

NEWSLINE

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Postdocs give the Lab high marks



JACQUELINE MCBRIDE/NEWSLINE

Hal Graboske and Lori Turpin examine the certificate commending the Laboratory as one of the best workplaces for postdocs, as shown by a survey conducted by *The Scientist*. Looking on from left: Andrew Williamson, Beverly Williams, Harry Radousky and Michaele Kashgarian.

By Charles Osolin

NEWSLINE STAFF WRITER

The Laboratory is one of the nation's best workplaces for postdocs, according to a recent survey conducted by *The Scientist* magazine.

Survey participants ranked the Lab seventh among 61 U.S. institutions on such key workplace factors as access to publications and journals,

high-quality research tools, scientific career preparation, communication and collegiality, and quality research.

A report on the survey, published in the magazine's Feb. 16 edition, summarized responses to a Web-based questionnaire from 3,529 researchers in tenure and tenure-track positions

See **POSTDOCS**, page 7

AD C.K. Chou announces he will retire from the Lab in June after 26-year career

Come this June, C.K. Chou plans to catch up on his reading and worldwide travel.

After a 26-year career at the Laboratory, Chou is retiring after serving a three-year stint as associate director for the Energy & Environment Directorate

"I have accomplished what I wanted to do," said Chou, who started at the Lab in 1978 after working in industry for about 10 years. "This is the time for me to move on. I'm looking forward to seeing a new AD carry on the projects I've started to the next phase."

During his early Lab career, Chou was one of the early pioneers in probabilistic risk assessment for nuclear power plants. Those risks included natural phenomenon such as earthquakes, tornados and flooding.

"Our risk assessment studies were very crucial for the U.S. nuclear power plants," he said. "It was scientifically challenging."

From there, Chou went on to risk assessment in the transportation of spent fuel rods.

"This work helped Congress determine whether the United States should have one geological repository site or more than one," he said.

Congress went on to approve Yucca Mountain in Nevada as the single site for nuclear waste.

From 1999-2001, Chou served at the Department of Energy headquarters, ensuring consistency on nuclear related activities among three DOE offices.



C.K. Chou

See **CHOU**, page 7

Annual emergency exercise set for week of March 22

During the week of March 22, LLNL will conduct an emergency exercise designed to demonstrate that the Laboratory's emergency response organizations are prepared to respond to an emergency at the Laboratory.

Employees at various locations at the Laboratory may be affected. If you are in one of these areas, follow all directions provided by emergency responders or over the voice paging system. If you hear a "Shelter-in-Place" announcement, just remember to stay inside your building or go inside the nearest building. If you are instructed to evacuate, evacuate to your assembly point unless directed elsewhere by the on-scene emergency responders.

Cooperation is essential to making this important test of the Laboratory's emergency response capabilities a success.

2002 environmental impact report released

Environmental monitoring of LLNL operations shows no adverse impact to public health or the environment. This determination is from the Environmental Protection Department's 2002 Site Annual Environmental Report.

Overall, environmental evaluations generally show continuing low contaminant levels. This demonstrates the Laboratory's increased control of potential contaminants from current operations.

For example, radiological doses to the most exposed member of the public caused by LLNL operations are less than 0.25 percent of regulatory standards. This is about 13,000 times smaller than the dose from radiation naturally and normally present in the environment.

Other examples of low contaminant levels are found in monitoring results from specific

environmental media.

Air is monitored for radionuclides at various locations on the Livermore site and Site 300, throughout the Livermore Valley, and in the Tracy area. Concentrations of all monitored radionuclides and beryllium at all locations were well below levels that would endanger the environment or public health. For example, the highest median concentration of plutonium for all sampling locations at both the Livermore site and Site 300 was 0.03 percent of the federal standard.

Emissions of nonradioactive hazardous and toxic air pollutants from Laboratory operations in 2002 were also low.

In 2002, the maximum tritium activity mea-

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The hunt for better signal processing

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Unearthing a rare jewel

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LAB COMMUNITY NEWS

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Friday
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A representative from **California Casualty Insurance** will be in the Benefits Office today. Appointments are required and may be scheduled by calling 2-9955. California Casualty offers individual rates to Lab employees by payroll deduction for auto and homeowner/renter insurance. As with any employee-paid insurance coverage, employees are encouraged to comparison shop.

Saturday
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The **Valley Concert Choral** will perform Johannes Brahms' "Requiem" at 8 p.m. at the First Presbyterian Church, 4th and L Streets, Livermore; and at 7 p.m. Sunday, March 21, at Saint Augustine's Church, 3999 Bernal Avenue, Pleasanton. Tickets for individual concerts are \$18 for adults and \$15 for seniors 62 and over. Students 18 and under are free. Advance ticket purchase discounts are available. To purchase tickets, call (925) 866-4003 or send e-mail to info@valleyconcertchorale.org. You can also buy tickets at Camerata Music, Dublin; Altamont Books, Livermore and Towne Center Books, Pleasanton. For more information about the concerts, visit www.valleyconcertchorale.org or call 925-866-4003.

Monday
15

B Division's **spring book sale** returns today through Friday, 11:30 a.m. to 1:30 p.m., in Bldg. 132, room 1200 (Q- or L-cleared access only). All proceeds are used to buy Christmas gifts for needy children. Each year the sales help agencies in Alameda, Contra Costa and San Joaquin counties, plus individual families in need. For more information, call Lynn Groves, 2-1684.

Tuesday
16

Tom Reed, former Secretary of the Air Force and earlier an A Division physicist, will deliver an insider's view of the Cold War at 3:30 p.m. in the Bldg. 123 auditorium. All employees and retirees are invited to hear Reed's talk, sponsored by the Laboratory History Project, on the nuclear one-upmanship between the United States and Soviets that dominated the 50s to the 90s. The Time Zone will have discounted copies of the book for purchase ahead of the talk. Reed will be at the store earlier in the day to sign copies.

UP
&
COMING

A dinner and concert will be held at 6:30 p.m. March 20 hosted by the Livermore-Yotsukaido Sister City Organization as a cultural entertainment and fund raising event. The **San Francisco Taiko Dojo** will present their Japanese ceremonial drum concert at Veterans Memorial Hall, Fifth and L Streets, Livermore. Tickets are \$35 for adults and \$15 for children 12 and under. Tickets are available at Altamont/Goodenough Books, 1601 Railroad Ave., Livermore or call 447-0856 or 447-8666.

IN MEMORIAM

Tamara Alberto

Tamara Alberto, known to friends as "Tami," died Saturday, Feb. 28. She was 40.

Alberto was born Sept. 14, 1963 in San Leandro. She lived in Danville most of her life before moving to Pleasanton in 2001. Alberto worked as an executive secretary in the Center for Global Security Research for the Laboratory.

She is survived by her parents, Tony and Patty Alberto of Scottsdale, Ariz.; her sons, Giordan and Nicholas Tobia of Danville; her sister, Christina Tramontin of Phoenix; her grandmother, Amelia Teeslink of Kelseyville; and her grandfather, Ralph C. Davis of Santa Rosa.

A memorial service will be held at 3 p.m. today at Graham-Hitch Mortuary, 4167 First St., Pleasanton.

A special education fund has been established for her sons. Donations in Tami's memory may be made to: The Giordan and Nicholas Tobia account c/o UNCLE Credit Union, 7000 East Ave, Bldg 6425, Livermore, CA 94551.

All that is needed is a note stating that the contribution is for Giordan and Nicholas Tobia in memory of their mother Tami Alberto. For more information, contact Eileen Vergino, 2-3907.

Martelle Roner Mays

Retiree Martelle Roner Mays died February 6. She was 68.

Mays was born Nov. 22, 1935, in Boise, Idaho and lived in the Bay Area for many years. She graduated from Hayward Union High School in 1953 and retired from the Laboratory after working in Magnetic Fusion Energy's M Division and the Technical Information Department. She also worked at Sandia Livermore.

Mays was an avid reader and enjoyed traveling. She loved animals and was a member of the Humane Society. She enjoyed social gatherings and entertaining her many friends. She was a devoted daughter, loving aunt and a friend to

many.

She is survived by her mother, Elsie Roner of Hayward; aunt, Henrietta White and cousin, Jon Pound both of Nevada; niece, Geneve Jimenez and her family, Steve Jimenez, Marisa and Elizabeth all of Gilbert, Ariz. and a sister-in-law, Joyce Sweeney of Wickenburg, Ariz.

The family requests donations in her memory be made to the Humane Society or your favorite charity.

Norman Hauge

Norman Hauge, a talented musician, who played the saxophone, clarinet and piano, died Tuesday. He was 89.

Hauge was born April 8, 1914, in Minnesota. He and his wife Loretta lived in Dublin for 59 years. He worked at the Lab as a senior metal shop supervisor for 25 years.

Early in his life, he had a passion for music. Hauge played professionally for many years. He also was an avid reader. Most of all, he will be remembered as a loving and devoted husband and father, family members said.

He is survived by his wife of 63 years, Loretta; his daughters, Karen Kobelt of Switzerland and Elaine Faulkner of Hawaii; sons, Gary Hauge of Florida, Richard Hauge of San Jose and Michael Hauge of Dublin; nine grandchildren and five great-grandchildren.

Visitation will begin at 10 a.m. today at St. Raymond's Catholic Church, 11555 Shannon Ave., Dublin. Services will immediately follow at 11 a.m.

Memorial contributions may be made to Hope Hospice, 6500 Dublin Blvd., Suite 100, Dublin, CA 94568.

Mobile Innovation Center comes to Sandia Labs

The SGI Mobile Innovation Center will be at Sandia National Labs on Wednesday, March 17, from 9 a.m. - 4 p.m.. The 18-wheel displays showcasing the latest technology solutions including SGI Advanced Graphics on Linux as well as roadmap updates from Intel Corporation. The Mobile Innovation Center enables you to view demonstrations and discuss solutions to help you minimize cost, reduce complexity, and increase productivity for your organization. Register for hourly sessions. For more information and reservations, call 1-877-794-8745.

Newsline

Newsline is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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Web site: <http://www.llnl.gov/PAO/>

Coming Soon!



Watch for the spring issue of **Family Safety & Health** magazine in your mailbox at home! The theme is "Keeping you safe off the job." Topics include the ergonomics of household jobs and electrical safety--especially in older homes.

Celebrating Women's History Month



'Book of Poetry and Writings' needs authors

The Women's Association cordially invites members of the Laboratory community to participate in the creation of a "Book of Poetry and Writings."

This is a unique opportunity to write about any incredible, awesome, talented, caring, loving woman or group of women that you feel worthy of a personalized tribute.

Perhaps you will want to share the positive influence this woman has had on your life; how you have benefited as a result of knowing this person.

The special woman that you write about

Entry guidelines

- One submission per employee
- One page per employee; 500 words or less
- Spacing 1.5, include title and your name in center of page
- Deadline date for Entry is March 31. E-mail your submission to: Olivia Bower-King, bow-erking1@llnl.gov

could be a parent, a friend, an entertainer, a teacher, political figure, grandma or someone you have admired from afar.

The Women's Association will be accepting submissions through the month, with the intent of publishing and making the books available in early May. Any proceeds from the book sale will go to the LLLWA outreach and scholarship programs. These books will make great gifts for

Mother's Day and spring graduations, as well as birthdays, holidays or as a thank you gift any time of the year.

For additional information, contact: Dawn Abu Jassar, 3-6034

March 16

"Women Today, A Cross Cultural Perspective, Part Two." Bldg. 543 auditorium, noon.

This event will feature two speakers representing different countries and cultures from a woman's perspective.

Jennifer Nelson-Lee will discuss "From the bauxite mines in Guyana, South America to a Soils Laboratory in the USA." She is an environmental analyst with the ChemTrack and Technical Services Group. Prior to joining the Laboratory, she worked as a mining engineer for the Guyana Bauxite Company in South America and was the first female mining engineer for Guyana.

Julie Perkins, an organic chemist in the Chemistry and Chemical Engineering Division, will share a personal overview of growing up and being educated in the UK, and how those experiences have led to where she is today: a single, female scientist living and working in a foreign country.

To RSVP or for more information about this panel discussion, contact Dawn Abu Jassar, 3-6034.

March 22

Keynote speaker: Christina Maslach, UC Berkeley vice provost, on "Preventing Burnout and Building Engagement." Bldg. 543 auditorium, noon. Burnout is a hot topic in today's workplace. Maslach is an internationally known expert on job burnout syndrome and has been teaching on the UC Berkeley campus since 1971. For more info, contact Michele Cardenas, 3-2796.



Cross-cultural perspectives



JACQUELINE MCBRIDE/NEWSLINE

As part of Women's History Month, the LLLWA is hosting a two-part panel presentation entitled, "Women Today — Cross Cultural Perspectives." Part one took place on Thursday and continues next week (see calendar at right). Thursday's panel discussion featured Stephanie Shang, left, a technical editor/writer who has 12 years of experience at the Laboratory. After graduating from college in Taiwan, she came to the United States for her graduate work. She detailed the challenges of working as an editor in her second language and affirming her identity in the face of stereotypes.

Joyce Niles, right, described her life as an American woman who married an Arab man, moved to the Middle East, raised a family, and built a career as a journalist. Speaking only English and being transplanted into a very different culture from her own, she spoke about how she redefined herself in that culture and eventually became a newspaper columnist, photographer, editor and medical writer.

Coming soon

Lunchtime movie series. Co-sponsored by LLLWA, the Chemistry and Materials Science Directorate, and Worklife Programs Office. Look for details in next week's *Women's History Month Newsletter*.



Hall of fame

PAT's Tammy Jernigan, second from right, is surrounded by her husband Jeff Wisoff, niece Ashleigh Johnson and mother Mary Barr during the Eleventh Annual Women's Hall of Fame held Saturday at the Oakland Marriott City Center. Jernigan was named the 2004 Outstanding Woman of the Year in the science category into the Alameda County Women's Hall of Fame.

LYNDA SEAVER/NEWSLINE



NEWS YOU CAN USE

ENVIRONMENTAL

Continued from page 1

sured in off-site drinking water was less than 1 percent of the regulatory maximum contaminant level (MCL). Gross alpha and gross beta radioactivity measurements were also well below regulatory levels of concern.

Shallow groundwater in certain areas beneath Site 300 contains volatile organic compounds (VOCs), tritium, nitrate, Freon, perchlorate, and depleted uranium. These present no current health risks because the shallow groundwater is not used as a source of water supply.

In 2002, as in past years, most analyses of on-site soil samples did not detect any nonradiological contaminants labeled as potential "constituents of concern." Radiological results were unchanged from very low levels of previous years. Elevated concentrations of depleted uranium continue to be found at locations within Site 300. Findings are within the ranges seen in the past.

In general, off-site monitoring for tritium in vegetation and foodstuffs showed low values not significantly different from those for the past few years.

As usual, there was slightly more tritium

near the Livermore site than was found at more distant locations. Potential ingestion dose estimates were well below regulatory levels of concern, even when organically bound tritium was taken into account.

Progress continues in other areas of the Laboratory's environmental efforts.

Groundwater treatment facilities at the LLNL Livermore site have processed more than 7.4 billion liters of groundwater (more than 2 billion gallons) since 1989. More than 1,380 kilograms of VOCs were removed during treatment in that period.

Since treatment began at Site 300, about 865 million liters (more than 230 million gallons) of groundwater have been treated. About 231 kilograms of VOCs have been removed from soil and groundwater.

Waste generation at LLNL generally continues to decrease. There were reductions over the past year in radioactive and mixed waste, as well as routine nonhazardous waste. One-time nonhazardous waste and hazardous waste increased slightly.

Total LLNL routine nonhazardous waste diverted from landfills in 2002 was more than 4,000 metric tons. That means the Laboratory diverted 69 percent of its routine nonhazardous waste. Total routine and nonroutine waste

diverted was 18,649 metric tons. This includes 1.5 tons of toner cartridges, 302.7 tons of paper and 21.6 tons of batteries.

Every year a theoretical radiological dose from the Laboratory to the public is calculated. The dose is based upon what an individual would receive if he/she lived for a year where the highest radiation dose from releases to the air would occur. For the Livermore site that dose was 0.023 millirem in 2002. For Site 300 it was 0.021 millirem.

These doses are very small compared with an average annual radioactive dose of 360 millirem received from radiation present normally and naturally in the environment. Federal radioactivity exposure standards limit the annual dose an individual can receive to 10 millirem. LLNL has never exceeded these federal standards.

The University of California's contract with the U.S. Department of Energy to operate the Laboratory includes performance measures related to environmental protection. At the end of 2002, the Laboratory received an average score of excellent for its environmental management.

The Site Annual Environmental Report is available on the Web at: <http://www-envirinfo.llnl.gov/>

Technical Meeting Calendar

Friday
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INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"The OH Molecule as a Probe of Galaxy Evolution and Cosmology," by Jeremy Darling,

Carnegie Observatories, Carnegie Institution of Washington. Noon, Bldg. 319, room 205. Contact: Wil van Breugel, 2-7195, or Josie Morgado, 2-7181.

Monday
15

BIOSECURITY & NANOSCIENCES LABORATORY

"An Insulator-based (electrodeless) Dielectrophoretic Concentrator for Microbes In Water,"

by Yolanda Fintschenko, Sandia National Laboratories, 3 p.m., Bldg. 151, room 1209 Stevenson Room (P-cleared). Foreign nationals may attend if appropriate security plan is on file, which includes Bldg. 151. Contact: Louisa Hope-Weeks, 3-0864, or Brynn Bollinger, 2-6637.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"Mimetic Finite Difference Methods for Partial Differential Equations and Discrete Vector and Tensor Analysis," by Mikhail Shashkov, Los Alamos National Laboratory. 10 a.m., Trailer 3520, room 1174 Sycamore Room (property protection area). Contact: Lori Diachin, (CASC) 2-7130, or Leslie Bills, 3-8927.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"DPOMP: An Infrastructure for Performance Monitoring of OpenMP Applications," by Luiz

DeRose, IBM Research. 10 a.m., Bldg. 551W, room 1400 Del Valle Room (property protection area). Contact: Bronis de Supinski, (CASC) 2-1062, or Leslie Bills, 3-8927.

Wednesday
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ENERGY & ENVIRONMENT DIRECTORATE

"When Your Data Need A Wavelet, But You Don't Know What To Do," by Willy Moss, Earth Science Division, 1:30 - 3 p.m., Bldg. 543 auditorium.

Refreshments will be served. Contact: Camille Vandermeer, 3-2672.

CHEMISTRY & MATERIALS SCIENCE, FRONTIERS IN CHEMISTRY AND MATERIALS SCIENCE

"Atomistics and Diffractive Imaging," by John H.C. Spence, Arizona State University, Department of Physics. Bldg. 235 Gold Room (1090) 3:30 p.m. For information on Spence and an abstract of his talk, see the Website: http://www-cms.llnl.gov/cms_frontiers_ext/index.html, or contact Mike Fluss, 3-6665, fluss1@llnl.gov, or Kristine Ramirez, 3-4681, ramirez24@llnl.gov.

MACINTOSH TECHNICAL SEMINAR SERIES

"Using Mac OS X: What's New in Version 10.3 'Panther?'," by Larry Peng, LLNL computer scientist. 10:30 a.m., Bldg. 543 auditorium. Contact: Duane Straub, 2-9774, straub1@llnl.gov

E&E, DNT, CAFDA, ISCR, CASC

"Large Eddy Simulation of Two-Phase Flows with Evaporation," by Josette Bellan, Jet Propulsion Laboratory and California Institute of Technology. 9:30 a.m., Bldg. 543, room 1258, Grand Canyon Room. Contact: Rose McCallen, 3-0958, mccallen1@llnl.gov, or Helen Magann, 2-5229, magann2@llnl.gov.

Thursday
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INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"Analyzing Evolution of Virulence through Spatially-Explicit Epidemic Models," by

Boleslaw Szymanski, Rensselaer Polytechnic Institute. 10 a.m., Bldg. 451, room 1025 (property protection area). For more information, go to <http://www.llnl.gov/casc/calendar.shtml>. Contact: Tanya Vassilevska, (CASC) 4-4823, or Leslie Bills, 3-8927.

Friday
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INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Caustics in Seismology: Catastrophe Theory Applied to Damage from Earthquakes," by Paul Davis, UCLA. Noon, Bldg. 319, room 205. Contact: Sharon Taberna, 3-6290.

DEFENSE & NUCLEAR TECHNOLOGIES COLLOQUIUM

"Post-Modern Primary Design," by Kris A. Winer. 10:30 a.m., Bldg. 111, room 114 (Poseidon Room). Q clearance and SP access required. No foreign nationals. Contact: Linda Stuart, 3-7001, stuart5@llnl.gov, or Frankie Springer, 3-6192, springer9@llnl.gov.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to tmc-submit@llnl.gov. For information on electronic mail or the Technical Meeting Calendar list, see the auto registration service on the Web.

NEWS OF NOTE



Model signal processing approach finds broad application

By Don Johnston

NEWSLINE STAFF WRITER

The same problem the U.S. Navy faced in detecting a silent Soviet submarine in Tom Clancy's thriller "The Hunt for Red October" has been a career-long fascination for Engineering's Chief Scientist Jim Candy and is the subject of some of his breakthrough work in sonar signal processing.

The ocean environment, with its ever-changing and variable conditions, has long posed a challenge for navy vessels seeking to track submarines using sonar, as well as for scientists exploring the ocean.

"The ocean is the most hostile environment on earth," Candy said. "With the advent of quieter submarines due to new technologies and the recent proliferation of diesel powered vessels, the need for more sophisticated processing techniques became apparent."

Ocean acoustics has certainly come a long way since the early sonar used by allied navy vessels to hunt down German U boats in World War II. Sonar devices have become more sophisticated with more elements in the array and larger aperture resulting in better resolution. Advances in computing have also improved "signal processing" — the techniques used to extract useful information from noisy measurement data.

It is in this area of signal processing that Candy has developed an innovative approach called "model-based ocean acoustic signal processing." His development of the basic theory, algorithms and application of the model-based approach to the most serious signal processing problems plaguing ocean acoustics, earned him the Oceanic Engineering Society's prestigious

Distinguished Technical Achievement Award in December 2002. The Oceanic Engineering Society is a part of the Institute of Electrical and Electronics Engineers.

A model-based approach incorporates mathematical models of the "physical phenomenology" and the acoustic measurement process into the signal processing system to extract more precise information, according to Candy. "This approach incorporates the physics of the ocean environment."

Temperature variations, movement of currents and depth affect acoustic propagation — the way sound travels. Candy's model-based method accounts for these variables and consequently provides unprecedented results.

His model-based approach was successfully tested at the Naval Undersea Warfare Center in an experiment at Hudson Canyon — an undersea canyon off the coast of New Jersey used by the Navy to test sonar technologies. Navy vessels currently in use are not equipped with the computational tools to do model-based processing. "This would be considered for the next generation of vessels," Candy said.

While the original Laboratory project ran its course, Candy closely follows new developments on his own. He continues to serve as chair of the Oceanic Engineering Society's



JACQUELINE MCBRIDE/NEWSLINE

Jim Candy

Sonar Signal Processing Committee.

Candy points out that his model-based method has a broad range of applications beyond sonar, notably nondestructive evaluation, radar and medical imaging real-time systems. "The signal processing problems are much the same," he said, adding there are also applications for the National Ignition Facility, Stockpile Stewardship and clearly Homeland Defense.

Due to the breadth of applications, signal processing has turned into an important Lab discipline.

Candy was hired by the Lasers Directorate as director of the Center for Advanced Signal & Image Sciences (CASIS) and ran the annual Signal and Imaging Workshop, which in recent years attracted researchers from around the world.

As director, he developed the CASIS library where "signal and image processors could congregate." The collection of books and materials are currently being moved to the main library.

In the citation accompanying Candy's Distinguished Technical Achievement Award, the OES noted Candy's accomplishments as an educator, as well as the two textbooks he authored on signal processing with a third near completion on what else but, "Model-Based Signal Processing" (John Wiley Inc.) expected to be available in late 2004.

Annual inventory for FY 04 is under way and will conclude on March 31

The fiscal year 2004 (FY04) Annual Inventory of Attractive & Controlled Personal Property is well under way. The inventory effort began Feb. 1 and will conclude on March 31. This is the first year of a new three-year cycle in which a statistical inventory in FY04 and FY05 will be conducted with a full wall-to-wall inventory in FY06.

The FY04 inventory sample is comprised of 9,308 sensitive items with an acquisition value of \$38 million and 10,200 controlled items with an acquisition value of \$786 million. This represents approximately 33 percent of the more than 60,000 items in the property database and 78 percent of the total acquisition value of personal property subject to inventory of \$1.3 billion.

The FY04 selected sample is larger than previous sample inventories due to changes in the statistical methodology used and changes in business practices resulting from "lessons learned" from last year's wall-to-wall inventory. This year, additional emphasis is placed on property held by employees who are custodians for more than 20 items. Computer Security will inventory 100 percent of classified computers and Safeguards and Security will inventory 100 percent of weapons.

To date, inventory efforts by all programs are going well with 85 percent completed to date. Property Management would like to encourage all employees to assist their program representatives in the inventory effort. Results of the inventory are reported to NNSA and are a key factor in the annual approval of the Lab's Property Management System. Employees are encouraged to contact their Property Center Representatives or Property Management Liaison with questions or concerns.

BRIEFLY

Daffodil Days a blooming success

The annual Daffodil Days drive for the American Cancer Society at LLNL reached a new high of flowers sold this month with record orders for \$27,886 in daffodils. Last year \$23,347 was raised at the Lab.

This year's chair Barry Schrader said he "credits the enthusiasm of the 47 building reps who solicited support for the Cancer Society and I also have great praise for Germaine Clark who had headed the campaign for many years and built a successful network of reps throughout the Lab." This year's top seller for the fourth year in a row was Maggie Watt in Superblock whose collections totalled \$3,355.

The flowers and vases will be delivered on March 22 and building representatives will be distributing them to donors throughout the day.

Bldg. 415 construction activity

Starting today, scaffolding will be erected around Bldg. 415 to support construction activities. Employees are advised to use caution when walking around that building.

For further information, contact David Lima at 2-0919.

March issue of S&TR now available

The March 2004 issue of Science & Technology Review, the Laboratory's mag-

azine, is now on line at <http://www.llnl.gov/str/>. The lead article, "Rich Legacy from Atoms for Peace," describes how Laboratory researchers have applied their nuclear weapons expertise to develop technologies for civilian uses. A second article reports on an international collaboration being led by Livermore scientists to examine tropopause height and its relationship to climate change. Research highlights discuss the process being used to certify the nuclear stockpile and a new method for monitoring the folding processes of proteins.

To receive an e-mail notice when a new issue of S&TR is available online, send a request to str-online@llnl.gov. You may also subscribe through Open LabNet's AutoReg <<https://www-oln.llnl.gov/auto-reg/cgi-bin/autoreg.cgi>>.

To receive the printed version of S&TR, send your L-code or home address (whichever you prefer) to str-mail@llnl.gov.

Science & Engineering Fair in need of judges

The eighth annual Tri-Valley Science and Engineering Fair needs enthusiastic and energetic scientists and engineers to help judge student projects on Thursday, March 25. Judges are needed from 7:30 a.m. to 1:30 p.m. at the San Ramon Valley Conference Center in San Ramon. To volunteer, contact Connie Ruvalcaba-Olson, 4-4640, or ruvalcabaolson1@llnl.gov.



AUTOMOBILES

54 - Willys CJ3B complete body off frame restoration, 351 Windsor motor. New top. Call for more information. 209-495-7454

1998 - Bmw z3 m-roadster, metallic black 9,000 miles perfect condition w/cover & keyless alarm - get ready for summer - \$22,500 510-708-1852 or 510-814-0644

2000 - Suburban 2500, 34K miles, seats 9, excellent condition. \$20,000 209-835-8938

1997 - Honda Civic EX coupe, black, 5 speed, 90K miles, moon roof, cd player - \$6,800 OBO 925-556-0522

1999 - Suzuki Vitera, convertible top, low miles, runs and looks GREAT! Divorce sale so only asking the amount of payoff which is \$7,700. 209-599-2506

2003 - HONDA ACCORD V6-EX, Heated front seats, Dual-Zone A/C, Leather, Power everything, 20k miles, good condition, asking \$18,500 209-546-1977

1977 - Cadillac Eldorado. Until recently 1 owner car. 86k miles. 7.0V8. Clean for age. Runs well. All power equipment. Needs very little. \$2300 925-294-5939

1993 - Mazda MPV, 125K mi, 6 cyl, all power options, nice shape, well maintained, original owner - \$3500.00 415-543-3643

1990 - Jeep Cherokee Learedo-4.0 liter/6 cyl., 4x4, AC, AT, Power Everything, Tow PKG., Tinted Windows, LOOKS AND RUNS GREAT. 100 K mi., \$3,995/obo 925-376-0316

1992 - Ford T-Bird LX-Power everthing (PS,PB,PL,PV)- Auto Trans, AC, 109K, good condition \$2500 OBO 209-834-0906

1995 - GMC SAFARI AWD SLT Package, loaded, very clean, all options, great for skiing, 137k miles. REDUCED! \$3900/offer 209-599-4644

1996 - Jeep Grand Cherokee Laredo SUV 4WD. Loaded with leather interior. Four new tires and recent registration. Great condition, 95,000 miles. \$7,000 OBO. 925-803-9550

1993 - Ford Escort sta. wag. 190K miles. 5-speed. New radiator, H2O pump, belts, hoses, much more. Great condition. \$1350/offer. Eves/wknds. 209-836-0949

1998 - Ford Taurus, v6, AC, AT, ABS, remote entry, PDL, 70K mi., great condition, \$3990, 510-252-9596

1957 - Oldsmobile Super 88, V8. Needs restoration. \$4,000.00. 209-874-3724

1987 - Suburban, 1/2 ton, 2 WD, 350-V8, Throttle body FI, AT, AC, PB, PS, 189,000 \$3,500.00 209-836-5296

1972 - Volkswagon bug, Smog exempt. 925-443-9466

1995 - Olds, 110,000 freeway miles, in excellent condition, all in good working conditions. \$2500 obo, call eve. after 6:00pm 925-625-2124

1997 - BMW 328is, new transmission, tires, alignment, loaded, 6 cd, blue/creme leather, serviced every 3000 miles, major tuneup complete, 137,000k, \$13,500 209-551-5261

1983 - Cadillac, white w/brown velour interior, 2/DR Deville, 106.3K orig. miles, near lab, \$895 925-373-6492

1998 - Chevy Malibu, sedan, 4-cyl, AC, cruise, cassette/CD, 87K miles, needs some brake work, passed smog, KBBook \$3,130(f) \$3,630(g) Make Offer! 925-455-5004

AUTOMOBILE ACCESSORIES

Set of 4-16inch stock chevy 6 lug alum wheels from 1997 4x4 Tahoe. Tires still on wheels 1/3 tread left on tires \$100, BO 925-292-1785

2001 GMC Sierra factory chrome/steel rims. (4) Great Condition. Make offer. 209-576-7892

Zymol boxed car care kit with full size wax, wash, detail, leather cleaner & conditioner. Never opened. \$25. 925-648-0671

Genuine Toyota Tonneau Cover for Tacomas, nearly new condition. \$150 925-831-9331

BICYCLES

\$200 Road Bike, Eddie Bower, 1 year old. Al frame, 27speed, shock absorber, Extras. 925-935-5004

CLASSIFIED ADS

BOATS

98 Blue Water 18ft. IO 190 Merc. HP, 32 hours. Bimini Top, Bow Cover, Stereo-am/fm cassette w/4 speakers. Include ski equipment & more. \$11,700.00. 925-449-4326

1975 Tiki Jet Boat 455 Olds, Berkley Jet Brand New Boat, Great family ski and fun boat. custom paint, stereo must see. 1 of 45 made 5000.00 OBO 209-543-0722

ELECTRONIC EQUIPMENT

15inch LCD/Flat Panel monitor, KDS Rad-5. Like new, sleek small footprint, 17inch CRT view area. - \$245 415-543-3643

Onkyo TX-8211 Stereo Receiver, Mint Condition, 2X 50 watts, remote, A/B speaker, 4 audio inputs, lv msg. \$115 925-447-8890

Nintendo 6400, 3 controllers, adapters, 7 games - \$45.00 925-998-2620

GIVEAWAY

300 red bricks. Some dirt but free of mortar. You haul. 510-338-0237

Machintosh 6100 Monitor and all the software. Many programs. Free 4-6457 925-846-2247

Free 19 inch TV and VCR. They are old, but still work ok. 510-656-3441

To the person who picked up DP Trac weight bench in December, found four more weights (total 44 pounds) 925-443-9929

Fireplace insert with fan, Country Flame brand, black with brass hardware. 31W x 23H x 25D (inches). Heavy, you haul. 925-454-0330

Counted Cross Stitch catalogs and supplies. Will bring to work. 925-373-6492

My folks are moving and need to find a good home for their female cat. Cat is long hair, well behaved. Includes any shots and 6 months of cat food. 925-683-7795

HOUSEHOLD

Oak Dresser. 6 drawer. natural finish. Approx. 32H x 66L x 18D in. \$100. 510-338-0237

Refrigerator GE Profile side by side Icemaker Juice/milk Door, electronic diagnostic system. Excellent Cond. \$300 925-449-1340

2002 Maclaren twin stroller. Blue plaid. \$125. 925-245-0915

GE 19.5 cu. ft. refrigerator; top freezer; works fine; almond; exterior excellent cond; interior good cond; approx. 15 yr old; \$100 obo. 925-455-1306

Jenn-air electric stove top, black glass, smooth top radiant heat, no vent model. 4yrs old, works great have books/original receipt. \$150 OBO. 925-447-4797

Jenn Air downdraft stove top, wht. good condition, \$75.00 BO 925-292-1785

Oak Bar with 2 shelves, cutting board, and bottom brass rail. 54W x 41T (inches). Great shape, \$300 obo. 925-454-0330

Roper Washer and Dryer, 1 yr old. Perfect condition. Moving out of state. \$200.00 for the set. 925-550-4866

White Metal Futon Bunk Bed, twin size upper, full size lower. Have mattress for twin, no futon for lower. \$50 Leave message 925-447-8890

MOVING Must Sale by March 31st, hutch, oak, early american style \$100.00, treadmill \$175.00, inverter \$200.00. Modesto, CA. 209-541-5655

Brown and gold metal storm door for entry. Removeable beautiful bevel glass and screen. All hardware available. Asking \$100.00. 925-980-8618

Bread Machine, Excellent condition, \$20. Bedroom Air Filter (HEPA), \$20. Includes new filter. Desk, dark wood, small 42x20 \$20. 925-484-0697

Baby crib, Excellent condition. Adjustable mattress height(mattress included). Beautiful honey oak wood grain. Price: \$75 or best offer. 925-462-9455

garage/moving sale - sat march 13th 9am - 433 Hummingbird lane, Livermore - antique glass, vintage seashells, china, decorative & household items 925-456-5553

Antique Oak Table 42 Round, with qty:3 10 inch extension leaves, Pedastal type, Great

shape, need space \$600 or B.O. 209-239-2456

Sylvania 13 inch color TV with remote. Brand new in box, never opened. \$75. 925-648-0671

House remodel leftover. Viking 80x30 in. white vinyl dbl pane window. XOX configuration. Good condition. Make an offer. 925-447-5130

Beautiful 3-piece wall unit/TV armoire. Solid wood. Pocket doors. Back lighting on shelves. Plenty of storage/cabinets. Very good condition. \$400/BO. 925-455-5245

Excel Stairway Lift. Straight stairs. Makes going up and down stairs easy. Make offer. 925-443-0367

Hide-a-bed, double/pastel plaid \$150; 4DR file cab. beige metal \$25; computer armoire mission style oak w/cherry stain 43x24x66 \$450 - near lab 925-373-6492

MISCELLANEOUS

Britax Freeway car seat w/ top tether, \$60. Baby Bjorn boys potty seat, \$10. 925-454-0877

Kinkade Brandy frame 30X40 canvas Stairway to Paradise. Includes original Cert of Auth. Retail \$2,160.00. Offering \$1,200.00. 408-489-7588 or 925-455-8455

Tractor- Ford 1000 diesel, 1976, runs and looks good. \$4500.00 925-454-1749

Garage Sale, Saturday March 27, 8am to 2pm. 1923 Bluebell Drive, (cross street Scenic) in Livermore. Lots of great stuff! 925-443-1673

Oak microwave cart with 2 doors and 1 drawer below, and 1 shelf above. Microwave area 30W x 17D (inches). Honey oak stain, on wheels \$50. 925-454-0330

BRAND NEW designer Alfred Angelo short sleeve wedding gown, with tags 16w white matte satin short fitted sleeves accented chapel train. 925-580-4030

2003 100th Anniversary Harley Davidson Limited Edition Firefighter Special Road King. To many extras to list. Serious buyers only. \$20k. 925-855-8368

Rototiller/Garden Tractor, 10Hp, Old but works fine. Good engine. Make me an offer, my wife wants it out of the yard. \$100 925-443-8253

Electric motor, 1/2 hp. New, \$25 925-447-5221

Brand new Levelor vertical blind for patio slider neutral color size 84x96 asking \$150.00 originally \$420.00 925-980-8618

Symphonic DVD/CD player with remote. Never opened, still in box. \$40. 925-648-0671

Boys clothes - Gap, Old Navy, etc. 6mths to 6 yrs. Excellent condition and prices. 925-998-2620

Oak DR table w/bronze mirror inserts 40x58 + 20in ext. - 6 chairs \$500 - includes 16x52 side table. Carpets 9x12 \$200, 6x9 \$50, 4x6 \$150, 5x8 \$50. 925-373-6492

MOTORCYCLES

2000 - Harley-Davidson Sportster 883, Manuf. warranty, less than 4K miles, lots of custom wk and upgrades, includes helmet, gloves, cover, lock \$5,000 obo. 707-318-3144

1982 - Kawasaki CSR 305 street bike. Low miles. \$900. BO 925-292-1785

1970 - Honda CT 70H. Rare and collectible 3-speed man. trans. street legal and registered. Runs great, perfect for family camping trips. \$1,000 o.b.o. 925-855-8368

2001 - Honda CR250R - FMF Pipe & Silencer, Pro Taper Handlebars, Alum. Brushguards, UNI Airfilter, Dunlop Tires, Comes with Stand - \$4,000 925-484-2565

1975 - Suzuki Water Buffalo. Runs, but needs crank seal. Looks very nice. Have no time to spend on it. Best offer. 925-447-5221

1975 - Kawasaki 80 Dirt Bike. Not running. Probably needs carbureator work. \$100.00 925-443-2827

2000 - Buell Blast, low miles, red and yellow accessories, helmet, H-D leather jacket \$3000 OBO. 209-869-2833

2002 - YZF426 Hot start button, taper hadle bars, & racing suspension \$4,500 obo TTR125 \$1,700 obo 209-543-0630

MUSIC INSTRUMENTS

Applause acoustic-electric guitar. 3/4 size with padded gig bag. V-very good cond. \$125 209-521-2015

Suzuki violin, 1/4 size, Wolf violin headrest (1/2 size), Violin Strings, all like new. Make offer 415-543-3643

Piano, very good condition, circa 1920s. \$350.00 includes bench and tuning within 20 m of LLNL. 925-371-6997

PETS & SUPPLIES

Horse Hay. Red Oat or Forage Mix, Clean and Certified for use in National Forests. In the barn \$7 per bale. Can deliver locally, Livermore 925-449-5640

Bearded Dragon 2 yr old, 14 in. long, male? Includes glass cage (24x24x12) w/screen cover, & heat lamps. \$125 209-832-8515

Dog house, igloo type, was \$125., now only \$25. 925-249-1786

RECREATION EQUIPMENT

GAZELLE Freestyle Glider by Tony Little, purchased 5 months ago and rarely used. \$80. 209-836-1665

Weight Bench, Lat pull down bar, leg extensions, butterfly press, barbell press w/bar and 120 lbs weights, folds up for storage. Lv msg. \$60 925-447-8890

BASKETBALL backstop and hoop. Michael Jordan model. Very good condition, adjustable height, with net and pole. \$69 . 925-846-1453

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www.llnl.gov/tsmp>

BERKELEY - Rider/driver needed to complete a four person carpool from north Berkeley. Leave Berkeley 7am; leave LLNL 4:40. 510-524-8332, ext. 2-5949

Lafayette - LaMORinda Vanpool (also WAL-NUT CREEK stop at Rudgear Rd): reclining seats, reading lights, 7:45-4:45, \$105/mo (pre-tax reduction available) 925-943-6701, ext. 2-3005

Oakland/Montclair - Vanpool seeks additional riders. 5/40 schedule: at LLNL 8:15-5:00. Fare depends on # subscribers; \$132/mo if one additional. 510-530-1289, ext. 2-9831

Manteca - Carpool on the 9/80 schedule. Call for details. Immediate opening. 209-825-0326, ext. 3-0631

Modesto Vintage Faire Mall Park-n-Ride - Immediate Openings 1 rider and two standbys, Luxury vanpool, captain seats, reading lights, cellphone 8-4:45 ridership-based fares, 209-544-2236, ext. 3-3194

PATTERSON - Vanpool has seats available for M-F 7:30-4:00 shift. Pre-tax transportation and Guaranteed Ride Home programs available. Fare based on ridership. 209-892-2118, ext. 2-9502

Modesto/Ripon - Van Pool has openings for full time riders. Work hours are 8:00 - 4:30, maybe 4:45 depending on pick-up point. 209-544-6411, ext. 2-2727

Elk Grove - 15 at Laguna to LLNL, 7:00-3:30 shift. Need 1 more in 4-person carpool. Losing 1 person in April. 916-961-0625, ext. 4-4125

Martinez - Martinez carpool looking for a 4th rider/driver. Work hours 7:30-4:30. Call 35933 or 925-228-3759, ext. 3-7857

SERVICES

TUTORING in high school and college chemistry and math. 925-443-2095

SHARED HOUSING

Livermore - furnished room for rent. Clean/quiet. Pool. No pets/no smoking. \$550.00/month. Share utilities 1/3. Deposit. Mature adult. 925-449-1128

Pleasanton, CA - Responsible male or female roommate to share 3 BD RM/2 BA townhouse. 11 miles to lab. Rent cost \$875.00 + 1/2 utilities. 925-249-1340

Livermore - - CloseToLab, Master w/bath \$650/mn, RM w/SharedBath \$550/mn. Dublin - easy FWY access, Master w/bath, \$750/mn.

Deposit, share utilities, no pets. 925-216-3279

TRUCKS & TRAILERS

1983 - Fleetwood Jamboree RV, 23 ft., engine and coach in excellent condition, sleeps 5, bath/shower, generator, cover, 75K miles, \$6,500. 925-831-1288

1992 - Tioga Montara Class C RV. 29K miles, generator, micro, 4 burner stove/oven, fridge/freezer. Too much to list, very nice only \$17,000 209-833-7020

2003 - Wilderness Trailer, 27ft with slide-outs, excellent condition; lots of room and storage. \$18,000 or best offer. 209-835-8938

1979 - Dodge Transvan RV; 56000 miles; \$2500/make offer. Ask for Al. 209-823-1664

2001 - Extang BlackMax soft toneau cover. Fits late model Chevy short bed. Paid \$300 asking \$75.00. 925-846-2247

2001 - Ford F250SD Crewcab V10 4x4 Lariat. Automatic. Just under 47k miles. White w/ tan leather. Beautiful truck. Too big for new house. \$25,200 925-294-5939

1971 - GMC 3500 Longhorn, 402BB, PS, PB, Air, Auto, CD, 3000 miles on motor. Excellent condition. Must see to appreciate. Call for more info. \$8900 or BO. 209-823-3848

2003 - Chevy Silverado SS. V8, 6 litre, 345 hp, all-wheel drive, fully loaded, tow package, factory lowered, 20-inch wheels, 17,400 miles. \$31,000 OBO 209-833-3785

1995 - 26ft Prowler 5th wheel by Fleetwood. Bunkhouse model sleeps 8, Ex cond \$8900. Nice 1 ton 97 Chevy crewcab-36k miles available also. Call evenings only 925-443-8886

2003 - Complete Reese 15K 5th Wheel Hitch with mounting kit. Brand New - Only used three to four times. \$325 or best offer. 209-832-7204

77 - 24ft Winnabago 1977 motor home. AC Central Heating, Kitchen & Refrigerator, Shower & Toilet, TV, Sleeps 6 Excellent Condition. \$4500. OBO. 43423. 925-516-9678

1968 - Aristocrat Trailer. 16f, Sleeps 4, awning, 3 burner stove, refig/freezer, AM/FM CD. Great starter trailer. Have pics. Must see! \$1000 OBO. 925-525-4246

VACATION RENTALS

Cozy mountain cabin near Arnold. 4bedr, 2 bath, full equipped kitchen, wood burning stove. Close to Bear Valley Ski Resort. 925-245-1114

Soooo cute beach cottage in Santa Cruz. 2 bedr, 2 bath, fully equipped kitchen, spa. 4 blks. from ocean. 925-245-1114

SOUTH LAKE TAHOE - 3Bedroom 2 bath Chalet, nicely furnished, all amenities, close to all skiing. 209-599-4644

Pincrest. - Cabin available near Dodge Ridge skiing. 3 bdrm/2 bath, fireplace w/wood, microwave, pool table, level cleared access to covered parking, \$225/wknd 925-449-5513

WANTED

Beanie Babies! Kindergarten teacher teaching letters and sounds looking for unwanted Beanie characters for letters of the alphabet A-Z. 925-462-3976

Used french horn. Not too expensive. 209-239-9116

Help wanted. Detail-oriented person needed to clean home in Livermore, weekly or biweekly. 925-455-6434

55 gallon(or close)PLASTIC drums. No leaks or toxic chemical residue. 510-526-2776

Wanted, Creative Cabinetmaker to help with a kitchen remodel. 925-634-8523

Please note:

Services and merchandise listed in *Newsline* are not guaranteed. It is up to the buyer to scrutinize services purchased.

A&S Restructuring: Job family matrix revisions continue

The employee comment period for the jJob family matrices ended March 9 and initial job slotting will be completed today (March 12.) Job Family Matrix revisions continue based on input from management and employees.

Management will be made aware of any changes to the matrices so that they can adjust job slotting, if necessary. Revised matrices will be posted on the A&S Website, located at <http://www-r.llnl.gov/ASR/>

Additional discipline descriptions will be

added to the "other" category in each Job Family as they are identified during the slotting process.

The following Job Family Matrices have been revised since the last list was published in the March 5 *Newsline*:

- Library Services – some content changes
- Training and Organizational Development – some content changes

Note: In last week's *Newsline*, two lines of text were inadvertently combined in the box entitled "Some revisions made to A&S Restructuring

Job Family Matrices." The correct text for Service Operations and Telecommunications Security are:

- Service Operations Administrator – title changed to Service Operations
- Telecommunications Security – some content changes

The next steps in the A&S Restructuring process will be analysis of the initial job slotting, with particular emphasis on cross-directorate consistency. This will involve Compensation staff, an Advisory Panel of Laboratory managers and senior management.

POSTDOCS

Continued from page 1

in Western Europe, Canada and the United States. The magazine, which focuses on the life sciences, noted that the participants were self-selected and no attempt was made to standardize the results.

According to the magazine, the survey's participants rated access to a comprehensive collection of journals and books and high-quality research tools as the most important attributes of a research institution for postdocs. "They also noted the value of career preparation, which involves both scientific coaching and job advice," the magazine said.

LLNL was one of five federally funded research facilities among the top 15 on the list. "U.S. government labs have become fertile greenhouses for some of the country's best and brightest researchers," the magazine said. "Because government labs also dole out grants to institutions and scholars, they have become exemplars for other centers and are highly sought after."

To celebrate the Lab's ranking, Lori Turpin, chair of the Lab's Postdoc Advisory Committee (PDAC), presented a certificate of recognition on Thursday to Hal Graboske, acting associate director for science and technology.

Laura Gilliom, director of the Lab's University Relations Program and a member of the PDAC, said LLNL is especially attractive to postdocs with degrees in physics, chemistry and other physical sciences who recognize the growing opportunities for seminal bio-science research.

"Livermore has a long tradition of scientific and technical vitality and interdisciplinary research," Gilliom said. "The postdocs who come here know they will be able to do cutting-edge research using the world's most advanced lasers, accelerator mass spectroscopy and nuclear magnetic resonance spectroscopy tools, and to couple experimental and computational science."

One such postdoc is Nan Shen, who received her Ph.D. in physics from Harvard University in 2003 and is working at the Lab's Physical Biosciences Institute (PBI), an incubator for multidisciplinary projects that link the Laboratory's experimental and simulation capabilities with research projects in quantitative biology.

Shen uses femtosecond lasers (lasers that pulse at quintillionths of a second) to perform intricate, targeted surgery on cell organelles in an effort to better understand intracellular and intercellular communication.

"LLNL has an open and collaborative working environment," Shen said, "which makes it an excel-

lent place for interdisciplinary research. It has benefited many of us in PBI to interact with fellow postdocs and scientists across the Lab.

"The high-quality research tools available at LLNL also make new and exciting research possible," she added. "As a postdoc in the PBI, we are encouraged to be scientifically independent, and are also provided with guidance and assistance whenever we need it."

Another example of interdisciplinary opportunities cited by *The Scientist* was the Lab's collaboration with the Linac Coherent Light Source project at Stanford University, where biologists and physicists are collaborating to develop an advanced X-ray source for imaging large molecular structures and orientations.

Other institutions in the list's top ten were: Fox Chase Cancer Center, Philadelphia; the Medical College of Wisconsin, Milwaukee; the National Institute of Environmental Health Sciences; the National Cancer Institute; the Harvard School of Public Health; the University of Texas M.D. Anderson Cancer Center, Houston; Woods Hole Oceanographic Institution, Woods Hole, Mass.; the Fred Hutchinson Cancer Research Center, Seattle; and the National Institutes of Health.

The full report can be found on the World Wide Web at <http://www.the-scientist.com/postdoc/postdoc.htm>.

CHOU

Continued from page 1

When he was selected as associate director in June 2001, Chou decided to make some changes within the directorate.

First of all, he wanted to make sure that the scientists in the organization were respected as well as rewarded for good work. He changed the ranking system so that senior scientists were ranked equivalently or higher than managers. Secondly, he promoted scientists to managers who he said had "the vision to see, the passion to drive and the skill to lead."

"They have to be able to see things far enough

and clear enough into the future and be willing to lead those program people with passion," Chou said.

In terms of programs, Chou encouraged scientists to develop innovative solutions to worldwide issues as opposed to taking the traditional path.

"C.K.'s vision, energy and drive has really changed the way we operate," said Robin Newmark, program leader for E & E's Water Environmental Program. "It's up to us to see it through and grow into the future."

The water initiative, three Laboratory Directed Research and Development proposals, pulls in scientists from different directorates to focus on how climate affects the water supply, methods to purify con-

taminated water and effective management of water quality in groundwater basins. The plan was to secure outside funding for the project in three years. Chou and his staff secured external funding in the first year of the initiative.

Other initiatives started under Chou are Atmospheric Dispersion and Consequence, Coal Gasification for Hydrogen Production, Carbon Dioxide Separation, Data-Driven Simulation of Complex Systems, Carbon Sequestration, and Biogeochemistry.

"I've enjoyed support from the Lab's top management and they have encouraged the change in directions," Chou said. "This change is vitally important for us to be successful in the future."



Naval graduates pipe aboard

Nineteen representatives from the Naval Post Graduate School in Monterey visited the Laboratory on March 5 as part of an exchange program organized by the Lab's National Security Office. Besides a Laboratory overview, the tour included the solid-state heat-capacity laser, accelerated mass spectrometry, the High Explosives Application Facility, advanced simulation and computing, Homeland Security overview, the autonomous pathogen detection system and the National Ignition Facility. This exchange is part of a growing relationship between the two institutions, which is expected to develop into a formal MOU later this month.

DAVID SCHWUEGLER/NEWSLINE

Believed extinct, rare jewel blooms at Site 300

The diamond-petaled California poppy (*Eschscholzia rhombipetala*) was thought to be extinct for approximately 50 years when it was rediscovered in the Carrizo Plain in San Luis Obispo County by a botanist from Cal Poly, San Luis Obispo. A second population was found at Site 300 in 1997 during a habitat survey, and an additional population was again found at Site 300 in 2002. These are the only locations where the diamond-petaled California poppy is currently known to occur worldwide.

Both Site 300 locations are found in remote areas away from programmatic activities. The diamond-petaled California poppy was probably never wide spread and remains one of the rarest plants in California. Only seven historic populations are known. All historic populations were found in the inner Coast Ranges in Contra Costa, San Luis Obispo, Stanislaus and San Luis Obispo counties. The Corral Hollow area, where Site 300 is located, is known for its diverse flora including several extremely rare species. Four hundred and six species of plants are known to occur at Site 300. Eight of these are considered rare plants or limited in distribution.

California is a state rich in native plants. More than 6000 species of native or naturalized plants occur in California, more than occur in the entire northeast United States and adjacent portions of Canada. More than 16 percent (1,020 species) of these plants are considered rare or endangered by the California Native Plant Society (CNPS). Another 8 percent (554 species) of California native plants are included on CNPS's watch list of species of limited distribution; these are species identified at risk for becoming rare, including the diamond-petaled California poppy.

The diamond-petaled California poppy is a small annual forb (broad leaved non-woody plant). Diamond-petaled California poppies found at Site 300 are typically less than 15 centimeters tall when flowering. The diamond-petaled California poppy has small yellow flowers unlike the showy orange flowers of its common relative the California poppy (*Eschscholzia californica*). In addition to its larger size and orange



By Lisa Paterson



Diamond-petaled California poppy (*Eschscholzia rhombipetala*)



TINA CARLSEN

petals, the California poppy can be distinguished from its rare relative by a disk shaped rim on the receptacle that is found directly below the petals of the California poppy.

Research conducted at Site 300 by LLNL's Environmental Protection Department has focused on determining the ecological requirements of the diamond-petaled California poppy. This rare poppy is a grassland species that is typically found in heavy clay soils. At Site 300, this species occurs in and around small patches of open bare ground caused by slumping hillsides. As is common with many grass-

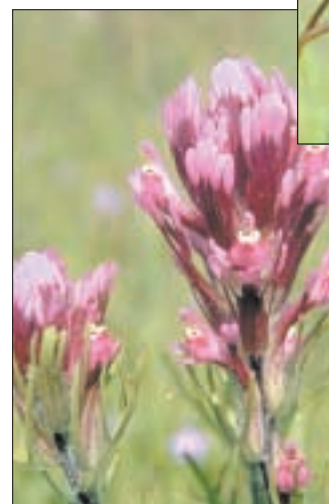
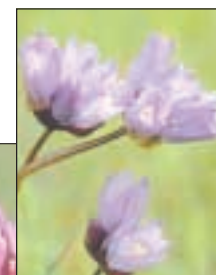
land forbs in the Livermore area, the California diamond-petaled poppy only flowers during a short period from late March to early April.

The causes for the extreme rarity of the diamond-petaled poppy are unknown. Throughout California many plant species are rare because they occur in habitats that naturally have a limited distribution, such as plants restricted to rare soil types (e.g. serpentine endemics). Other plant species become rare through human impacts to their habitats, as is the case with many vernal pool species. In addition, some California species are thought to be rare because they are "old" species, such as the Torrey pine (*Pinus torreyana*) that were once more widely distributed and became more restricted in their distribution because of climatic changes.

As the weather gets warmer and the days get longer over the next few weeks, the annual forbs that make up a large part of the grasslands that surround the Livermore site and Site 300 will come to life forming patches of color on the Livermore hillsides. Though very few people will be lucky enough to see the rare and diminutive California diamond-petaled poppy this spring, look for the beautiful patches of color formed by more common annual forbs on the hillsides that surround the Livermore site and Site 300. Some common spring colors in the Livermore area

are purple owl's clover (purple/pink) (*Castilleja exserta*); common fiddleneck (orange) (*Amsinckia menziesii*); cupped monolopia (yellow) (*Monolopia major*); and blue dicks (purple/blue) (*Dichelostemma capitatum*).

JO-ANN ORDANO © CALIFORNIA ACADEMY OF SCIENCES



Left, purple owl's clover (*Castilleja exserta*); above, blue dicks (*Dichelostemma capitatum*); below, California poppy (*Eschscholzia rhombipetala*)

BR. ALFRED BROUSSEAU, SAINT MARY'S COLLEGE



BETH LEGER

Reed to give insider's view of Cold War rivalry

Tom Reed, former Secretary of the Air Force and earlier an A Division physicist, will deliver an insider's view of the Cold War on Tuesday, March 16, at 3:30 p.m. in the Bldg. 123 auditorium. All employees and retirees are invited to hear Reed's talk, sponsored by the Laboratory History Project, on the nuclear one-upmanship between the United States and Soviets that dominated the fifties to the nineties.

Reed was a prominent player in the Cold War—as Secretary of the Air Force, as Director of the National Reconnaissance office, and as a Special Assistant to President Reagan for National Security Policy. He has compiled his perspectives and personal history in a new book,

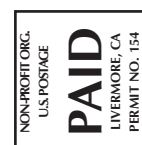


Tom Reed

"At the Abyss," which was released by Random House earlier this week, just prior to his talk at the Laboratory. The introduction to the book is by former President George H. W. Bush, and the volume is based on archival research as well as interviews with major Cold War players from U.S. Presidents to Soviet generals, from policy makers to nuclear scientists.

The Time Zone will have discounted copies of the book for purchase ahead of the talk. Call the Time Zone, 2-9035, to ensure

the books are available. Reed will be at the store earlier during the day on March 16 to sign copies.



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