

News Briefs 2	Budget Blueprint 3
Special Events Calendar 2	Letters, Passings 4
Property Storage Audit 2	Classifieds 4

NASA receives \$14.5 billion in FY '02 budget proposal



The White House on Wednesday released a "blueprint" describing the broad outlines of its proposed budget for fiscal year 2002, including \$14.5 billion for NASA—some \$300 million, or 2 percent, over current funding levels.

Details of the \$1.98 trillion federal budget are scheduled to be released April 3. The blueprint includes increased funding for the International Space Station, an increase for the Space Launch Initiative, funds for a more robust Mars exploration program, and

funds for Earth missions.

According to Dr. Ed Weiler, NASA's Associate Administrator for Space Science, the blueprint will not only assure funding for JPL's Smart Lander mission to Mars in 2007, but will also strengthen chances of conducting

a Mars sample return mission early in the next decade.

At the same time, however, the plan calls for cancellation of NASA's Pluto-Kuiper Express and Solar Probe mission proposals, both managed by JPL. "When the priorities were racked up, and given the fact that the new Administration gives Mars a high priority, the result was that the Mars program is getting an increase, but we're losing Pluto and Solar Probe," said Weiler.

In Earth sciences, the blueprint includes support for the second generation of Earth Observing System (EOS) satellites. The blueprint states, "NASA's out-year plan for these satellites has been underfunded in recent years, but the budget will provide a five-percent increase in 2002 for a science-driver EOS follow-on program

while discontinuing low-priority remote sensing satellite and environmental application projects to ensure that EOS priorities can go forward."

The entire "blueprint" document is available to the public via a link on NASA's Web site at <http://www.nasa.gov>. After it is finalized in early April, the proposed budget will go to Congress, where it will be taken up by the House of Representatives' Committee on Science and Committee on Appropriations, and the Senate Committee on Commerce, Science and Technology, and Committee on Appropriations. Final approval and ratification is expected sometime next fall. Fiscal year 2002 begins Oct. 1, 2001.

For more information on how the proposed budget is being received by NASA, read the in-depth interview with Weiler on page 3 of this issue.

Lab supports Engineers Week

By Gia Scafidi



In celebration of National Engineers Week last week, three JPL engineers stepped out of their usual work routine to stir up children's interests in the engineering field.

Visiting middle schools in Glendale and Los Angeles, the engineers provided young minds with the reality that engineering is a career well within their reach.

"I think visits like this are really important," said Cynthia Gray, seventh-grade math teacher at Woodrow Wilson Middle School in Glendale. "They open up more opportunities for the students to see where they can go. I wish I would have this when I was a kid."

"This is definitely a positive influence," said Diane Scheller, math department chair at Woodrow Wilson. "I can't tell you how many times the students ask 'When are we going to use this math?' These visits show them that they can use it."

This year, the National Engineers Week theme, "Introduce a Girl to Engineering Day," focused on the need for more girls to consider engineering careers. According to the National Society of Professional Engineers, which began the week-long event back in 1951, "research shows that girls and young women lose interest in subjects and the fields of study leading to engineering careers long before they enter college."

"Unless they're individually inspired to go into science, girls may not know that this field isn't only for males," said Deborah Vane, deputy principal investigator on JPL's CloudSat mission. Vane spoke with two groups of seventh- and eighth-grade math students at Woodrow Wilson.

At Hollenbeck Magnet School in East Los Angeles, Shonte Wright, a thermal engineer in JPL's Thermal and Propulsion Engineering Section, felt it was also important to let students know that the engineering field is comprised of people with a variety of different backgrounds. "Quite often I encounter inner-city children who have never considered a career in science and engineering because they've never met engineers and scientists with backgrounds similar to their own."

"Having never had this kind of exposure when I was growing up, it was hard for me to envision myself doing what I now do for a living," noted Deborah Jackson, a member of JPL's Intelligent Instruments and Systems Technology Group. "These students have the advantage of being introduced to the field early on." Jackson visited students at Mark Twain Middle School in West Los Angeles.

"I'm really excited to get feedback from the engineers who went out this week," said Kenneth Berry, K-12 education specialist in JPL's Educational Affairs Office, which organized the engineer visits for the first time this year. "I think providing role models who have succeeded in this field is vital, especially at this grade level when children are deciding what they're interested in."

While the students may not have it all figured out yet, the engineers' visits certainly piqued their curiosities. Aside from their inquiries about the actual field of engineering, students' questions ranged from space missions, NASA's Moon landing and aliens, to college requirements, job salaries and living on Mars.

An annual celebration, National Engineers Week involves numerous Fortune 500 companies, professional companies and government entities.

JPL's Educational Affairs Office looks forward to participating with other entities and interested parties on Lab next year as well.



Bob Brown / JPL photos

Above: Deborah Vane (left), Deborah Jackson and Shonte Wright spoke to students at local schools as part of National Engineers Week.
Right: Vane visits with Wilson Middle School students in Glendale.

News Briefs



This small mass spectrometer, the first JPL-developed instrument on the International Space Station, measures about 5 centimeters long.

JPL has instrument on space station

The world's smallest high-performance mass spectrometer, delivered last month to the International Space Station by Space Shuttle Atlantis, may play a critical role in detecting leaks outside the orbiting facility.

The JPL-developed instrument will be available in the airlock for use by astronauts during their spacewalks. The device was specifically designed for use outside the space station. It can detect ammonia, rocket propellant, oxygen, nitrogen and water leaks.

The mass spectrometer, about 5 centimeters long (about 2 inches), is part of a shoebox-sized system with software and visual readout called the trace gas analyzer, developed in collaboration with Johnson Space Center and subcontractor Ocean Engineering Space Systems. The whole unit weighs about 2.3 kilograms (5 pounds) and can be placed on an astronaut's chest pack, where it can point toward areas under inspection. A small screen displays a graph that shows the detection of specific gases and their amounts, indicating to the astronauts a potential safety risk.

"On missions to Mars and beyond, where commodities will be at a premium, miniaturizing devices while maintaining their performance is crucial to mission success," said principal investigator Dr. Ara Chutjian of JPL. "We feel the device is very versatile and envision it being used in a cabin or airlock both for long-duration human flight missions and for planetary on-site life detection."

Robotics volunteers sought

Volunteers are sought to assist in the For Inspiration and Recognition of Science and Technology (FIRST)

robotics competition, a fast-paced and fun event that allows high school students to team up with engineers from businesses, universities and research institution. Students get a hands-on, inside look at the engineering profession as they design and build their own "champion robot."

From technical advisors to referees to crowd control, there are many ways for JPLers to help out. To see a list of positions for which volunteers are needed, log on to <http://www.jpl.nasa.gov/psolfirst>.

To get involved with the competition, contact the Public Services Office at ext. 4-0112.

Machine-Aided Indexing available

JPL personnel are invited to take advantage of a NASA-developed tool that assists in the analysis, classification, and management of information.

The Machine-Aided Indexing system is a Web-based interactive tool for analyzing and indexing the subject content of technical documents. At the heart of the application is a natural language processor that can accept any user-supplied text as input, including abstracts, full-text documents or Web pages. Within seconds, text copied to the Web-based input screen is analyzed and a ranked listing of subject terms results.

The 18,000 terms of the NASA Thesaurus serve as the foundation for the extensive knowledge base used by the system. The new tool also incorporates a fully searchable and browsable form of the NASA Thesaurus, hierarchies and definitions included.

To access the system, log on to <http://www.sti.nasa.gov/nasaonly/webmai>.

Take those office supplies out of the ventilation ducts. And don't even think about going to the local hardware store to buy a storage shed.

In concert with the Laboratory's ongoing annual inventory of accountable property is an effort to streamline the way JPL property is stored.

"Annually, all JPL employees are required to perform a property inventory; part of that is putting things in storage," said Bruce Troutman, manager of the Logistics and Materiel Services Section. "This 'housekeeping' is part of protecting government property."

A Lab-wide cleanup effort began in mid-February and will continue through at least May 18. Started in the mesa area, this inspection covers seven distinct areas of the Lab. Each area will take two weeks to cover. All buildings, including basements, ventilation ducts and storage containers, will be looked at to assure that property is stored properly and safely.

Part of the effort is to educate JPL staff about storage of property at the Cheli warehouse, the Lab's current 11,000-square-meter (120,000 square foot) facility in the city of Bell.

Troutman said anything acquired with government funds that is considered excess should go to Cheli. Without authorization from the Facilities Division, employees may not purchase storage containers to use for idle property.

"If a piece of property is used

every week or two, we don't challenge it being stored properly on Lab," added John Beedy, supervisor of the Property Accountability Group. "If it's something that's used once a year, then it's a candidate for storage at Cheli."

Records are not to be sent to Cheli; rather, they should be stored at the JPL Archives and Records Management Facility in Pasadena, which is operated by Sherikon Space Systems, Inc.

Cheli is managed by JPL and is leased by Caltech from the General Services Administration. Items stored there are released only to their owners.

"In recent years, the way Cheli is operated has changed," Troutman said. "The fear people have had in the past is, 'I need it tomorrow, but can't get it until next week.' That's not true. The Transportation Group is available to deliver property to and from Cheli every day if needed."

Troutman said that management improvements at the facility include an Oracle-based inventory system.

In addition to encouraging usage of Cheli, Troutman indicated that a study has been undertaken by Property, Facilities and the Engineering and Science Directorate to identify possible sites for on-Lab storage and the possibility of establishing an off-site storage location close to JPL. To support this study, organizations should identify their storage needs to their facility representative.

JPL personnel are invited to a free advance screening of a new Warner Bros. film, *The Dish*, on Thursday, March 8 at 7:30 p.m. in Hollywood.

The movie tells the true story of a group of eccentric scientists staffing a satellite dish inauspiciously located on a remote Australian sheep farm. On the eve of the historic first lunar landing on July 19, 1969, NASA finds the Aussie apparatus is the only receiving dish on Earth capable of broadcasting images of humanity's first steps on the Moon. With help from a colorful cast of local officials and townsfolk, the unconventional Australian crew struggles to overcome a series of mishaps and play their crucial part in one of mankind's greatest achievements in a gripping, emotional and truly funny way.

To RSVP and receive the theatre location, e-mail your full name to thedish@gsemg.com.

Property storage audit underway

By Mark Whalen

Staff invited to movie screening

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meeting at 11:30 a.m. Mondays, Tuesdays, Thursdays (women only) and Fridays. Call Occupational Health Services at ext. 4-3319.

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 in Building 111-117. Call the JPL Employee Assistance Program at 4-3680.

Gay, Lesbian and Bisexual Support Group—Meets the first and third Fridays of the month at noon in Building 111-117. 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 in Building 167-111. Call Greg Hickey at ext. 4-0776.

Senior Caregivers Support Group—Meets the first Tuesday of the month in Building 167-111. For information, call the Employee Assistance Program at ext. 4-3680.

Fri., March 2—Sun., March 4

Othello—This Theater Arts at Caltech production will be presented in Ramo Auditorium at 8 p.m. Friday and Saturday, 2 p.m. Sunday. Tickets are \$15. Call (626) 395-4652.

Saturday, March 3

Caltech Theater Auditions—JPL employees, retirees, and family members are invited to audition for the Theater Arts at Caltech production of *Six Characters in Search of an Author*. Auditions will be held in Ramo Auditorium from 2 to 4:30 p.m. The play will be performed during spring term on three consecutive weekends beginning May 25. See www.its.caltech.edu/~tactic for related information.

Rainforest Odyssey—In a program designed for children, the David Taylor Dance Theatre explores the magic, mystery and fragility of South America's rain forests and the Amazon's indigenous peoples. To be held at 2 p.m. in Caltech's Beckman Auditorium. Tickets are \$10 for adults, \$5 for children. Call (626) 395-4652.

Sunday, March 4

Chamber Music—The Ahn Trio will perform at 3:30 p.m. in Caltech's Beckman Auditorium. Tickets are \$27, \$23, \$19 and \$15. Call (626) 395-4652.

Tuesday, March 6

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

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

"Power Etiquette: What You Don't Know Can Kill Your Career"—Author Dana May Casperson will discuss her book at noon in von Kármán Auditorium. Sponsored by the Director's Advisory Council for Women in celebration of Women's History Month.

Corrections

An article in the Feb. 16 issue of Universe on the NEAR Shoemaker spacecraft's landing on asteroid Eros omitted the names of two members of the JPL navigation team: Eric Carranza and

Wednesday, March 7

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

Thursday, March 8

JPL2001 Lecture Series—Principal Investigator Dr. Dave Diner will discuss the Multi-angle Imaging SpectroRadiometer's (MISR) first 15 months in orbit at 11 a.m. in von Kármán Auditorium.

Friday, March 9

Caltech-Occidental Symphony Orchestra—A program to be determined will be held at 8 p.m. in Caltech's Ramo Auditorium. Admission is free. For information, call (626) 395-4652.

Saturday, March 10

Celtic Roots—This program, to be held at 8 p.m. in Caltech's Beckman Auditorium, will explore the roots of Scots-Irish traditional music in a medieval and folk style. Tickets are \$25, \$21 and \$17; youth high school age and under, \$10. For information, call (626) 395-4652.

Sunday, March 11

Chamber Music—Susan Greenberg, flute; Belinda Broughton, violin; Simon Oswald, viola; and Ronald Leonard, cello; will perform a free concert at 3:30 p.m. in Caltech's Dabney Lounge. For information, call (626) 395-4652.

Tuesday, March 13

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

Wednesday, March 14

"Chlorofluorocarbons, Climate Change and the Future of Stratospheric Ozone"—Caltech associate professor Dr. Paul Wennberg will lecture at 8 p.m. in Beckman Auditorium. Admission is free. Call (626) 395-4652.

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

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

Friday, March 16

Folk Music—Country-folk singer Katy Moffat will appear at 8 p.m. in Caltech's Dabney Lounge. Tickets are \$12 for adults, \$4 for children under 12. Call (626) 395-4652.

"Positioning Women For Intrapreneurship In Non-Traditional Roles"—Cristi Cristich, president and chief executive officer of Cristek Interconnects, which manufactures cutting-edge electronic connectors used in smart weapons, space applications and biomedical devices, will speak at noon in von Kármán Auditorium. Sponsored by the Director's Advisory Council for Women in celebration of Women's History Month.

Travel Film—*Slovenia and Croatia: From the Alps to the Sea* will be presented at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$9 and \$7. Call (626) 395-4652.

John Bordi, both of Section 312.

Also in the Feb. 16 issue, the list of employees who retired in February should have included William Kleinschmidt, who worked at JPL for 20 years and retired from Section 391.

The Bush Administration on Wednesday released a "blueprint" outlining the general shape of the NASA budget for the fiscal year 2002, which begins next October. While details will not be released until April 3, the blueprint calls for the cancellation of two NASA mission proposals related to JPL, Pluto Kuiper Express and Solar Probe, while at the same time increasing funding for the Mars program.

Dr. Ed Weiler, NASA's Associate Administrator for Space Science, discussed the budget blueprint following Wednesday's announcement.

QUESTION *The budget statement refers to additional funding for a "more robust" Mars program. What exactly does that mean?*

WEILER As many people know, during the past six months the Mars team at NASA Headquarters and at JPL, along with their partners at universities and in industry, completed a major planning effort looking at what makes a good science-driven Mars exploration program. They ended up with two models. One was a minimal program, while the other was more robust. The last Administration added an extra \$300 million in funding, which allowed us to get to the minimal program. The new Administration is looking at funding to get close to the more robust program endorsed by the Mars community. This would allow us to get science done faster, makes resources available to develop new technologies earlier in the program, and so on.

QUESTION *Could you translate that into specific impacts on Mars missions?*

WEILER The details will have to wait until the full NASA budget is released on April 3. But at this point we can say that this will guarantee having a smart lander in 2007. It will also lead to more of a chance of getting a sample return early in the next decade. What is important to me is that it gets us close to being able to do the program that has been endorsed by the Mars community.

QUESTION *What was the rationale for cancellation of the Pluto and Solar Probe missions?*

WEILER There are two factors that drove this decision. First, [NASA's] Office of Space Science has budget problems in 2002. Second, the Mars program is underfunded for what the community has agreed it would like to do. When the priorities were racked up, and given the fact that the new Administration gives Mars a high priority, the result was that the Mars program is getting an increase, but we're losing Pluto and Solar Probe.

QUESTION *NASA had recently announced that it was inviting competitive proposals for ways to do a Pluto mission. What does this budget decision do to that?*

WEILER Essentially it means that we intend to cancel the Pluto announcement of opportunity. We need to notify Congress of our intention to do that, and that is taking place today (Feb. 28).

QUESTION *The budget blueprint talks about "key propulsion technology investments" designed to support a possible "future sprint to the planet Pluto before 2020." What is this about?*

WEILER Here we are asking ourselves, can we develop in-space propulsion techniques that could greatly shorten the trip times for some of these missions? The idea is not to give a vote of no confidence to outer planets research, but rather to rethink how we approach getting there. If you can get there faster, you can really reduce the costs of missions. It may or may not impact the cost of spacecraft development per se, but you may save yourself 10 years of operations costs on a given mission. It also allows you to do science during the same generation as the people who thought the science up. I felt that this was a very positive statement on the part of the Administration in terms of support for science and solar system exploration.

BUDGET BLUEPRINT

By Franklin O'Donnell

You should also keep in mind that new propulsion technology can open up other possibilities, such as missions to other destinations in the outer solar system. It's not just Pluto. Cassini will be arriving at Saturn and its moon Titan in about three years; if we had new space propulsion, we could get back to Titan for more in-depth study that much sooner. Neptune's moon Triton with its ice geysers is another interesting place. Right now these destinations are hard to get to. Closer to home, it could shorten the trip time to Mars.

QUESTION *How will this be coordinated with existing propulsion research in the rest of NASA?*

WEILER There will be no duplication of effort. I would envision that some of the work would take place in Code R [NASA's Office of Aeronautics] and some in Code S [the Office of Space Science]. There may be some done in-house, but the bulk of the work will be competed to universities and industry.

QUESTION *Do you foresee focusing on any particular propulsion technologies, or ruling any out?*

WEILER All options on the table. I think it would be foolish of us to rule anything out at this point.

If you get the sense I'm excited about this, I am. Building really huge boosters to get great momentum at Earth and then coasting all the way to Pluto isn't the greatest way to get across the solar system. This could affect everything we do in the solar system.

QUESTION *What about other missions and programs?*

WEILER For any mission that isn't specifically called out in this blueprint, things are business as usual. Projects are only vulnerable if their costs get out of control and stay out of control. Basically the message to project managers is, stay on cost or de-scope. We aren't going to do budget contortions to accommodate projects that keep growing in cost.

QUESTION *Do you see space science missions being affected by the budget situation in human spaceflight, such as recently reported space station budget overruns?*

WEILER [NASA Administrator] Dan Goldin has spoken to me personally about this. He is on record as saying that no science money will be used to fund space station overruns. I can guarantee that not only has he talked the talk, but he's walked the walk. My budget hasn't been touched.

In terms of the overall NASA and federal budgets, the new Administration has been very fair to the Office of Space Science, very supportive. I'm really very pleased with where we are going.



"[NASA Administrator] Dan Goldin ... is on record as saying that no science money will be used to fund space station overruns. I can guarantee that not only has he talked the talk, but he's walked the walk. My budget hasn't been touched."

—Dr. Edward Weiler,
NASA Associate Administrator,
Space Science



Coleman gets the scoop on JPL's Earth studies



KNBC weatherman Fritz Coleman, second from left, visited JPL last month to discuss the Lab's ocean and climate research programs and media applications of Earth science data.

At left is Dr. Timothy Liu of Research Element 3237; to Coleman's right is JPL oceanographer Dr. William Patzert; at right is Marguerite Syvertson, Earth communications and education theme lead.

View this and previous issues of Universe online

<http://universe.jpl.nasa.gov>

Editor

Mark Whalen

Design & Layout

Adriane Jach
Audrey Riethle/
Design Services

Chief Photographer

Bob Brown/Photo Lab

Universe is published every other Friday by the Office of Communications and Education of the Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109.

For change of address, contact your section office (on-Lab personnel) or Xerox Business Services at (626) 844-4102 (for JPL retirees and others).

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.

Letters

I'd like to thank all of my friends and co-workers who expressed their condolences and support for me and my family during the recent passing of my father.

I'm very grateful for your kind words and wishes. Thank you, ERC, for a beautiful plant.

Alexander "Sasha" Mednikov

On behalf of my husband and myself, I would like to thank the ERC for the plant sent on my father's passing.

Emily Murphy

Passings

PHENEATE LEWIS, 85, retired from Section 370, died of pneumonia Jan. 31.

Lewis worked at JPL from 1969-80. She is survived by her husband, Everette, son Everette Junior, daughter Sandra Cox, five grandchildren and 10 great grandchildren.

A memorial service was held Feb. 5 at Valentine Mortuary in Pasadena. Burial was private.

ELIA ARMENIA, 81, a retired senior computer operator from Section 362, died of heart failure Feb. 13.

Armenia joined the Lab in 1960 and retired in 1984. He is survived by sons Daniel and Charles; daughters Diana Bogart and Gloria Robertson; and 14 grandchildren.

Memorial services were held Feb. 17 at Pierce Brothers in North Hollywood.

WILLIAM "BLAKE" WILSON, 73, a retired engineering associate in the Atmospheric Chemistry Element 3232, died of cancer Feb. 17.

Wilson, a JPL employee from 1977-95, is survived by his wife, Rosemarie; daughter Donna; four stepchildren and four grandchildren.

A memorial service is scheduled for Sunday, March 25 at 4 p.m. at First Baptist Church in Temple City. In lieu of flowers, Wilson's family suggests donations to a memorial fund in his honor that is being set up by the church.

Classifieds

For Sale

AIRLINE TICKETS, (3) Southwest, to anywhere they fly. 714/899-9836.

BBQ GRILL, Sunbeam, gas, with stands on both sides for utensils and plates, cover included, \$50. 714/903-8888.

BED, queen size, good cond., w/bedding, featherbed & frame, \$125/obo; DRESSER, bedroom, Brazilian rosewood veneer, all wood, 8 drawers, good cond., \$60. 891-6836, Steve.

BUNKBED, light pine wood, with mattresses, \$200. 248-2931.

BUNKBEDS, white iron, vg. condition, \$125. 249-4602.

CLAY POTS, round, large (2-ft and 3-ft diameter), each 2' \$50/obo, each 3' \$60/obo. 626/398-3480.

COMPUTER, 66 MHz 486-DX2, 16 MB RAM, color monitor, 400 MB hard drive, floppy

disk, mouse, keyboard, Windows 3.1, Word 6.0, \$100. 626/797-3310, evenings & week-ends.

COMPUTER ACCESSORIES: Macintosh 15" multiscan monitor, Apple extended keyboard, Macintosh mouse, must sell by 3/8, \$50/obo. 790-5012.

COMPUTER DESK, Sauder, \$75. 790-2013.

COPY MACHINE, Xerox, perfect condition w/new toner cartridge, \$300; COMPUTER, IBM w/monitor, keyboard and laser printer, make offer; PHONE ACCESSORIES, for Motorola flip phone, 3 chargers, leather case and 3 spare batteries, \$70. 626/798-0024.

COUCH, beige, 7 ft., with matching chair in steel blue, wide wale corduroy velour, good condition, \$200/obo. 768-4436, after 5 p.m.

ENTERTAINMENT CENTER, 60 x 20 x 48", easily fits TV 36" or smaller, glass cabinet for VCR/stereo, speaker compartments on bottom, sliding storage shelves for CDs/VHS, see photo at ERC, seller can help move, \$85/obo. 626/794-2196.

GITAR, classical, Yamaha mod. CG180SA, Indian rosewood back and sides, solid spruce top, ebony fret board, deluxe SKB case, exc. condition, \$300. 626/798-5324.

HOUSEHOLD ITEMS: microwave, Panasonic, 3 yrs. old; TV, 20" Panasonic, 2 yrs old; pocket books, war history; toaster. 388-8178.

LAWN FURNITURE, redwood, 8 pieces, \$300/obo; UMBRELLA, blue, w/cushions, \$80; BIKES, two boys, Sears, Free Spirit, 12 gear, \$50/ea.; TOOL KIT, Jensen, \$80;

DESK, small, teak, \$400. 626/355-1109.

MISC: sectional couch, beige, almost new, \$300; coffee table, \$75; 4 stacked tables, \$200; bar cart, \$150; child's bike, toys, etc, best offer. 248-8853.

PAINTING, Kinkade's "Beginning of a Perfect Day", framed, \$900/obo. 626/289-3373.

PHONE ACCESSORIES, Nokia 6100 series hands-free kit and car charger, used but in excellent condition, paid \$50, sell for \$25. 714/903-8888.

RUG, oriental, w/pad, 9' x 12', just cleaned, no defects, must sell, \$2,500. 626/798-0024.

SNOW BOOTS, women's size 8, tan color, great for ski trips, only used once, \$15. 714/903-8888.

SOFA, slip-covered, excellent condition, oatmeal color background with pale pink roses, 2 cushions, 4 pillows, \$150. 626/794-8720, Andy or Lisa.

SOFA/LOVESEAT, brown, excellent cond., \$200/both; TABLES, coffee & 2 accent tables, oak w/beveled glass insets, \$150/all. 661/254-7443.

TABLE, dinette, square glass top 5'x5' w/ metal feet and 4 matching chairs, \$800/obo; BAR STOOLS, four matching, metal frame, all in superb condition, \$400/obo. 626/398-3480.

WASHER/DRYER, Whirlpool heavy duty set, exc. condition, both for \$400. 626/254-1565.

WINDOWS, aluminum slider 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, 5 each 47 1/4" H x 47 1/4" W \$65; CAR SEATS, 4 at \$25/ea; UMBRELLA STROLLERS, two, \$12/ea.; STROLLER, fold up, \$16; SNOW SKI RACK, large car, \$75, all are obo. 626/303-5595, Paul.

Vehicles/Accessories

'92 ACURA Legend LS, auto, all options, beige/gold, 84K miles, always garaged, excellent condition, all service records available, low Kelly Blue Book \$10,500. 236-4869, after 5 p.m., Harold.

'00 BMW 328i, automatic, power leather seats, CD, am/fm stereo, auto rain sensor, moonroof, power everything, premium pkg., 12,000 miles, a/c, like new, \$33,000. 909/599-3230.

'95 CHEVROLET Lumina minivan, 36K, 7 passenger, metallic blue, LS package, ac/ps/pb/tilt/tpdl, rear air, cruise, AM/FM/CD, ABS, pwr. seat, rack, recent tires, clean, runs good, \$8,350/obo. 891-6836, Steve.

'95 CHEVROLET Suburban LT, 4 x 4, exc. cond., pwr. everything, tow package, roof rack, am/fm, CD, cassette, green w/beige leather int., cruise control, theft deterrent, \$18,600. 426-4905.

'70 CHEVROLET Chevelle Malibu, 2-dr. hard top, classic muscle car, 1-year-old paint (Chevy medium green), headliner/some interior, window tinting, new chrome on bump-

ers, tires, motor/trans. mounts, etc. & more, center line rims, 350 engine, automatic, runs great, 159,000 original miles, photos available by e-mail at Pj1mktg@aol.com, \$7,600/obo. 626/303-5595, Paul.

'64-66 CHEVROLET El Camino fiberglass bed cover, white, vg. cond, \$100; '83-85 MAZDA RX-7 glass moon roof panel, dark tint, with leather cover, vg. cond., \$50. 249-5611.

'95 DODGE Neon Highline, 4-dr. sedan, 5 speed, a/c, cruise, power locks, CD stereo upgrade, heated rear window, etc., orig. owner, 68,500 miles, very good condition, \$4,600. 626/355-4376, leave message.

'94 DODGE Intrepid sedan, 4 dr., blue, 58K miles, a/c, cruise control, power steering, windows, door locks, new tires, excellent condition, \$6,000. 500-0330.

'91 DODGE Grand Caravan, white, 117K miles, 7 passenger, cruise control, power steering, windows, door locks, towing package, new tires, well maintained, \$4,500. 500-0330.

'96 FORD F-150, Eddie Bauer long bed, 5-speed stick shift, all power options, a/c, am/fm with Sony CD, nice shell included in price, 71K miles, very clean and well maintained, \$8,900. 661/424-9348.

'91 FORD Ranger XLT, long bed w/shell, V6, 5-speed, gd. cond., am/fm/cass., \$3,200/obo. 626/296-9073.

'88 FORD Econoline 150 van conversion, V8, 81K orig. miles, 2nd owner, TV, ice chest, new a/c, new tires, very good condition, \$3,800/obo. 310/313-2101.

'95 HONDA Accord EX, 5 speed, 4 door, all power options, moon-roof, white, good condition, alloys, tinted windows, cruise control, cass/am/fm, 30 mpg on highway, one owner, \$7,900. 626/584-6526, Fred.

'93 HONDA Accord EX, black w/tan int., power windows, doors and sunroof, a/c, CD, automatic, alloy wheels, Blue Book \$8,995, sell for \$5,500/obo. 626/296-5426.

'83 NOMAD trailer, 25 ft., all systems A-OK, a/c, load levers and anti-sway bars, \$3,300. 882-7914.

'80 PONTIAC Grand Prix, runs well, auto, new battery, 100K+ mi., needs some work, \$1,250/obo. 626/398-6564.

'93 SUBARU Impreza L, hatchback, automatic, p/w, p/m, CD, cass., 5 dr., good condition, no mechanical problems whatsoever, 137K miles. 626/222-1725.

TRANSMISSION JACK, 1,000 lb. cap, extends 45" to 71", hydraulic, excellent cond., \$100. 249-2944.

'86 YAMAHA F2700 Motorcycle, red and white, sport bike, 15K orig. miles, excellent cond., blue book \$2,730, sell \$2,200/obo. 626/296-5426.

Wanted

CARPOOLER, for existing carpool, meet at Diamond Bar Park & Ride on Diamond Bar Blvd., work hours M-Th 7:30 a.m.-4:15 p.m., Fridays we leave JPL at 4 p.m. 909/590-2906.

HOME FURNISHINGS: electric pasta maker; wood bookcases; TV set; lamps; cat tree; California King futon, I just moved and need to buy a few things. 626/397-7224, Charlie.

HOUSE / CONDO / APT., 2 bd., for long-term rent or lease, close to Caltech; must allow aquarium (have renter's insurance). 626/583-4717.

SOCCER PLAYERS, adult females to form a new Glendale Parks and Recs. league. 249-2990 Tracey, eve.

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

WOOD/METAL WORKERS, experienced, with a few hours per week to spare, to help complete flying replica of Wright 1903 'Flyer', a project of the L.A. AIAA; have built 1 replica, tested in the Ames Full Scale tunnel in March '99, want to complete second aircraft by the summer '02 for public demos in '03. 626/794-2141, Fred Culick.

VOLLEYBALL PLAYERS, coed, all levels of play, every Tues. night 8-10 at Eagle Rock High School, \$3/night. 956-1744, Barbara.

Free

DOGS: looking for loving home for mini-Dachshunds, 1 black female, 1 brown male, both 8 years old. 626/797-1664.

Lost & Found

Found: BRACELET, gold with brown topez gems, near Bldg. 300. Ext. 4-5870.

For Rent

EAGLE ROCK, 2 bd., 2 ba., + office, hilltop home, laundry, appliances, wood floors, remodeled, view, gated, 5849 Buena Vista Terrace, \$1,400. 790-1893.

LA CANADA, room in lovely private home, private bath, garage, kitchen privileges, \$450. 952-3382.

LA CANADA/FLINTRIDGE, room, private ba., kitchen privileges, BBQ, pool, off-street parking. 790-1280.

LA CRESCENTA, cozy 2-bd. house w/pool, private, high above Foothill, \$1,450. 952-6007.

MONROVIA, room in a house, private bath, full privileges, 12 miles from JPL, no pets, \$475. 626/358-7728, after 7 p.m.

PASADENA apt. to share, 4 bd., 2 ba., fully furn., just remodeled, 1/2 mile to Caltech, utilities included, \$495. 626/351-9641.

PASADENA, 1 bd., 1 ba., furnished apt., newly renovated, 1/2 mile to Caltech, utilities included, \$750. 626/351-9641.

SIERRA MADRE, 2 bd., 1 ba., quiet 6-unit bldg., walk to village, upper unit, \$800. 626/355-7318.

SOUTH PASADENA apt. to share, 2 bd., 1.5 ba., secure parking, large bd., near Fair Oaks and 110, \$500. 626/799-5512, Mr. Monico.

W. TOLUCA LAKE, charming cottage for 1 or 2 people, enormous bd. w/vaulted ceiling opens into garden; stove, ref., washer, dryer, dishwasher, disposal, enclosed garage; util. incl.; easy fwy. access; cat(s) OK; \$1,650. 980-1638, hklne2@msn.com.

Real Estate

HAWAII, Kailua-Kona, Big Island, awesome views from Kahaluu to Kailua Bay, desirable loc., 3 bd., 2 ba. on main level, guest suite or office on lower level w/priv. entr., Royal Pacific Realty, \$340,000. 888/424-7902 (toll free), fax 808/322-6659, e-mail gour@kona.net.

PASADENA condo, 2 master bd., 1.75 ba., fireplace, c/a, updated kitchen, secured 2-car parking, view of trees, great location in Madison Heights, close to Old Town, South Lake shopping district and Caltech, prof. landscaping and amenities include pool, Jacz., rec. room w/kitchen, gym, sauna and barbecues, \$159,900. 626/405-2348.

Vacation Rentals

BIG BEAR LAKEFRONT lux. townhome, 2 decks, tennis, pool/spa, nr. skiing, beaut. master bdrm. suite, sleeps 6. 949/786-6548.

CAMBRIA ocean front house, sleeps up to 4, excellent view. 248-8853.

HAWAII, Maui condo, NW coast on beach w/ocean view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn., phone, color TV, VCR, mcrwv., 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, 4 bd., 2 1/2 ba., sleeps 10, quiet, secluded, relaxing, snowy, woody area of Cedar Glen, http://www.highcountryrents.com/cedar_run.html for pictures/rates, JPLers that book directly with owner get 2 weekends for 1 + cleaning fees, \$370/weekend. 626/403-0446, owner.

MAMMOTH, Chamonix condo, at lifts 7, 8, 16, 17, walk to Warming Hut, 2 bd., 2 full ba., sleeps 6, fully equipped elec. kitchen, incl. microwave and extras, f/p and wood, color TV, VCR, cable fm stereo, o/d Jacz., sauna, game & rec. rms., conv. to lifts, shops, events, special midweek rates. 249-8524.

MAMMOTH, Courchevel, walking distance to Canyon Lodge and lifts, 2 bd., 2 ba., sleeps 6, fully equipped unit. 661/255-7958.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, slps 6-8, fully equip'd kitch. incl. mcrwv., d/w, cable, VCR, phone, balcony w/mtn. vw, Jacz., sauna, streams, fishponds, close to Mammoth Creek. 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.

PACIFIC GROVE hse, 3 bd., 2 ba., f/p, cable TV/VCR, stereo/CD, well-eqpd kitch. w/ microwave, beaut. furn, close to golf, beaches, 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.