, used for only 6 months, adjusts to fit Q, K, or CaK mattress, \$20. 249-4683, Daniel.

FURNITURE, misc.: low prices; chairs, dinette glass tbl. w/4 chairs, twin matr. & long spring box, desk, stereo cabinet, sofa bed (qn.), bedroom set, full size bed headboard, 2 nightstands, large dresser w/mirror and 5-drawer dresser, nightstand, TV stand, 2 bikes. 597-0274.

INVERSION TABLE, Hang Ups, F5000III, hang upside down for back relief, like new, used 10 times, paid \$300, \$175/obo. 626/577-2882.

METAL DETECTOR, Bounty Hunter Land Star, brand new, used twice, perfect cond., a great way to teach kids about geology and science, orig. \$450, sell for \$250, cash only. 248-6062.

MOVING SALE: refrigerator, Amana 21 cu. ft., gd. working condition, \$100; washing mach., Maytag, vg cond., \$100; dryer, gas, Maytag, vg cond., \$100; TV, 25 inch, Magnavox, with remote, exc. cond., \$140; TV, 19", Magnavox, with remote, exc. cond., \$90. 597-0274.

MOVING SALE: washer and dryer, coffee tables, 20" stereo TV, f/p screen and tools, musical keyboard, bread machine, manual lawnmower, electric weed trimmer, starter astronomical telescope w/mount and tripod. 236-2888.

PACHINKO MACHINE, Japanese, from the '70s, Nishijin, \$50/obo. 626/577-6773, Kathy.

PIANO, Logan & Co., 1920s era, upright, gd for beginners, pd \$1,383, make offer. 591-8888.

PIANO, baby grand, Schafer & Sons, 2 yrs. old, exc. cond., walnut color, \$3,500/obo. 248-4613.

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, \$349. 909/592-2279.

ROTISSERIE & BBQ, Showtime electric, healthy fat-free cooking, built-in timer, holds up to a 15-lb. turkey, makes delicious meals, incl. op-tional access., med. & lg. cooking baskets for fish, burgers, etc., food ties, hi-temp gloves, 6 self-turning kabob rods, heating tray for steaming, etc., cost over \$250 new, \$99. 352-0075.

SAW, 10" table Skilsaw, new, \$100; **ROUTER**, new, Black and Decker, 11 amp, \$130; **FUTON**, \$50; **LOVESEAT**, \$70. 626/797-6737.

SPEAKERS, center channel, 150W, Cerwin Vega, efficient, exc. cond., \$69; TV, Sony 19" color, gd cond., remote, cable, great picture, \$79; **CAR STEREO**, Toyota, am/fm/cass, 1998, exc. cond., \$49; **CRIB**, matr., white, gd cond., \$69; **BABY SWING**, gd cond., \$25. 909/592-2279.

STROLLER, Peg Perego tandem, navy/white, very good cond., \$195. 797-9615.

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 cond., \$300/obo. 626/398-3480.

TABLES: maple wood coffee & 2 end table set, \$75; coffee, wood, \$25; kitchen, wood, with 2 folding sides, \$45; **BED FRAME**, twin, maple, \$75; **TYPEWRITER**, old IBM, \$35; **BAR STOOLS**, 4, wood, \$55. 909/941-2897.

TELEVISION, Emerson 19" color, \$50. 626/797-3310, evenings & weekends.

VIDEO GAME SYSTEM, Sega Dreamcast, w/2 controllers and memory card, plus 6 games, like new, \$150. 626/345-0969.

WASHER, GE, \$150; **DRYER** \$150, good cond., similar but do not match exactly, white, both for \$250. 790-6185.

WASHER/DRYER, extra large capacity, gas dryer, good cond., \$175. 248-7097.

WEDDING GOWN, Moonlight Designer, shown in Bride's Magazine, beautiful off-the-shoulder gown, Basque waist, illusion fitted point, stain/organza & Alencon lace, Cathedral train, pearl & sequin beading, <http://www.moonlightbridal.com/asps/gowndetail.asp?gno=JW3004> for picture, purchased late 2000, worn once, clean, size 14, fits 5'8" or shorter, \$199/obo; **ACCESSORIES**, matching head crown piece, 3-tier veil and petticoat, \$90. 241-3779.

WEDDING GOWN, Mori Lee Designer, scalloped neckline, short capped sleeve, satin bodice overlaid w/lace & re-embroidered appliques, trimmed w/sequins, pearls, deep V-back meets satin bow at waist, no train, <http://www.morileinc.com/>

catalog for picture, C2001S5pix1.html, purchased late 2000, worn once, clean, size 12, fits 5' 8", \$199/obo; **ACCESSORIES**, matching head crown piece, three-tier veil, petticoat, \$90. 241-3779.

WINDOWS, alum. slider style, for home or mobile home, five 3' H x 5' W, \$35/each; one 3' H x 8' W, \$55; one 18 1/2" H x 22 1/2" W \$16; **STORM WINDOWS**, alum. style, five 47 1/4" H x 47 1/4" W \$65; **STROLLER**, twin, \$35; 2 twin bed safety rails \$9; **BABY HOLDER**, rocking disc type \$9; **SNOW SKI RACK**, w/lock, lg. car, \$75. 909/941-2897.

YARD SALE, neighborhood, Saturday, June 23, 7:30 a.m. to 3 p.m., 5036 N. Nearglen Ave., Covina. 626/915-1278.

Vehicles/Accessories

'89 BMW 750IL, white, sunroof, car phone, seat warmers, 6 CD changer, 11 extras, automatic, low mileage, \$8,000/obo. 248-4613.

CHEVY Suburban rims & tires, stock mag., four, \$275. 909/941-2897.

'99 FORD Explorer XLS, V6, 4 dr., fully equip'd, auto & manual 4W drive, 5 spd., pwr. steering/doors/mirrors/windows, blue, 33K mi., 2" trailer hitch, cartop carrier, Goodrich All Terrain, CrSteel wheels, a/c, am/fm stereo, CD, roof rack, tilt wheel, c/c, anti-theft keyless entry, tint windows, running boards, front & side a/b, ABS, warranty, \$24,000. 626/355-9707.

'86 FORD Taurus GL station wagon, fully equip'd, gd. cond., 2-tone silver, 113K mi., maintenance records, shop manuals, code scanner (all codes clear), Kelly BB retail \$2,700, sell for \$1,950. 626/355-2237.

'94 FORD Explorer Sport, 5 spd., 4 w/d, 96 k mi., black, grey leather, all power, 10 disk CD, alarm, alloy wheels, 5 new tires, \$7,000/obo. 323/655-5864.

'67 FORD Mustang, 390, 4 spd., S code, new paint & interior, orig. LA model, 80% restored, runs great, \$9,000/obo. 626/339-9353, Greg.

'93 HONDA Accord LX Hatchback, 2 dr., basic transportation. 626/403-0446.

'89 PORSCHE 944, black, 127K mi., automatic good cond. \$5,500/obo. 360-7863, eves.

'88 SEA RAY boat, 23' cuddy cabin, 185 orig. hrs., 5.7 liter motor, mercruiser outdrive, new upholstery, ship to shore radio, live bait tank, \$11,000/obo. 626/339-9353, Greg.

'91 SUBARU Loyale, 4D wagon, 149K mi., 5 spd., 2 w/d, must sell, very well maint., a/c, pwr. locks/steering/windows, CD, alloy whls., tilt whl., Yakima roof rack, new tires & clutch, recently repaired transmission, a/c & timing belt, runs great, call for digital pictures, Kelley Blue Book \$3,755, sell \$2,900/obo. 507-5632 or 626/379-0969.

'97 TOYOTA Corolla, exc. cond., 57K mi., \$8,200. 957-6821.

Wanted

HOUSE OR APT. to rent for visitor from France working at JPL, 4 bd. furn. or unfurn., for a complete 1- to 3-yr. period starting Sept. '01 in Los Feliz/Glendale/Burbank/Pasadena area; possibility to visit in advance in mid-July. Ext. 4-2665, Yoaz Bar-Sever.

HOUSING, furnished, visiting scientist from Italy w/family (2 children), from 8/1 to 8/31. 957-5546.

HOUSING, visiting scientist from Germany w/family looking for furnished rental house, close to JPL, Pasadena, Arcadia, Monrovia, from 7/16-8/19/01. 248-8591.

KITTENS (2), for elderly woman. 323/931-6577.

LINENS, antique, white on white, hand-embroidered, preferably monogrammed (any monogram), must be in exc. cond. 980-1638.

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

Free

CAT, female tabby needs new home, de-clawed, spayed, good TV buddy, intolerant of other cats. 626/447-5433, Bob.

KITTEN, rescued, 8 weeks old, found in Monrovia, gray/white, very friendly, litter trained, healthy, no fleas. 626/287-9433.

KITTENS, several wonderful middle-aged need new homes, owner recently passed away. Judy 626/791-3763, Judy.

Lost & Found

Lost: set of car keys on Lab, identifying tag, metal Beverly Hills medallion. **Found**: pair of half glasses, gold rimmed prescription, in Building 301 ladies room, 2nd floor. Ext. 4-0116, Linda.

For Rent

ALTADENA condo for lease, minutes from JPL, 2 bd., 1.75 ba., nice closets w/organizers, f/p,

cent. a/c, community pool, storage room, 2-car garage/carport, tile counter top & marble floor in kitchen, lg. patio with landscape, planters and oriental garden with waterfall and spa, end unit, with windows on three sides, cable on, for rent by owner, \$1,200. 626/398-1988, Beverly.

ALTADENA guest house, 1 bd., Florecita area, walk to JPL, fenced yard, extra storage space, 1 month + security to move in, \$475 + 1/3 utils, avail. 7/1. 626/794-6076.

LA CANADA guesthouse for summer, pool, non-smoker, \$650. 248-4774.

LA VERNE/CLAREMONT-area townhome, 2 master bd., 2.5 ba., 2-car att. gar. w/washer & dryer hookups, private backyard, approx. 1,400 sq. ft., avail. 8/1, \$970. 909/596-5774.

MONTROSE studio apt., detached, 10 min. from JPL, \$485. 626/445-0884.

PASADENA, charming 2 story, English, 3 bd., 2 ba., formal DR, cozy f/p, laundry room, large backyard, pool, patio, built in BBQ, wood deck, nice landscape, avail. from 8/1, incl. pool and gardener, \$1,350. 626/574-7027, eves.

PASADENA, 3 bd., 2.5 ba., townhouse-style apt., built-in range & oven, disposal, 2 f/p, cpts., drapes/blinds, a/c, covered parking, laundry, near Pas. City College, \$995. 790-7062.

SOUTH PASADENA, fully furn. studio apt, 1718 Huntington Dr. betw. Marengo & Milan Sts., car space, laundry, utilities paid, no pets, non-smoker, \$750. 626/792-9053, Ray or Marilyn.

Real Estate

ALTADENA condo, min. from JPL, 2 bd., 1.75 ba., nice closets w/organizers, f/p, cent. a/c, community pool, storage rm, 2-car garage/carport, tile countertop & marble floor in kitchen, lg. patio with landscape, planters & oriental garden w/waterfall & spa, end unit w/windows on 3 sides, \$154,000. 626/398-1988, Beverly.

MONTROSE, 5 min./JPL, 3-level townhouse, 8 yrs. old, 1,900 sq. ft., 3 + 2.5, incl. lg. master suite, Jacz. tub, very lg. gourm. kitch. w/granite counters + breakfast nook, 2 skylites, alarm syst., lg. 2-car attached gar., exc. view + exc. neighbor'hd, new roof, \$319,000. 249-0453.

TUJUNGA, move-in condition, 2 story, 3 bd., 2 full ba., large country kitchen, f/p, central air, built in 1980, RV access, cute yard with covered patio, 2-car attached garage, built in speakers, \$228,888. 848-9977 ext. 323, agent.

Vacation Rentals

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

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, Lahaina, Maui, condo on beach, 2 bd., 2 ba., slps 6, private lanai, 2 pools & spa, tennis, golf, restaurant and bar on site, avail 2/2-2/9/02, \$1,500. 626/797-6737.

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

LAKE ARROWHEAD house, small 4 bd., 2 1/2 ba., slps. 10, quiet, secluded, relaxing, woodsy area of Cedar Glen, http://www.highcountryrents.com/cedar_run.html for pictures/rates, JPLers book directly with owner for extra days & discount, \$410/weekend. 626/403-0446, owner.

LAKE TAHOE, N. Shore condo, 2 bd., 2.5 ba., slps. 6, pool, priv. beach, all amenities, convenient location, avail. Aug., weeks only, special JPL discount. 626/355-3886, Rosemary or Ed.

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. 626/798-9222 or 626/794-0455.

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

PACIFIC GROVE hse, 3 bd., 2 ba., f/p, cable tv/vcr, stereo/CD, well-eqpd. kit w/microwv, beaut. furn. close to golf, bches, 17 Mile Dr., Aquarium, Cannery Row. JPL discnt. 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 service, concierge, reserve early, \$125/nite, \$750/wk. 626/254-1550.

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