NEWSLINE

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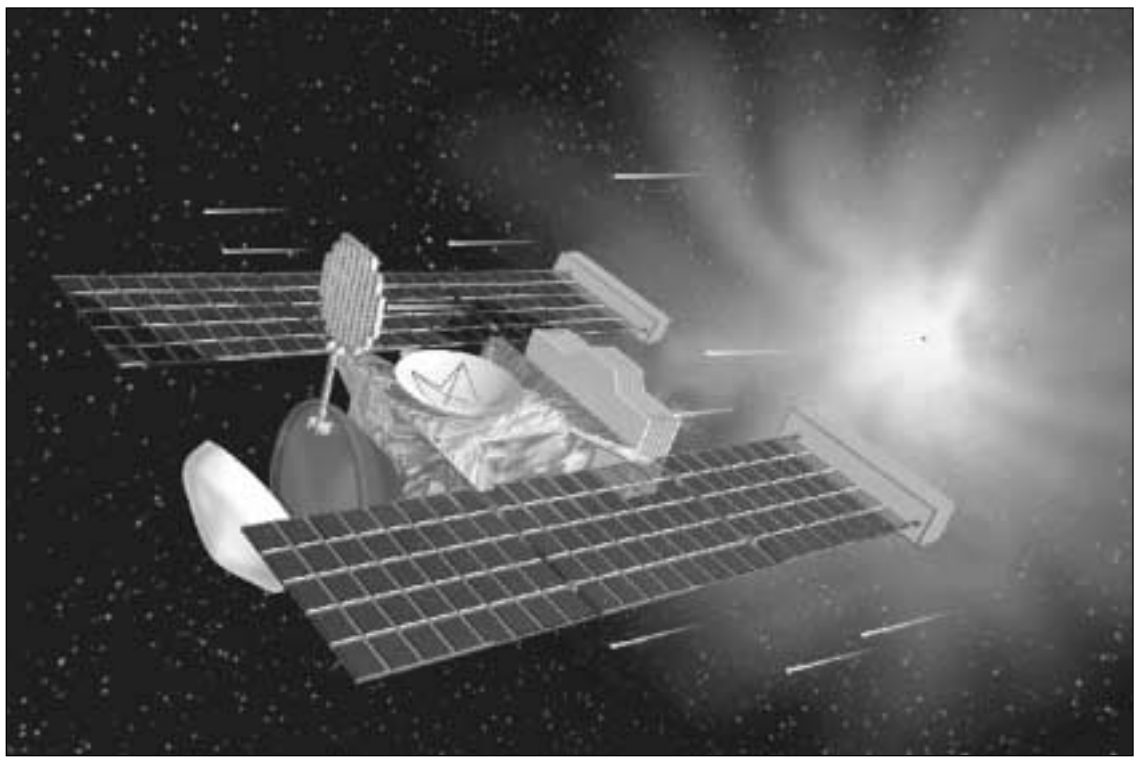

An artist's rendering of the NASA Stardust space bus bustles toward the comet, Wild 2. The space bus will gather dust from the comet and return to Earth in February 2006.

Space bus picks up stardust

By Anne M. Stark
NEWSLINE STAFF WRITER

As you read this, a NASA space bus is working its way to the comet, Wild 2. Once there, it will collect stardust, a remnant of stars, that may be able to tell the story of our solar system's beginnings and possibly even the origins of life.

Lab astrophysicists are key players in an international consortium that will be examining the stardust when it returns to the Earth in February 2006.

Launched in February 1999, Stardust is the first NASA space mission dedicated solely to collecting comet dust and will be the first mission to return material from a comet.

Wild 2 is a newly identified comet on its first passage into the inner solar system, said John Bradley, director of the Lab's Institute for Geophysics and Planetary Physics and one of the major participants in the Stardust mis-

See **STARDUST,** *page 8*

NAI's seminar series returns with special emphasis on homeland security issues

A talk next week by Steven Rinaldi, director of the National Infrastructure Simulation and Analysis Center (NISAC), will focus on the importance of protecting the nation's critical infrastructure.

This presentation will kick off the third year of the Nonproliferation, Arms Control and International Security (NAI) directorate colloquium series. Rinaldi's talk will begin at 1:30 p.m. on Thursday in Bldg. 132S, room 1784. It is open to all Lab employees.

A partnership of Sandia and Los Alamos national laboratories, NISAC develops models and simulations to analyze ways to protect the nation's infrastructure from disruptions.

See **SEMINAR,** *page 7*

Congress moves forward with Homeland Security

By Anne M. Stark
NEWSLINE STAFF WRITER

The U.S. House of Representatives earlier this week passed the National Defense Authorization Act for fiscal year 2003 which proposes funding increases for stockpile stewardship, the National Ignition Facility and suggests a detailed report be prepared that outlines a plan and budget for nuclear test readiness.

In other action, Congress took a significant step ahead Wednesday in homeland defense by signing a bill to form the new Department of Homeland Security. The bill is expected to reach the president's desk before the Thanksgiving holiday.

"We expect the Lab is going to have a key role in supporting the science and technology for the Depart-

See **BILL,** *page 8*

Due to mail mix-up, UC places enrollment information online

Although Open Enrollment materials were mailed more than two weeks ago, many employees still have not received them. The Post Office is trying to determine where the missing materials are and why they weren't delivered.

Because of the mailing problem, Benefits Offices and UC Customer Service are experiencing heavy call volume and may be difficult to reach.

If you did not receive your materials, you can go online (http://atyourservice.ucop.edu/) to get all the information you need to make informed Open Enrollment decisions. Here are the steps to follow:

See **OPEN ENROLLMENT,** *page 7*

JOSEPH MARTINEZ/TID

Transition team visits

John Gannon, far right, of the Homeland Security Transition Planning Office, takes a closer look at a chemical absorbent held by Armando Alcaraz of the Lab's Forensics Science Center. Also on the tour were William Lyerly, bioterrorism member of Science and Technology transition planning office (second from left), and, Stephen Cochran, deputy AD of NAI (second from right).

1999: R&D 100 awards

— Page 3

UC President Atkinson retires

— Page 8

Training with class

— Insert

LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 7

Friday 15

Today is **"America Recycles Day."** Employees are reminded to use the Laboratory's recycling and reuse programs from office waste paper, newspapers, magazines and cardboard to printer cartridges and surplus chemicals. Recycling and reuse reduce the non-hazardous waste stream and waste disposal costs. For more information about recycling, call the EARTH hotline, 3-2784.

• • •

With the holidays around the corner, the **LLESA Children's Center** is offering a chance to save 10 percent on purchases at Waldenbooks at Stoneridge Mall in Pleasanton this weekend. As an added bonus, Waldenbooks will also donate 10 percent of your purchase to the LLESA Children's Center. To participate, visit the Web at http://llesa.llnl.gov/childcare/cchome.html and print a copy of the book fair coupon. Present it at the Waldenbooks in Stoneridge Mall between today and Monday.

Sunday 17

There will be a **scheduled power outage** from 7 a.m. to 3 p.m. in the following locations: Bldgs. 321, 322, 322A, 326, 327 and 329; and Trailers: 3203, 3204 and 3226. Contact: Mark Cardoza, 3-0490.

Tuesday 19

A representative from SHPS, which will administer the University's new **Health Care Reimbursement Account**, will be at the Lab from noon-1 p.m. in the Bldg. 123 auditorium to discuss this new account as well as the Dependent Care Reimbursement Account.

• • •

As part of Open Enrollment, the Benefits Office is hosting a **benefits fair** from 2-5 p.m. in the West Cafeteria. Representatives from the UC Savings Program, Social Security, UNCLE and Cal State 9 Credit Unions will also be on hand to answer questions.

Friday 22

To celebrate **American Indian Heritage Month**, the American Indian Activities Group has invited Paiute tribal chairman K. Alan Mandell of Pyramid Lake, Nev., to discuss "Environmental Issues on American Indian Reservations" at noon in the Bldg. 543 auditorium. The tribe has been working with Sandia and the Western Area Power Administration to develop geothermal energy resources. Contact: Darlene Yazzie, 3-7846.

Up & Coming

The last day to sponsor a family for this year's **Brighter Holidays** program is Nov. 25. Currently, 75 families have been placed with LLNL groups. Delivery date of family gifts/food to the Lab's Discovery Center is Dec. 12, 8 a.m.-noon. To sponsor a family, call Betty Klino, 443-0642. All other information, call Joanna Stadler, 2-7985.

Time capsule to be buried Wednesday

The Lab's 50th anniversary time capsule, filled with memorabilia of the year's events as well as examples of major programs underway in 2002, will be buried at 3:30 p.m. Wednesday.

Employees are invited to witness the lowering of the capsule into the ground — placed inside a secondary containment vessel for protection against the elements — at the Discovery Center patio near the East Gate entrance off Greenville Road.

The site historical marker will stand over the buried container, showing people 50 years from now where to find the capsule.

The site has also been marked with GPS coordinates that were sent to the International Time Capsule Society for safekeeping, as well as the LLNL archives, DOE archives, and the city's Livermore Heritage Guild files.

There are 87 items in the stainless steel capsule, including such things as a letter from LLNL Director Mike Anastasio to Lab employees in 2052; a copy of the 50th Anniversary Lab history book "Fifty Years of Accomplishments"; a scale model of Brilliant Pebbles, a duplicate of one presented to former President Bush; a sample of Aerogel in vial along with a two-page description; and a bottle of Cedar Mountain Cabernet Royale, same as that served at the Blackhawk LLNL 50th gala.

DOE, Labor Department visit to assist ill workers

Representatives of the Departments of Labor and Energy will be in the Bay Area Dec. 2-5 to assist individuals who have questions about the Energy Employees Occupational Illness Compensation Program Act.

The compensation act, signed into law in 2000, established a program to provide compensation to DOE employees and contractor employees who develop certain occupational illnesses as a result of work associated with nuclear weapons production. Major DOE or related sites in the Bay Area include LLNL and Lawrence Berkeley National Laboratory and the Stanford Linear Accelerator Center.

The program provides two different types of assistance. Eligibility and benefits differ in each program.

The Traveling Resource Centers are a joint effort by DOL and DOE to assist individuals regarding claims under either part of the compensation act. Each resource center will be open from 8:30 a.m. to 6 p.m. at the following locations:

• Monday and Tuesday, Dec. 2-3, Four Points Hotel by Sheraton, 5115 Hopyard Road, Pleasanton.

• Wednesday and Thursday, Dec. 4-5, Oakland Marriott (City Center), 1001 Broadway, Oakland.

To make an appointment at either location, call toll-free, (866) 697-0841. However, appointments are not necessary. A full list of California facilities is available at http://www.eh.doe.gov/advocacy/faclist/showfacility.cfm.

IN MEMORIAM

Harold E. Brown

Lab retiree Harold Edward Brown died at his home in Pioneer, Calif., after a long illness. He was 88.

Born in San Francisco, Brown attended schools there and in Oakland where he graduated from Roosevelt High School in 1932. In 1942, he started a long career as an electronics engineer with the Atomic Energy Commission, later working at Lawrence Berkeley Lab and transferring to Lawrence Livermore.

He was involved in the Oak Ridge project in Tennessee preparing for the first atomic bomb test in New Mexico. Later he assisted with test in the South Pacific and at the Nevada Test Site.

Brown retired in 1984 and with his wife moved to Amador County. Amateur radio was a lifelong passion for Brown, who with his wife, volunteered assistance in radio communication with the Amador County Sheriff's Search and Rescue Team and the California Division of Forestry for many years.

An artist and skilled craftsman, Brown built the family's retirement home in Pioneer where his paintings graced the walls.

He is survived by his wife of 25 years, Barbara "Bobby" Brown of Pioneer; sons Byron Todd Brown of Pine Grove, Calif., Lawrence Edward Brown of Castro Valley, Calif.; stepsons Richard Sawyer of Fort Worth, Texas; eight grandchildren and one great grandchild.

Memorial contributions may be sent to Hospice of Amador, P.O. Box 595, Jackson, Calif. 95642.

Carlo Ridolfi

Lab retiree Carlo Ridolfi died Aug. 15 of leukemia. He was 66.

A native of Rome, Italy, Ridolfi came to the United States in 1956. He worked at the Laboratory as a painter and paint supervisor from 1963 until his retirement in 1993. He was a member of SIRS.

Ridolfi is survived by his wife of 46 years, Delphine Ridolfi of Livermore and daughters, Janet Garcia of Livermore and Katherine Andrews of San Jose.

Newsline

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

Contacts:

Media & Communications Manager: Lynda Seaver, 3-3103

Newsline editor: Don Johnston, 3-4902

Contributing writers: Elizabeth Campos Rajs, 4-5806; David Schwoegler, 2-6900; Anne Stark, 2-9799; Steve Wampler, 3-3107; Gordon Yano, 3-3117. For an extended list of Lab beats and contacts, see http://www.llnl.gov/llnl/06news/NewsMedia/contact.html

Designer: Julie Korhummel, 2-9709

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Printed on recycled paper

1952 – 2002

MAKING HISTORY, MAKING A DIFFERENCE

Technologies spin off to industry

This is an ongoing feature highlighting the Lab's 50-year history. This week we take a look at the year 1999.

In 1999, *R&D Magazine* recognized Livermore with six of the 100 awards it grants annually for the most technologically significant new products and processes. Over the years, Livermore has won 90 of these coveted awards. Two of the 1999 awards are indicative of the Laboratory's wide variety of partnerships with U.S. industry.

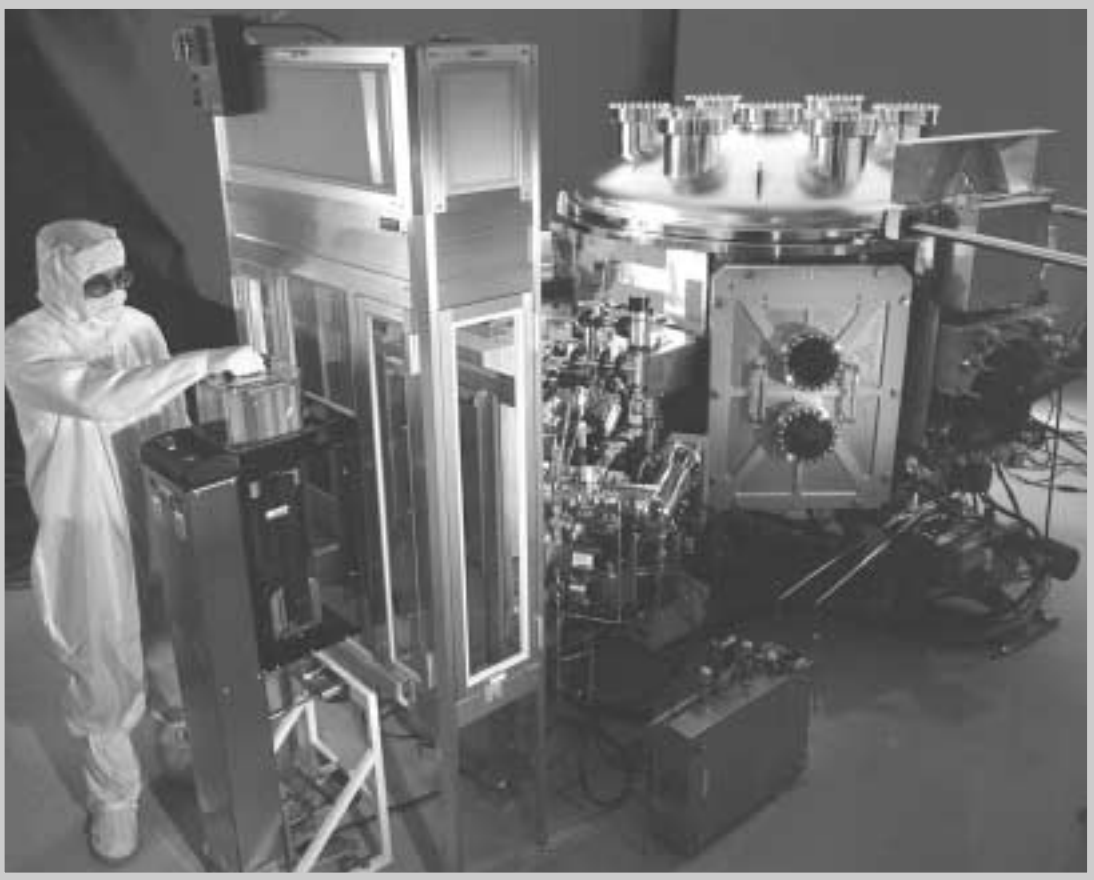
PEREGRINE is a revolutionary new tool for helping doctors plan radiation treatment on a patient-specific basis. Livermore has licensed the PEREGRINE technology to the NOMOS Corporation of Sewickley, Penn; and the U.S. Food and Drug Administration approved it for use in 2000.

Another award in 1999 was for a multilayer, thinfilm deposition system, a technology that is key to the development of extreme ultraviolet (EUV) lithography, the likely technology of choice for manufacturing the next generation of computer chips. The technology is being pursued by a unique industry – government collaboration that began in 1997. A consortium of semiconductor companies has committed $250 million to the project, and extended their support to the three DOE laboratories engaged in the effort until 2005.

Winner of an R&D 100 Award in 1999, PEREGRINE helps doctors to better plan radiation treatment. The computer simulation of the dose received uses detailed, patient-specific information gathered through a computed-tomography scan.

1999

R&D 100 AWARDS



The Ultra Clean Ion Beam Sputter Deposition System, developed at Livermore, produces precise, uniform, highly effective masks for the lithographic process of printing features on computer chips.

For more of the Lab's rich history, check out the Timeline, located at: http://www.llnl.gov/timeline/

THE HOME PAGE

Valley Children's Museum keeps building on the future

By Lynda Seaver
NEWSLINE STAFF WRITER

It's a question Dina Visuri hears all the time: Where were you guys when my kids could have used something like this?

"This" refers to the fledgling Valley Children's Museum, a place for children to learn about the world through scientific phenomena, technical wizardry and plenty of hands-on gadgetry. And should anyone think his or her child is no longer of the right age or mindset to be interested in such a museum, Visuri is quick to give her standard answer: "We can all learn something when we go to this museum, no matter what age. This isn't just a museum for children. It's a family learning experience."

Now all that's needed is the actual museum, along with some construction and operating capital.

The Valley Children's Museum (VCM) was formed in 1999 by a group of enterprising parents throughout the Tri-Valley. Though its doors have yet to open, the project is in full swing, with traveling exhibits and a program that will eventually make its way to local schools.

These traveling exhibits serve two purposes — not only do they provide a new avenue of "edutainment," Visuri said they are also used to drum up support for the actual museum.

Although it has no permanent home, the Valley Children's Museum is already offering a series of traveling exhibits and demonstrations.

The museum is the idea of Visuri, along with assorted parents and educators. Visuri and her husband, engineer Steve Visuri, who works in the Lab's Medical Technology Program, were newly transplanted from the Midwest when they noticed what they felt was a lack of options when it came to hands-on museum quality displays for children. Dina Visuri took her observation to a mother's club she had joined in the Tri-Valley, and the idea for a children's museum was born.

In order to understand and master the world around them, children need to explore, handle, create and role-play in a safe and engaging environment, explained Visuri, a former special educator and the mother of four kids, ages 2-7.

"Informal educational settings allow children to learn at their own pace and according to their own style."

That may explain why children's museums are the fastest growing type of museum.

"This is an investment in our social capital," Visuri said of the project. "Children who learn how to connect to their community at an early age are more likely to become involved in that community as adults."

The Valley Children's Museum will make its home in San Ramon as part of the City Center project. The project is scheduled to break ground within the next year, possibly two; the museum will open within the City Center's timeline. In the meantime, Visuri, president of the board of directors, and her band of volunteers occupy themselves by raising money for the museum, forging collaborations with various schools, businesses, organizations and civic groups, and devising traveling exhibits.

The VCM believes it will cost between $6 million to $10 million to get a facility open. The VCM board will be hiring a grant writer soon, along with an executive director. The museum project stages regular galas to raise dollars, and they are looking to other fund-raising efforts, including the Lab's HOME Campaign. Though the museum is not yet on the list of employee-chosen agencies, Visuri has participated in the Agency Fair. HOME Campaign participants may contribute through the write-in option at the bottom of the campaign pledge form.

While the coffers continue to grow, Visuri and company are already devising "Museums Without Walls," a series of traveling exhibits to promote the museum and generate interest. In coming months they will unveil a pilot program for select San Ramon area schools, in which each school will receive an education kit — actually a miniature "funhouse" chock full of interactive displays. Children will learn about the relationship between color and light through optics and optical illusions within each room of a small Winchester-mystery style home. There will also be plenty of hands-on exercises — for example, kids will be able to build their own kaleidoscopes.

Eventually the program will branch out to Dublin, Pleasanton and Livermore schools.

The museum also has a series of traveling exhibits that make the rounds at various community fairs, festivals and local libraries throughout the year.

"A good museum's reach should extend far beyond its bricks and mortar," said Visuri.

Once completed, the museum will feature many of the concepts of the traveling exhibits, set in a miniature kid-friendly "town," with themes that reflect the local communities. Exhibits will include "natural surroundings," with displays on habitat, environmental issues, gravity and acceleration; weather phenomena, including experiments with windmills and water flow; a fossil exhibit depicting the area's first inhabitants, complete with a "dino dig" where guests can hunt for their own relics; a news and views area where children can broadcast their own radio programs; a town square where children can role play different jobs; and "mood swings," where children can learn how our environment can affect attention and emotions. There also will be areas for staging storytellers, musicians, puppet shows and other entertainment.

While Visuri says the age range for exhibits is "0 to 12," she adds that there will be docent opportunities for high school and college-age students. The museum is also looking for volunteers, including exhibit fabricators, designers, grant writers, marketing experts and board members.

"We are a grass roots organization that is really starting to grow, and it's been fun watching this effort take off," Visuri summed. "This an opportunity for the entire valley to come together for a remarkable facility that will teach children of all ages to connect to their community."

For more information on the Valley Children's Museum, call 461-6574, or see the Web at www.valleychildrensmuseum.org. To contribute to the museum via the HOME Campaign, use the write in portion of the pledge form.

Painting a haven

As part of this year's Week of Caring, a large group of Lab volunteers recently spent the day at the Tri-Valley Haven helping to paint the house. Pictured are (top row, left to right) John Laycak, Lori Zeller, Steve Kiar, Danielle Macias, Maria Ramirez, Latonna Wilson; and (bottom row, left to right) Cynthia Henderson, Lourdes Linhart, Jennifer Continente, Kimberly Aparicio, Nancy Carver, and Kathy Turnbeaugh. Not pictured are Janet Conrad, Ray Smith, and Betty Bowers.

PHOTO BY JANET CONRAD/COMPUTATION DIRECTORATE

THE HOME PAGE

Incentives for giving

HOME participants who had returned a packet by Nov. 1 were eligible for the first "early incentive" drawing. Seven winners drew for prizes ranging from golf games to fine dining to gift baskets. Five of the winners (left to right, pictured above), are Joe Bartelt (Home Interiors gift basket), Mavrik Zavarin (Taxis Hamburgers gift certificate), Andrea Baron (Lemon Grass Restaurant gift certificate), HOME chair Ted Michels, Cherice Pitman (golf for two at Poppy Ridge), Gina Costa-Willson (Lemon Grass Restaurant gift certificate), and Computation AD Dona Crawford. Above right, Ted Michels and Dona Crawford flank winners (left to right) Ron Basso (large pizza at Frankie, Johnnie, & Luigi Too) and Phil Eckert (Garre Winery 1996 Merlot).

The second early incentive drawing (photo right) included participants who had returned a packet by Nov. 8. An additional seven winners became eligible to draw for prizes.

Six of the winners (left to right), are William Ormand (Applebees Restaurant gift certificate), Computation AD Dona Crawford, Eileen Vergino, (four end-zone tickets to a Saber Cats game), Shelley Corzett (Taxis Hamburgers gift certificate), Daniel Orlikowski (Applebees Restaurant gift certificate), Teresa Tigert (Wente Winery gift certificate), HOME Chair Ted Michels, and Ron Pastrone (Lemon Grass Restaurant gift certificate). Not pictured is Linda Jensen, who will draw with next week's winners.

PHOTOS BY BECKY FRANK/COMPUTATION DIRECTORATE

HOME contributions to date: $582,815

Directorate	Total Employees	No. of Contributions	$ Donated	% Participation
Director's Office	159	33	$18,863	21%
Energy & Environment	346	52	$26,038	15%
Computation	1050	243	$108,453	23%
Chemistry & Material Science	515	89	$38,594	17%
Safety, Security & Environmental Protection	1104	146	$50,669	13%
Physics & Advanced Technologies	417	83	$37,192	20%
Defense & Nuclear Technologies	431	87	$40,840	20%
Laboratory Services	1488	313	$78,598	21%
Engineering	2290	248	$94,616	11%
NIF Programs	213	64	$20,588	30%
CFO	102	52	$11,476	51%
NAI	263	61	$20,830	23%
Administration & Human Resources	307	93	$20,805	30%
Biology & Biotechnology Research Program	250	41	$8,546	16%
Supplemental Labor	700	46	$6,043	7%
Others	4	4	$665	100%
TOTAL	8939	1655	$582,815	19%

Classified ads

See complete classified ad listings at https://www-ais.llnl.gov/newsline/ads/

Automobiles

1995 - Toyota Camry Coupe 2Dr, Drk Green, AC, 124k, 5sp, CD, PB, PS, New Wheels/Tires, New Brakes, Runs Great, Clean Title $4,925 OBO (925) 456-7445 or 510-773-1334

1988 - Honda Civic Wagon RT 4WD, 4 Dr, AC, PS, CD, 139k, New Tires, New Brakes, Runs Great, Clean Title $2,350 OBO 209-629-3766

1991 - Honda Accord EX 4-dr. Auto. Black w/tan int., AC, Moonroof, Power everything, Cruise control, CD/AM/FM. Family owned/Runs great! 176K Mi. $4300 OBO. 925-462-6503

1990 - Jetta GLI 2.0 16V light green 140K (mint) Recaro Interior 4 wheel disc brakes 17 inch wheels new clutch/timing belt $3800 OBO 925-513-2703

94 - Saturn SL2: leather, moonroof, A/C, 16-valve, white exterior/tan interior, 171K miles, pretty clean. $2500. 510-339-6492

1975 - Mustang PARTING OUT. Good body and some mech parts still available. Cheap or free depending on what you want. 209-836-5764

2001 - Saturn SC2 3-door. White ext./gray int. Excellent condition, 33K mi, all the extras, ppd. maint. $9,950 925-485-1988

1983 - Mazda RX-7, 60K on rebuilt engine. 5 speed manual, 2 seater, hatchback. New tires, front brakes. Needs rebuilt alternator. $600 OBO 510-649-8459

1999 - Nissan Maxima SE, Excel. cond., 42K miles, loaded, great stereo, almost new tires, $1475. 925-846-1453

1993 - Jeep Grand Cherokee Laredo, looks great, runs great, 4x4 AT recently rebuilt, AC, PS, PW, AM/FM tape, alloys, plus extras, $5,450, 925-443-9307

1965 - Plymouth Fury III 2 door. Rebuilt 440, power bench seat, power windows. Decent driver condition. $3000/offer. 209-368-4286

1996 - VW Jetta, 5 speed, excellent cond. inside & out, CD stacker, cassette, sun roof, rear spoiler, alloy wheels - $5,500 - 209-952-0877

1993 - Ford Bronco Eddie Bauer, 4WD, loaded, excellent condition,49Kmi, Dk Grn w/Tan, new tires, well maintained, original owner, $9800 OBO. 925-449-9437

1998 - Mustang,Silver,spoiler,V-6,tinted windows,alloy wheels,CD,auto-trans.,85K miles,great condition, good X-mas present. $8,700 obo. 925-964-0534

1997 - Chevrolet Silverado, V-8 5.7,auto trans, PW/PL/PB, lowered, custom tires/wheels, pinstriping, 95k mile, perfect condition $11,600.00 obo 209-667-1039

1993 - Toyota Camry 4dr Dark Green. 161k, AC, PB, PS, CD. Needs some mechanical work. Body and interior in excellent condition. $3000 OBO. 925-447-4056

1991 - Chevy Camaro red RS coupe 5.0V8 Auto. Trans. just rebuilt at AAMCO, 103K miles, 400watt sound system, runs good $2750 925-373-9439

1993 - Honda Accord LX Sedan, excellent condition, new tires, 84,000 miles, original owner, manual transmission, $6,800. 925-447-8251

1997 - Camaro Z28, 30 yr. Anniversary Special, Great condition, 80K miles, Original Owner. Great Christmas Present! $9K or B.O. 209-832-8950

1993 - Jeep Wrangler, 4WD, 5 speed, mags, AM/FM stero w/CD player, padded roll bar, 3 tops, blue w/gray interior, 146K miles. $5,400/OBO. 925-371-6485

Automobile Accessories

Brand New Rims & All Terrain Tires: P265/75R16 Off of a 2002 Chevrolet Silverado. $500. for all 4, OBO. 209-836-1665

Camper shell, white fiberglass, cab high with side windows. Fits 88 up long bed Chevy/GMC. $350 or BO. 209-836-5764

One new 14 x175/70 Michelin A4 TIRE mounted balanced on 4 bolt Ford Escort RIM, only $25- 925-447-7070

Like new 3 inch black oval step (side) rails for 1998 or later Ford Ranger XCab. $75 OBO 925-200-9976

Bicycles

Boys Diamondback 20 in BMX bike. Excellent condition. $30/obo 925-846-8394

Boats

Bayliner Trophy, 24ft., I/O, V8 Power, GPS, Fish-Finder, VHS Radio ,Live Bait System, Galvanized trailer,Excelent condition Asking $8500 OBO. 510-881-5798

Cameras

Digital camera - Olympus Model C-380 Brand new, Still in sealed package. Orig. price was S $199. Selling for $150. 510-278-6314

Electronic Equipment

Adaptec 2930 UltraSCSI PCI card. Enables use of SCSI drives and peripherals on newer Macs. $25. 925-454-8827

imac, blueberry, 333MHz, 96MB RAM, 6 GB HD. $350. Epson photo 780 printer, USB, almost new, no ink. $40. Both for $370. 925-846-3653

IMac-OS9.2 (OSX included), 64MB , G3 500 MHZ, AppleCare,Purchased this Year for $999.00 asking $550.00 . 209-918-1298

Iomega Bernoulli drive, SCSI 90 MBw/ 3 cartridges, $10/bo. Was used on Mac. 925-455-0668

17 inch MAG Innovision computer monitor Model #YE0711-03 925-447-7088

Giveaway

GIVEAWAY -- YOU HAUL from Brentwood -- Oak Executive Desk 5-drawer, 39W x 75L. Good condition w/few scratches. Twin box spring and frame. 925-516-4142

Queen size sofa bed mattress. New, never used. 209-836-5764

1995 22inch Rotary lawn mower. Runs good, needs tune up. Have original owners manual. You pick up. 925-706-2337

Sofa - Sectional, pillow back, sky blue and tan plaid. Great shape. You haul. 925-449-4963

Household

New, hand-knitted sweaters, imported from Nepal. Sizes S,M,L &XL. Great gifts. $10/piece. Will bring to LLNL 925-838-7021

Entertainment center, Solid oak, Holds 36 inch tv and audio/video equipment. Nice. 48 inches wide x 62 inches tall. $500 925-676-4966

Kohler toilet seat, elongated, Mexican Sand color, new in box. Pd $50, sell for $25. 925-455-1547

Sofa 7ft turquoise with pillow back, very good shape $250 OBO, two oak end tables with glass tops $100 for both. 925-462-6503 925-462-6503

Particle board (pressed wood) cabinet, 32x32x16 inches. Still in carton- never opened. Assembly required $25.00 925-443-2245

Baby Crib, ex. cond, wood w/ blue stain on top, attractive, w/ mobile, mattress, New model at Babys-R-Us, $150 925-443-8585

GE dishwasher in good running condition. Only six years old. $20. 925-454-8827

Bunk Bed (Twin over twin) Red metal Frame - no mattress, $100 OBO 925-294-9398

3-piece cherry wood entertainment center: TV cabinet (holds up to 32 inch TV), stereo cabinet and bookshelf. Retail $1200, will sacrifice @ $600. 925-837-5866

4-drawer desk, $35. Computer hutch with printer stand, $35. White, 6-drawer platform double bed, $50. HEPA air cleaner, new element, $35. 925-200-9976

FINE CHINA: Bavarian Countess Pattern,platium rim. 8 place settings with serving pieces (app. 60 pieces) $690/obo 925-447-9344

Garage sale, 1155 Innsbruck St, Livermore, Fri Nov 15th 2pm - 6pm, Sat Nov 16th 8 am - 6 pm 925-443-7841

Massage Table - professional, face cradle, sheets, carrying bag. Like-new condition. $600 new; asking $300 OBO. 925-462-5202

13inch Emerson color TV, works great. $45 925-447-7088

Frigidare refrigerator, white frost free with top loading freezer 2 years old. $200.00/OBO 408-687-0953

Formal dining room table. Dark wood, 6 chairs,good condition $300.00 925-447-3166

Beautiful oak desk and hutch. Perfect for computer. Approximately 5ft x 6.5ft. Paid 4K, sacrifice $800 obo. 510-881-8536

Sears Freezer, 20cuft, manual, lock & key, exc.cond,$100 209-239-2781

Girls bedroom set, white with gold trim. Bed, mattress, box springs, optional canopy, chest of drawers, desk, all VGC. $350 OBO. 925-606-6071

Hotpoint Refrigerator, 23.4 cu ft,side by side,with ice maker,beige, very good condition, $125 Must pick up before 11/20 925-634-6628

Antique Furniture, 3 Oak Armoires Wardrobes$350-$450, 1 oak Secretary desk with curio$350. Located in Manteca. I can email photos. 209-606-6445

Miscellaneous

DOUBLE STROLLER, Cosco, front and rear, converts easily for one or two children, has canopies, basket under, folds to go in car $45 925-447-7070

MathBlaster for 4th Grade. Highly rated software, Win98/95, PowerMac. Brand new. Pd $25, sell $15. 925-455-1547

Two tickets- excellent seats. Salvatore Licitra (the next Pavarotti?) Zeller bach Berkeley. 7pm Sunday February 2 2003 $82.00 each 925-443-2245

Telesensory Aladdin Classic for Visually Impaired/like new used for few months only. Unable to use now.510-793-9135

Doll, Sugar Britches(?), blond, blue eyes, beautiful, hand-painted porcelain with lacy cradle. Great Christmas gift. $200 925-449-4963

15 inch Makita cutoff/miter saw. $50. Older model, but no wear. 3 blades including new condition carbide blade. Heavy, you haul from San Ramon. 925-829-4124

skylites:1-4x6;2-2x6;2-2x4;2-2x2 all are dual domed and tinted.all 7-$100 925-846-5722

Jointer, Craftsman 6 inch cast iron table with stand. $75 925-443-5928

Tracy Art League Sale, Sat. Nov 16, 10-6 and Sun. Nov. 17, 11-4 at 222 E. Carlton in Tracy. Watercolor, oil, ceramic, metal, and more. 209-835-9588

Large oak coffee table, square, good condition. $50.00 925-447-3166

49ers vs. Seattle tickets for Dec 1, 2002. 2 tickets @ $58 ea (face value). Upper Reserved, Section 38, Row 10 209-544-8540

Inversion Table that has had little use. Was bought to alleviate back problems. Picture/description on eBay, enter inversion table. $175 925-513-8211

Las Vegas hotel for three days and two nights. Sunday thru Thursday. Reservation made 60 days in advance.$50 obo 925-899-8438

Sm. Air compressor, $50, Baby Stroller, $15, large sets of carved water Buffalo horns, dragons and birds, $50, Bronze cast budda, $50, In Manteca. 209-606-6445

Motorcycles

1996 - Yamaha Virago, 1100 Vee-Twin, shaft drive, Leather Saddle bags Excelent condition. Asking $3800 will consider B/O 510-881-5798

1998 - Invader Q26 Racing Cart, like new cond., 100cc Yamaha engine, computer (rpm, temp, time), new wet clutch. Member of Stockton Cart Track. $3,000 925-443-8585

2000 - Suzuki Jr50. Kids (Age 3-6) Dirt Bike. One Speed Auto-Clutch. Great First Bike. $900.00 Call 925-754-6390

2000 - YZ426F Yamaha 4-stroke, only used 15 hours. New back tire, clean plastic, oil changed twice in about 5 rides. Mint condition, $4,300 obo 925-484-4099

Music Instruments

Peavey Bandit 112 guitar amp, 2 channel, 3 way tone control, reverb, 100 watts, excellent condition. $275.00 925-443-2245

Small black and white upright piano. Perfect for small area or decorator setting. Good tone/holds tuning well. $900. 925-443-5588

Pets & Supplies

Russian Blue Male Indoor Cat. Toby needs a good home. He is super friendly and cuddly. We hate to see him go. Call for email and photos. 925-208-2155

POMERANIAN PUPPY, male, b. 08-31-02, has all shots, papers. Beautiful tricolor Party Pom, VERY mellow! $400. 925-443-5943

Recreation Equipment

Boat-1958, Custom Wood Classic runbt 17ft Mahog Deck/Trim, Chevy V8-373 Pix Avail. 9k 925-560-9657

Sleeping Bag, Marmot, 76x33 inches, PolarGuard insulation, Lining: Micro-DriClime.,3 lbs.new,never used. Stuff bag. $99. 925-829-2581

Barbells, two 15 lbs, two 20 lbs. $20 925-449-4963

Ridesharing

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

Concord,Walnut Creek,Clayton - Carpool looking for 4th rider/driver. Meeting place open, currently meeting in Concord/Clayton Lab hours 7:30am-4:30pm 925-672-6677, ext. 3-2153

Tracy/Sandia - 9/80 7:00am - 4:30pm. Currently do not have a vehicle. Looking to join a carpool or vanpool. Leave msg w/Sandia operator for John Gamino. 925-294-3000

Services

House cleaning in the Modesto/Manteca area. Your home will sparkle. 209-522-0029

Support group for Better Relationships! CoDA ñ Codependents Anonymous Meets Tuesday Noon B571/R2016 Just come or Info, call 925-447-7070

Housecleaning needed 2 hrs a week. Livermore. Experience,references please. 925-373-7580

CARPET-LINOLEUM-LAMINATES Get your home ready for the holidays! Prompt, reliable service since 1975, free estimates. 925-516-9510

Apple help available for yor home or office. Apple Certified technician. Acurate diagnostics, software installations, memory upgrades. 209-832-4314

Shared Housing

Livermore- - Roommate wanted as of Jan 1, 2003. Full privileges, n/p, deposit required, 1/3 of the utilities, $535.00/mo. 925-447-2670

Livermore - 1 bdrm in a 3bdrm house for rent. Mature adult/long term preferred. utilities incl.$600/month + deposit. W/D,N/S,N/P Available 12/15 925-895-6465

Livermore - - Room in 3BD/2BA home, private bath, full privileges, clean/quite, N/S, N/P, partial furnished, $500 + deposit. Available immediately. 925-455-5362

Trucks & Trailers

1988 - Ford Ranger XLT, 4x4, Super Cab, 2.9L V6, Bedliner, 144k, runs fine, $1950 925-449-2667

1999 - Chevy Ext. cab Z71, 3rd door, LS pkg., tow pkg., camper shell, sprayed-in bedliner, CD, $19K 209-838-6105

1999 - Dodge Ram 1500 4WD QUAD CAB, Fully Loaded. Hard Tonneau Cover. Only 32K miles, $19,300 obo. 209-832-7204

1987 - Pathfinder SE. V6/AT/PW/AC/CC/4WD/towing pkg. Sunroof & rack. smogged. 180K mi. Great cond! $3500. Z1 Lot. 925-454-9224

2000 - Coachmen Travel Trailer. Bunk Beds 25 ft. long. Coach comes with 3 year extendable warranty. $11,750 see at www.geocities.com/traveltrailer2000 209-614-1694

1967 - Chevrolet 3/4 Ton, 1 owner, approx. 120K miles, w/camper shell. Has not been started in 3 years, needs battery, tires and paint. $3000/make offer 925-449-5791

1995 - Sierra GMC3500, 1 ton dually 4x4 v8 auto. 82K miles, 5 yr, 100K extended warrany, $20,000. 925-455-0513

1970 - Utility trailer made from short bed pickup (1970 +- 5 yrs)with spare tire. $ 300 OBO. 925-443-7434

1997 - For Ranger XLT, 2wd, 79k mi, 4cyl, 5 speed, A/C, rear slider, bed liner, tow package, alloy wheels, Sony AM/FM/CD, $5700 925-337-1180

1987 - GMC Jimmy 4x4. 2.8L V-6 engine, auto trans, AC, PW, PDL, TW, AM/FM/CD player, Many new extras. Just smogged. $2100.00 or BO. 209-239-4902

Vacation Rentals

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, nicely furnished, all amenities, close to all skiing, RESERVE NOW FOR HOLIDAYS/SKIING! 209-599-4644

South Lake Tahoe Timeshare - 2 days to 1 week rental before Dec. 31 2002. $80.00 a day or $500.00 for the week. Call to set-up schedule. 775-267-3023

Wanted

Wanted rock climbing equipment for local Boy Scout Troop. Donate for a tax write-off or sell to our troop. 925-443-5928

Two tennis racquets in good condition for adult beginners. 510-471-6303

Look for telescope for young person age 10 interested in astromony. 925-828-1777

Looking for a full size bed frame and head-board in good condition. Please call 925-371-6592

WANTED to buy Project Car, late 60s, 2 door, to restore with my daughter. Prefer Mustang but will consider others. 925-443-5928

Folding ping-pong table in fair to good condition. Need entertainment for grandkids. 209-537-2961

Bird cage stand for COCKATIEL CAGE Cheaf 209-483-2232

Bass player needed for rock/blues band. Minimal time commitment for fun and some gigs. 209-833-6228

Old 78 or 45 jukebox machine all or parts. Also interested in windup phonographs and old tube radios. 925-449-0388

Due to space limitations, *Newsline* may withhold ads that have already run. They will still appear on the Web.

NEWS OF NOTE

TTEC gives 'how-to' advice for technology startups

A former Lab scientist, who is now a venture partner at CMEA Ventures, will discuss "What You Need to Know if You're a Scientist-Engineer CEO of a Technology Startup" on Thursday during the next TriValley Technology Enterprise Center's brown bag seminar.

David Tuckerman, a venture partner at CMEA Ventures in San Francisco, was the co-founder of and chief technology officer of nCHIP Inc., an electronics company that was sold to Flextronics.

Prior to founding nCHIP, the Dublin resident managed advanced research and development projects at the Laboratory. Prior to LLNL, he worked for IBM at the T. J. Watson Research Center and the Cambridge Scientific Center.

The seminar runs from noon to 1:30 p.m. in the Lab's Public Affairs press room.

Please RSVP to Mike LaLumiere at (925) 371-8651 or mlalum@attbi.com.

OPEN ENROLLMENT

Continued from page 1

1.To see your current enrollment information, log on to "Your Benefits Online" and select "Health and Welfare at a Glance." (You will need your UC PIN to log on. If you don't know your PIN, you can choose a new one at "UC For Yourself.") If you know what plans you're currently enrolled in, you can skip this step.

2. Click on the "Open Enrollment" section of At Your Service. This site provides a wealth of information about your options and costs for 2003, including the Open Enrollment for 2003 booklet, and a series of FAQs.

You can compare medical plans using the interactive Medical Plan Chooser. Check with the plan directly or use "Health Pages" to find a physician or a physician's PCP number. Health Pages also provides access to plan drug formulary information. If you still have a question, please attend the Benefits Fair on Tuesday, Nov. 19, from 2-5 p.m. in the West Cafeteria.

If you decide to make a change, complete the Open Enrollment Worksheet on page 38 of the California Open Enrollment booklet and make your phone call. You can use your UC PIN to access the Open Enrollment Action Line: 1-800-639-3779.

SEMINAR

Continued from page 1

"Disruptions in any part of the infrastructure could jeopardize the continuous operation of the entire infrastructure system," Rinaldi says.

"Understanding the complex interdependencies and vulnerabilities of these systems is essential for implementing effective policy for the enduring operation, regulation and defense of the national infrastructures."

Rinaldi formerly worked in the White House Office of Science and Technology Policy, where he managed several national security R&D programs, including the critical infrastructure R&D portfolio.

This year the colloquium series will have a special emphasis on homeland security and will feature several external speakers.

"We want to bring external perspectives on homeland security from federal, state and local governments, as well as industry, to stimulate discussion within the Laboratory," said Richard Wheeler, manager of Homeland Security Analysis within NAI.

Wheeler's deputy manager, Nancy Suski, pointed out that the Laboratory's homeland security work is one of the most important additions to the LLNL's mission.

"It is something that is going to require new thinking, new ways of doing business," Suski said. "Part of the goal of the seminar series is that NAI wants to reach out around the Laboratory to exchange information and foster new ideas."

Lewis Branscomb, co-chair of the National Research Council's study, "Making the Nation Safer: The Role of Science and Technology in Countering Terrorism," will present the second seminar on Dec. 6. Branscomb is director emeritus of the Science, Technology and Public Policy Program at Harvard University's Kennedy School of Government.

Among the future colloquia topics to be addressed by the series are: water security, agricultural terrorism, shipping and port security, cybersecurity, civilian emergency response and terrorist use of weapons of mass destruction.

Further information about the NAI colloquium series is available by contacting Glenn Fox, 2-0455; or on the homeland security series, by calling Suski at 3-6046.

Technical Meeting Calendar

Friday 15

PHYSICS & ADVANCED TECHNOLOGIES
"Colliding and Merging Galaxies: Formation of Dense Nuclei and Extended Structures," by Susan A. Lamb, University of Illinois. Noon, Bldg. 319, room 205. Michael Gregg, 3-8946, or Sandra Maldonado, 3-0621.

Monday 18

CHEMISTRY & MATERIALS SCIENCE
"Fundamental Study and Application of Cluster Impact on Solid Targets," by T. Aoki, Kyoto University, and "STM Observation of Surface Vacancies Created by Ion Impact," by T. Seki, Kyoto University. 11a.m., Bldg. 235, room 1090 (uncleared area). Contacts: Eduardo Bringa, 3-5724, or Linda Jones, 3-8839.

LASER SCIENCE & TECHNOLOGY PROGRAM
" High Energy Petawatt Lasers," by Mark Hermann. 11 a.m., Bldg. 481 auditorium. Contacts: Hao-Lin Chen, 2-6198, or Helen Hoppock, 2-7715.

CHEMISTRY AND MATERIALS SCIENCE
"Materials for Molecular Devices," by Cherie Kagan, IBM. 3:30 p.m., Bldg. 235, room 1090. Contacts: Michael Fluss, 3-6665, or Lisa Rose-McConville, 2-5609.

Tuesday 19

CENTER FOR NONDESTRUCTIVE CHARACTERIZATION
"Past and Current Activities in Imaging Devices for Photons and Particles," by Morgan Burks and Jacques Millaud. 1:30 p.m., Bldg. 235, Gold Room. Contact: Ann Tyler, tyler8@llnl.gov.

INTEGRATED COMPUTING & COMMUNICATIONS
"What's New in IDL 5.6," by Kevin Wells, Research Systems, Inc. 9:30 a.m., Bldg. 451, room 1025 (uncleared area). Contact: Betsy Foote, 3-6834.

PHYSICS & ADVANCED TECHNOLOGIES DIRECTORATE-WIDE SEMINAR SERIES
"Global Positioning Without GPS: High Accuracy Inertial Navigation With Ultra-Cold Atoms," by Mark Kasevich, Stanford University. 2 p.m., Bldg. 132S, room 1784 (uncleared area). Contacts: Stephen B. Libby, 2-9785, or Ralph Jacobs, 4-4545.

Wednesday 20

ENERGY & ENVIRONMENT
"Low Frequency Electromagnetic Induction Applied in Deep Wells, " by Barry Kirkendall, 1:30 p.m., Bldg. 170, room 1091 (uncleared area). Contact: Camille Vandermeer, 3-2672.

MATERIALS RESEARCH INSTITUTE
"A Review of some Experimental Measurements of the Layered Ruthenate Systems," by Scott McCall. 3:30 p.m., Bldg. 219, room 163 (uncleared area). Contacts: Mike Mcelfresh, 2-8686, or Joanna Allen, 2-0620.

INTEGRATED COMPUTING & COMMUNICATIONS
" Directory-Based User and Desktop Management for OS X," by Tom Goguen and Eric Zelenka, Apple Computer. 10:30 a.m., Bldg. 543 auditorium. Contact: Duane Straub, 2-9774.

Thursday 21

CHEMISTRY & MATERIALS SCIENCE
"The Nuts and Bolts About LDRD," by Karl van Bibber, Laboratory Science and Technology Office. Noon, Bldg. 151, room 1209 (uncleared area). Contact: Tony Esposito, 4-3497, or Linda Jones, 3-8839.

Friday 22

PHYSICS & ADVANCED TECHNOLOGIES
"Magnetically Powered Gamma-Ray Bursts," by Hendrik C. Spruit, Max-Planck-Gesellschaft zur Foerderung der Wissenschaften e.V. Noon, Bldg. 319, room 205. Contact: Michael Gregg, 3-8946, or Sandra Maldonado, 3-0621.

UC DAVIS, DEPARTMENT OF APPLIED SCIENCE
"Light at Bicycle Speed . . .and Slower Yet!" by Lene Vestergaard Hau, Lyman Laboratory, Harvard University. 3 p.m., Bldg. 661 (Hertz Hall), room 7 (open area). Contact: Estelle Miller, 2-9787.

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 newsgroup llnl.meeting, contact the registrar at registrar@llnl.gov.

UC President Richard Atkinson announces retirement

University of California President Richard C. Atkinson — who has initiated national reforms in college admissions testing, spearheaded new approaches to admissions and outreach in the post-affirmative action era at UC, and propelled research innovations to accelerate the university's contributions to the California economy — announced Wednesday his intention to retire as president effective Oct. 1, 2003.

Richard Atkinson

The 17th president of the UC system, Atkinson has led the university through a period of dramatic physical and programmatic growth. UC's enrollment has increased by approximately 30,000 students, the nine existing campuses have expanded to meet the growing needs of the state, and UC has broken ground on a 10th campus in the San Joaquin Valley.

Meanwhile, Atkinson has placed a high priority on maintaining and enhancing the university's world-renowned standards of excellence in teaching, research and public service. He also has been a leading voice for the central role of research universities in the knowledge-based economy and for UC's obligation to serve all of the multifaceted populations of California.

Atkinson, 73, took office Oct. 1, 1995, and will have served for eight years when he steps down. Of the 17 presidents of the University of California, only four have served longer. In addition, at the time of his retirement, Atkinson will have spent the last 27 years as either director of the National Science Foundation, chancellor of UC San Diego, or president of the UC system.

"That is a lengthy period of time for positions of this kind," Atkinson told the Board of Regents at a meeting in San Francisco. "These have been extremely rewarding years — challenging, stimulating and deeply interesting years. But the time has come to bring them to a close, and to allow the university to move forward under new leadership. It also is time, I might add, for my grandchildren to see more of their grandfather."

"Dick has been a strong supporter of Livermore and the national labs," said Lab Director Michael Anastasio. "He has been committed to our national security missions, NIF and our upcoming role in the area of Homeland Security. His personal leadership in the DOE/UC contract talks was extremely beneficial to the renewal process. While I have only worked closely with him for a short time, I've appreciated the fact that he has gone out of his way to lend me his personal support in my new role as director.

"I hope all employees join me in extending best wishes for his retirement."

Upon his retirement, Atkinson and his wife, Rita, will return to San Diego, where they lived from 1980-95 during Atkinson's tenure as chancellor of UC San Diego. The Board of Regents will conduct a national search for his successor, and a search committee will be appointed shortly by Chairman John Moores. For more on the process, see http://www.ucop.edu/regents/policies/6142. html.

Atkinson noted that he assumed the presidency at a time when the university was grappling with severe budget constraints and a bitter conflict over affirmative action. However, he said, the university has recovered and thrived — recruiting and retaining a faculty of the highest quality, maintaining access for California's brightest students, expanding outreach and teacher professional development programs to support the improvement of the public schools, planning intelligently for growth, and offering countless new innovations to help solve many of the problems facing California and the nation.

"It is not the president who is solely, or even chiefly, responsible for these achievements," Atkinson said. "It is the University of California community — the Regents, faculty, staff, students, parents, alumni and friends of the university. And that is why, even in a time of budget uncertainty once again, I am confident in the university's continued vitality.

"Over the next 10 months, I will work to keep the University's budget on as firm a footing as possible and to provide a smooth transition for my successor as president. But for the long term, this university's success lies in the capable hands of our creative, energetic, and dedicated community of people."

BILL

Continued from page 1

ment of Homeland Security," Lab Director Michael Anastasio said. "We are ready to take on this mission. It would be a natural extension of the work we are already doing."

Senate approval of the National Defense Authorization Act is necessary before the bill is sent to the President. The Senate is likely to act on the bill next week. The House authorized $393 billion in for the next fiscal year national defense spending, matching the president's request.

Budget items that specifically affect the Laboratory include:

• Weapons Activities — $5.9 billion to support maintenance of a safe, reliable and secure nuclear weapons stockpile and to continue the recapitalization of the defense nuclear complex infrastructure.

• Defense Nuclear Nonproliferation — $1.1 billion to address the threat of proliferation of weapons of mass destruction, assist with safeguarding weapons and weapons grade materials in Russia, and dispose of excess nuclear materials.

• Environmental Management — $6.8 million for Department of Energy environmental management programs and clean up.

• High Energy Density Physics — $487.5 million for cryogenics and diagnostics at the National Ignition Facility to keep the work on schedule to support the planned ignition schedule; $214 million of this money is set aside for NIF construction.

• Test Readiness — A report is required with the fiscal year 2004 budget request on plans and cost estimates for achieving and maintaining nuclear test readiness postures of six, 12, 18 and 24 months; an assessment of current U.S. test readiness; and recommendation as to the optimal U.S. readiness posture.

• Counterterrorism Program — $7.3 billion for programs to combat terrorism.

The bill focuses on improving homeland defense against terrorism and weapons of mass destruction, supports military personnel needs and prepares for an extended war against terrorism.

STARDUST

Continued from page 1

sion.

Before 1974, the closest Wild 2 had orbited the Sun was the same as Jupiter's orbit. When it flew by Jupiter that year, however, the planet's massive gravity pulled the comet closer to the Sun so that it now orbits the Sun somewhere between the orbits of Jupiter and Earth.

Stardust samples will be collected in a low-density aerogel that is stored in panels on the NASA space bus. Interstellar stardust also will be collected by the space capsule on its way to Wild 2. Researchers hope to gather 1,000 particles weighing a total of less than a microgram.

Stardust reached its most recent milestone Nov. 4 when it successfully passed within 3,300 kilometers of the asteroid, Annefrank, and was able to collect images of the asteroid. The flyby was an engineering test of the ground and spacecraft operations that will be used during the rendezvous with Wild 2 in January 2004.

"This was a critical test of the camera on board," Bradley said. "Now the spacecraft can approach Wild 2 with the assurance that all the navigation systems are in working order."

NASA is providing the University of California and the Lab with funds to acquire a $5 million electron microscope that will be used to examine the stardust.

"Among other questions, we want to see if the stardust from Wild 2 has the same makeup as stardust we've gathered from the stratosphere," Bradley said. "We will have a dedicated microscope specifically to examine these particles."

In previous work, Bradley along with researchers from the Georgia Institute of Technology, the University of Washington, NASA Goddard Space Flight Center and the Natural History Museum in London studied interplanetary dust particles made up of irregularly shaped grains of carbon and/or silicates collected in the stratosphere using NASA ER2 aircraft.

That research showed that nanodiamonds, the most famous and exotic form of stardust, might have formed within the inner solar system, rather than the 30-year-old belief that nanodiamonds are made up of presolar stardust.

Comets are small, irregularly shaped bodies made up of a mixture of rock grains, carbon-based molecules (organic materials often considered essential in the origins of life) and frozen gases. Wild 2 is four kilometers wide in diameter and has an elliptical orbit that will bring it closest to the Sun in January 2004, the same time Stardust will be gathering particles from the comet.

When the Stardust mission is complete, a capsule on the spacecraft will re-enter the Earth's atmosphere and parachute into the Utah desert. From there, the aerogel-filled panels will be sent to the Johnson Space Center for inspection before the particles are divvied up among the international researchers for further study.

Stardust will also take pictures of the comet, count the particles striking the spacecraft, and do on-the-spot chemical analyses of the particles and gases.

When complete, the Stardust mission will have flown 3.5 billion miles.

Other milestones include the first interstellar dust collection from February through May 2000; the Earth gravity assist in January 2001 when Stardust was provided with an energy boost which comes from sling-shoting around the Earth. The gravity assist increased the spacecraft's orbital period around the Sun from 2 years to 2-1/2 years and altered its flight path to intercept Wild 2; arriving at its aphelion, its furthest distance from the Sun in April 2002; and a second interstellar dust collection that started in August of this year and continues through December.

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