

Ideas That Change the World

NewsLetter

Week of Aug. 4, 2003

Vol. 4, No. 16

Director delivers State of the Laboratory address

by Bill Dupuy

Saying, "Much of the openness I've fostered here is so that employees can take back to their communities the message of the important work we're doing," Laboratory Director G. Peter Nanos told Laboratory workers attending the 60th Anniversary State of the Laboratory address that the future of the institution is in the Lab's hands.

Referring to the pending open-contract competition the Department of Energy has announced, Nanos recited the qualities that make the University of California the superior candidate to hold the DOE contract.

For one, he said UC is the key ingredient in the Laboratory's ability to fulfill its mission because UC is the sole superpower among academic institutions. "The university system has more members of national academies at one campus than the next-largest university has among all its units," he said. "Because we're a science institution first and foremost, this level of academic alliance is critical to the work Los Alamos is charged with doing."

He noted that the Laboratory is the second largest manufacturing site in the DOE complex, and it is one of only two national laboratories operating at the same high-level of mission importance and science excellence. The other — the Lawrence Livermore National Laboratory — also is operated by UC.

Nanos said the presentation to employees, together with the public presentations on the State of the Laboratory in Los Alamos and Española, was designed to communicate his expectations clearly and unequivocally.

To achieve the Laboratory's primary mission of meeting national security needs, Nanos said the first priority must be safety, security and compliance. No nuclear weapons program is so important that it should be delivered without regard for the safety of workers or nearby communities, the nation's nuclear secrets or the integrity of the scientific process, he said.

Only with those factors guaranteed, he said, can Los Alamos begin to deliver on its primary mission of national security. In this context, the weapons program is pre-eminent. But, he said, that should not detract from the importance of other programs, such as the Laboratory's work in nuclear safety, antiterrorism and training programs for community first-responders.

Basic science is the intellectual underpinning of the Laboratory's past and its future. As one example, Nanos cited muon radiography, which holds the promise of being able to detect nuclear materials that may be smuggled into the nation without having to resort to X-ray devices or other visible detection systems.

He credited the eight winners of R&D Magazine's 2003 R&D 100 awards as demonstrating the rich variety of research programs under way that support the Lab's basic mission both directly and indirectly. "As the 'science lab,' it's our responsibility to be diverse and robust," Nanos said. "That's our hallmark and we must nurture it every day."

Nanos also stressed the importance of the Lab making its business processes a priority because of the allegations and accusations made about the Laboratory over the past year. Following a period of active review by UC and others, "The good news is there's no culture of theft here," Nanos said. "The bad news is it took us six months to confirm that."

Repeating earlier reports that the level of fraud actually identified was minuscule compared with total spending, he said the perception must be set straight that the Laboratory can conduct its business operations without question for the bigger accomplishments in national security to be taken seriously.

Nanos said the process of reengineering business systems and practices is progressing well. Some of that activity has had an impact on local



Laboratory Director G. Peter Nanos

businesses. He acknowledged that attention to cost will be a factor in the upcoming DOE contract competition. Nevertheless, he said, "We consider our relationship with the local business community as extremely important, so we are holding a number of town-hall meetings with business leaders to determine how we can mitigate impacts."

As for the Laboratory's priority of good relations with its community neighbors, Nanos said, "The truth is, we didn't spring from the desert all alone. We're part of the fabric of Northern New Mexico, and we need to be good neighbors and to support our communities." He said his administration is dedicated to learning [local communities'] needs and helping them meet their goals.

He acknowledged the support of the Laboratory by local towns, ranging from letters to government officials to actual visits to Washington.

In answer to questions about the Laboratory's work with possible new nuclear weapons initiatives, Nanos said, "Program content here is a reflection of national policy, in which we don't and shouldn't participate. That's the role and responsibility of citizens and their elected leaders."

Nanos said it's important to separate the issue of technical advice from policy advice. "As a national laboratory, we must keep our advice pure so that we don't endanger our technical credibility," he noted.

Concluding, Nanos said the Laboratory has a clear strategy as it prepares for the DOE-contract competition: excellence in all things. Every other competitor will be left to describe how good they could be, he said. "Our track record will show exactly how good we are by what we have done and what we can do." The core strategy is making sure that all of the Laboratory's programs match the quality of its science.

"If we do that well, we will win," Nanos said, adding, "The best is yet to come."

"I am confident Los Alamos will continue to occupy a place at the forefront of American national security."

—Energy Secretary Spencer Abraham

"... Together with its employees and the National Nuclear Security Administration, this new leadership will take Los Alamos even further into the future."

—Linton F. Brooks, NNSA administrator

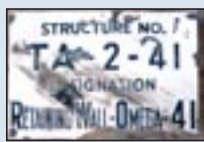
"... You are truly a national asset."

*--Admiral J.O. Ellis Jr.,
 commander, United States
 Strategic Command*

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The Decision Applications (D) Division recreated itself this spring, as a result of strategic planning aimed at clarifying D Division's science and technology mission and strategic alignment to better serve the future needs of the Laboratory's programs and mission.Page 4

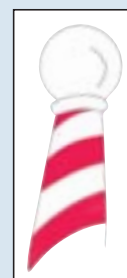
Lab holds Family Festival

Laboratory Director G. Peter Nanos talked about the importance of the Lab and its contributions to society, from its Manhattan Project roots to the war against terrorism at the Laboratory's Family Festival.Page 7



'Music makes the world go round'

The Lab is a place of discovery — and not solely in science and technology. Coming early to a meeting in the Administration Building's Green Room has advantages, in this case, one of finding researchers working to perfect not new formulas but familiar tunes.Page 8



FROM THE TOP



Editor's note: The following is from the University of California news release announcing the appointment of G. Peter Nanos as permanent director of the Laboratory.

G. Peter Nanos named director of Los Alamos National Lab

The University of California Board of Regents on July 17 named Retired Vice Admiral G. Peter Nanos as permanent director of the Laboratory. Nanos has served as interim director of the Lab since Jan. 6.

Acting on the recommendation of UC President Richard C. Atkinson, the Regents appointed Nanos the seventh director of the Laboratory during a regularly scheduled Regents' meeting.

"As he has throughout his career, Pete Nanos has exercised bold and innovative leadership as interim director of Los Alamos National Laboratory for the past six months," Atkinson said. "This vote by the Regents to make him permanent director affirms our collective belief that Pete possesses the unique set of skills to sustain the business-practice reforms we have put into place while also preserving the Laboratory's place as a premier institution of national security science."

Since being appointed interim director at the Lab, Nanos is credited with creating a new atmosphere of openness in communications, implementing strong, sound business practices and ensuring that the Laboratory remains focused on its national security mission. In his role as interim director, Nanos set five top performance priorities for the Laboratory including elevated attention to safety, security and compliance matters; ensuring an ongoing focus on the national security mission; maintaining outstanding science; continuing and sustaining improvements to the business operations and management practices; and building community partnerships.

Nanos, the former commander of the Naval Sea Systems Command and of the Navy's strategic nuclear program, served as principal deputy associate director for Los Alamos' Threat Reduction Directorate before being named interim Laboratory director in January. Nanos' naval career began with graduation from the U.S. Naval Academy in 1967. His sea duty included service aboard destroyers and a tour as engineer officer on the aircraft carrier America (CV-66). Before joining the Laboratory in 2002, Nanos had oversight of the Navy's four public nuclear-repair shipyards with 22,000 employees and seven Navy laboratory divisions with approximately 20,000 employees.

Nanos earned a doctorate in physics from Princeton University in 1974.

Nanos will be paid a salary of \$334,700, which was approved by the UC Board of Regents and the Department of Energy.



**Laboratory Director
G. Peter Nanos**

United Health Care to be Lab's new health-care provider

United Health Care will administer the Health Maintenance Organization and Preferred Provider Organization medical plans, as well as a new Consumer-Driven Health Plan for Laboratory employees, retirees and their covered family members.

The new health-care-provider plan is effective Jan. 1, 2004. The Lab's current health-care provider, Blue Cross Blue Shield New Mexico, will continue to provide health-care coverage through Dec. 31.

"United Health Care has an excellent national reputation and wide network coverage both in New Mexico and throughout the nation," said Michele French, executive director of University of California Human Resources and Benefits Policy and Program Design.

For more information, see the July 24 Daily Newsbulletin at <http://www.lanl.gov/newsbulletin>. For information about United Health Care, go to www.unitedhealthcare.com online



Los Alamos NewsLetter

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Los Alamos National Laboratory is operated by the University of California for the National Nuclear Security Administration (NNSA) of the U.S. Department of Energy and works in partnership with NNSA's Sandia and Lawrence Livermore national laboratories to support NNSA in its mission.

Los Alamos enhances global security by ensuring safety and confidence in the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction and improving the environmental and nuclear materials legacy of the Cold War. Los Alamos' capabilities assist the nation in addressing energy, environment, infrastructure and biological security problems.



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Keep children safe around water

Helpful tips from the American Red Cross

- Maintain constant supervision. Watch children around any water environment (pool, stream, lake, tub, toilet, bucket of water), no matter what skills the child has acquired and no matter how shallow the water.

- Don't rely on substitutes. The use of flotation devices and inflatable toys cannot replace parental supervision. Such devices could suddenly shift position, lose air or slip out from underneath, leaving the child in a dangerous situation.

- Enroll children in a water-safety course or "Learn-to-Swim" program. The decision to provide the child with an early aquatic

experience is a gift that will have infinite rewards. These courses encourage safe practices.

- Parents should take a cardiopulmonary resuscitation (CPR) course. Knowing these skills can be important around the water and will expand capabilities in providing care for the child.

Be safe around water and the entire family will have a fun and enjoyable time.

Omega West reactor decommissioning complete

Former reactor workers recall bygone era

by Ed Kellum

The Omega West reactor decommissioning and demolition project has finished ahead of schedule and under budget.

Formerly located at Technical Area 2 in Los Alamos Canyon, the job has now moved into the environmental restoration phase. Headed up by the Laboratory's Cerro Grande Rehabilitation (FWO-CGRP) Project Office with outside contractors Framatone and the Washington Group, the main focus was to eliminate the potential spread of radioactive contamination caused by flooding and to restore the area to its natural environmental state.

To commemorate the site, 13 former Omega West employees, along with a bagpipe player, met at the site July 15 to



This 1991 aerial photograph shows the Omega West facility. File photo

reminisce and pay tribute to the old facility.

Bob Carter an experimental physicist who came to Los Alamos in 1943 before the first reactor was built recalled, "They rode horseback down here looking for a site because back then you couldn't even get a jeep down here."

The former Omega West workers all had their own stories and memories ranging from pet piglets to picnics in the canyon, but everyone agreed working at the reactor was a wonderful experience. "I spent a lot of time here with a lot of great people. I wouldn't trade that for the world," said experimental physicist Gorden Knobloch.

Kay Harper, a group secretary, commented, "Everybody there felt like we were part of a team. We all knew we were doing something worthwhile."

The Omega West reactor was completed in 1956 and primarily used for nuclear research. Through the '60s and '70s the reactor determined elemental compositions of

solids through neutron-activation analysis. The reactor shut down in 1992 because of an operational error, and upon further investigation of the incident, tritium-contaminated primary-cooling water was found leaking into the soil. The Department of Energy then decided to permanently shut down the reactor and in 1994 had the fuel rods removed, placing the reactor in a safe shutdown mode.

The project had been slated to end in September. "The whole project took only 24 months from conception to completion, with the actual decommissioning and demolition taking 12 months of that time; the cost was \$15.2 million," said Stephen Mee program manager of FWO-CGRP.

Mee said John Yarnell, who helped design Omega West in 1952, contributed to the demolition work done by FWO-CGRP. "With Yarnell's help, we were able to finish considerably quicker. His knowledge was invaluable to our efforts," said Mee. Keith Rendell, project leader, stated that "Mr. Yarnell knew exactly how the reactor was constructed from the placement of the beryllium shield to the size of bolts used. The contractor was able to expedite the demolition and enhance the safety envelope because of this extensive knowledge."

The only work left is minor debris removal and restoration of the surrounding environment. DOE still owns the land at TA-2 and there are no plans yet to open the area to the public.



Laboratory retiree Kay Harper, left, and Stan Bodenstein of Actinide and Fuels Cycle Technologies (NMT-11) examine an old sign, inset, from Omega West. Thirteen former Omega West employees, along with a bagpipe player, recently met at the site to reminisce and pay tribute to the old facility. Photos by Ed Kellum

Help is just a phone call away

by Judy Goldie

Sometimes you might be stymied. The Lab is a big place if you have a question or you want to report something and don't know where to go to find the answer or know who to tell — or when anonymity and confidentiality are important to you. The Laboratory recognizes this and the Ombuds Program Office has a service, the Ombuds help line, to assist callers in finding what they need to know or to accept anonymous calls regarding concerns.

Open to all members of the work force, including contractors and job applicants and businesses, the help line is a fully confidential resource. Callers do not have to identify themselves, and there is no caller ID or other tracing mechanisms on the telephone line, 7-9370. Even if a caller gets voice messaging, he or she can call the regular Ombuds Program Office line, 5-2837, or 5-BUDS, to get a member of the staff and still be guaranteed absolute confidentiality. Only the issue raised, the date of the call and the advice given is tracked.

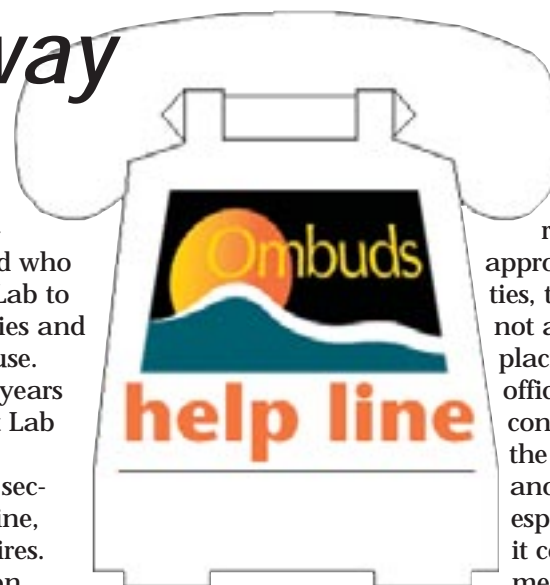
Half the 147 issues that have been raised on the help line in the last two years involve treatment and relationship concerns or

unusual situations not easily answered by written policy.

Other issues that come in to the help line range from general information needs about Lab policy and who to contact to do business with the Lab to emergency travel to foreign countries and concerns about fraud, waste or abuse. Fully half the calls in the past two years have dealt with information about Lab policy alone. And from what the Ombuds Office can gather, a cross section of the Lab has used the help line, from seasoned managers to new hires.

For callers, the same consultation services are available as those to clients who walk into the Ombuds Office at Central Park Square in downtown Los Alamos. The responder at the other end of the telephone line is prepared to discuss options or make immediate referrals when telephone advice is not sufficient.

The help-line responder helps callers get the information they need, refers callers to the appropriate resource and will even research responses if the caller wants to be called back — in which case the caller's identifying information will be held in confidence.



While anonymous concerns about fraud, waste and abuse will be accepted and referred to the appropriate authorities, the help line is not a means of placing the Lab on official "notice" of a concern because of the venue's anonymity. This is especially true when it comes to harassment. According to

Administrative Policies and Procedures Manual Subject 711, Harassment (Including Sexual Harassment) Prevention, in which this help line is referenced, "the Ombuds Office maintains an informational phone line, which workers can use to discuss questions or concerns about harassment on an anonymous basis. This line cannot be used to report specific complaints of harassment."

For general information about the help line, call its number, 7-9370, or the general Ombuds Office number at 5-2837 or go to the Ombuds Program Office Web site <http://www.lanl.gov/orgs/ombuds/> online.

The new faces of the Decision Ap

The Decision Applications (D) Division recreated itself this spring, as a result of strategic planning aimed at clarifying its science and technology mission and strategic alignment and to better serve the future needs of the Laboratory's programs and mission. D Division's structure was then re-worked to support that strategy. The driving force, said Division Leader Micheline Devaurs, was the number of new opportunities appearing in the Nuclear Weapons Program, homeland security, energy and environment areas as well as Department of Defense programs.

The changes, Devaurs noted, are designed "to assist D Division in focusing our efforts on scientific decision support for national security in the Lab's major programmatic areas."

Three new thrust leaders for each major customer component (nuclear weapons, homeland security, energy and environment), also have been chosen, in addition to the current DoD Program Office leader. Their responsibilities include working closely with group leaders and division management to build and effectively integrate programs within their respective areas across the entire Division.

D Division's list of capabilities includes expertise in the areas of modeling and simulation, nuclear science and engineering, knowledge integration, statistical science, probabilistic risk analysis, and systems analysis and integration. More information on D Division's areas of expertise can be found on their Web site using the link noted below.

A copy of the D Division organization chart can be found at <http://int.lanl.gov/orgs/d/organization/organization.shtml>.



Micheline Devaurs

Micheline Devaurs is the division leader for the Laboratory's Decision Applications (D) Division, after serving as acting D Division leader for six months. A Lab employee for more than 17 years, Devaurs held numerous positions including deputy group leader, deputy program director, program manager and technical staff member in support of the Lab's weapons and environmental programs. Devaurs received her bachelor's degree in natural resources from the University of California, Berkeley, and her master's degree in watershed science from the Utah State University, Logan, Utah.



Venkateswara Dasari (D.V. Rao)

Venkateswara Dasari is the new deputy division leader for D Division. A Lab employee for the past five years, Dasari's work has been in the areas of probabilistic risk assessment, engineering analyses and modeling, manufacturing, certification and facility issues involving nuclear-weapons and technical-project planning. He also was acting deputy group leader in the former-Probabilistic Risk Analysis (D-11) group. Dasari received his master's in nuclear technology from the Indian Institute of Technology in India and his doctorate in nuclear engineering from the University of New Mexico.



Scott Ashbaugh

Scott Ashbaugh is the new thrust leader for Energy and Environment. Coming to the Laboratory in 2001, he worked in the former-Probabilistic Risk Analysis (D-11) group before becoming a D Division thrust leader. Ashbaugh has a bachelor's degree in aeronautical engineering from California Polytechnic State University, San Luis Obispo, and a master's degree in aeronautical engineering from Embry Riddle Aeronautical University.



Daniel S. Prono

Daniel S. Prono is program manager and thrust leader for Department of Defense Programs (D/DoD). A Lab employee for 14 years, Prono has held numerous positions including program manager and project leader with the Dual Axis Radiography Hydrodynamic Test (DARHT) initiative and the multi-lab Advanced Hydrodynamic Facility Program. Prono received both his bachelor's degree in applied mathematics and electrical engineering and his master's in applied physics and electrical engineering from Stanford University and his doctorate in applied physics minoring in electrical engineering from Cornell University.



Kevin Saeger

Kevin Saeger is the new thrust leader for Homeland Security. A Lab employee for just over one year, he has been working as the lead software architect for systems analysis, exploring cost-effective approaches for detecting weapons of mass destruction that might be smuggled into the country in maritime cargo containers. Saeger has his bachelor's degree in aerospace engineering from Tri-State University, Angola, Indiana, and his master's and doctoral degrees in aeronautics and astronautics from the Massachusetts Institute of Technology.



Ron Martinez

Ron Martinez is the new thrust leader for Nuclear Weapons. A Lab employee for 24 years, Martinez' nuclear weapons experience has been in the areas of nuclear-weapons studies, surety assessment, technology development and stockpile life-extension program initiatives and includes weapons modeling and simulation and neutron-activation analysis. Martinez has his bachelors' degree in physics and math from New Mexico Highlands University and his master's degree in physics from the University of New Mexico.

Applications Division



Sallie Keller-McNulty

Sallie Keller-McNulty is the group leader for Statistical Sciences (D-1). Coming to the Lab in 1998, Keller-McNulty's work has been in the area of information-integration technology, uncertainty quantification and data confidentiality. She also served for two years as program director for Statistics and Probability, Division of Mathematical Sciences under the auspices of the National Science Foundation. Keller-McNulty has her bachelor's and master's degrees in mathematics from the University of South Florida and a doctorate in statistics from Iowa State University.



Paul Pan

Paul Pan is the group leader for Stockpile Complex Modeling and Analysis (D-2). Pan came to the Laboratory in 1983 and he has worked as a principal investigator and project leader. Pan also was a team leader in Weapons Systems Engineering (ESA-WSE) and served as deputy group leader for Gas Transfer Systems Engineering (ESA-GTS) before becoming D-2 group leader. In 2001, Pan received the Defense Programs Award of Excellence for the Development and Certification of B61 Mod 11. In 2002, the Chinese Institute of Engineer's recognized Pan by giving him its Asian American Engineer of the Year Award. Pan has his master's degree in chemical engineering from Syracuse University and his doctorate in nuclear engineering from Kansas State University.



Ray Gordon

Ray Gordon is the group leader for Systems Engineering and Integration (D-3). A Lab employee for 15 years, Gordon has held numerous positions including project leader, deputy group leader and group leader in D Division and its various iterations. Gordon's work has focused on design and analysis in the areas of nuclear and conventional weaponry, advanced fuel cycles and biological threat reduction. Gordon received his bachelor's degree in civil engineering from Saint Martins College, Lacey, Wash., and his master's degree in operations research/systems analysis engineering from the Colorado School of Mines.



Steve Fernandez

Steve Fernandez is the group leader for Energy and Infrastructure Analysis (D-4). A Lab employee only a few months at the time he became group leader, Fernandez brings a lot of experience in the areas of chemical- and biological-warfare detection and counter-terrorism and law enforcement as a former program manager with the Idaho National Engineering and Environmental Laboratory (INEEL). Fernandez received his bachelor's degree in chemical physics from Centre College of Kentucky, his master's in chemical engineering and air pollution science from Washington State University and his doctorate in analytical chemistry from the University of Idaho.



Pat McClure

Pat McClure is the group leader for Design, Safety and Risk Analysis (D-5). A Lab employee for eight years, McClure's work at the Lab includes several projects related to nuclear-safety design and modeling. His contributions to nuclear safety include the creation of regulatory guidance for use by both the Department of Energy and the Nuclear Regulatory Commission for implementation by both the commercial- and government-reactor sectors. McClure received his bachelor's degree in petroleum engineering from the University of Oklahoma and his master's in mechanical engineering from the University of New Mexico.

Text by Ed Vigil
Photos by LeRoy N. Sanchez

PATENT AWARDS



Forming Adherent Coatings Using Plasma Processing

Patent No. 6,572,933 issued June 3

Michael Nastasi and **Kevin Walter** of Structure/Property Relations (MST-8) and **Donald Rej** of the Spallation Neutron Source (SNS-DO) project

Process for forming adherent coatings using plasma processing.

Optically Transparent, Scratch-resistant, Diamond-like Carbon

Patent No. 6,572,935 issued June 3

Xiao-Ming He, **Deok-Hyung Lee**, **Michael Nastasi** and **Kevin Walter** of MST-8; and **Michel Tuszewski** of Space and Remote Sensing Sciences (NIS-2)

A plasma-based method for the deposition of diamond-like carbon coatings.

Method for Producing Fluorinated Diamond-like Carbon Films

Patent No. 6,572,937 issued June 3

Marko Hakovirta, **Michael Nastasi**, **Deok-Hyung Lee** and **Xiao-Ming He** of MST-8

Fluorinated, diamond-like carbon films produced by a pulsed, glow-discharge plasma immersion ion processing procedure.

Laser Welding of Fused Quartz

Patent No. 6,576,863 issued June 10

Martin Piltch and **Robert Carpenter II** of Materials Technology: Metallurgy (MST-6) and **McIlwaine Archer III** of Polymers and Coatings (MST-7)

Refractory materials, such as fused quartz plates and rods are welded using a heat source, such as a high power continuous wave carbon dioxide laser.

Arc Suppression Circuit

Patent No. 6,577,479 issued June 10

Robert Springer of MST-7 and **Donald Tolmie** Network Engineering (CCN-5)

A circuit for suppressing electrical arcing in an ion beam source or other plasma devices.

Dosimeter and Methods for Using the Same

Patent No. 6,582,657 issued June 24

Benjamin Warner of Actinide, Catalysis and Separations Chemistry (C-SIC)

Dosimeter Using Silver

Patent No. 6,583,425 issued June 24

Benjamin Warner of C-SIC

Reflective Diffraction

Patent No. 6,583,933 issued June 24

Bruce Carvell Lamartine of the Materials Science and Technology (MST) Division



TO YOUR HEALTH

Eggs-act

Want to be sure the eggs you buy are fresh? Look for the three-digit code on the end of the carton. It tells the day of the year the eggs were packed, starting with 001 for Jan. 1 and going to 365 for Dec. 31.

—American Institute of Preventive Medicine

The United States Department of Agriculture offers additional guidance on product dating and storage of eggs and other perishable foods in their publication FOCUS ON: Food Product Dating online at <http://www.fsis.usda.gov/OA/pubs/dating.htm>.



Prize awarded for outstanding publication in Experimental Sciences

by Judy Goldie

Dana Berkeland, who became a J. Robert Oppenheimer Fellow in 1998 in Neutron Science and Technology (P-23) and now is a staff member in Biological and Quantum Physics (P-21), and **Fiorenzo Omenetto**, who became a J. Robert Oppenheimer



Dana Berkeland

Fellow in 1999 in Condensed Matter and Thermal Physics (MST-10) and is now a staff member in P-23, are this year's winners of the Postdoctoral Publication Prize in Experimental Sciences.

Berkeland gave a talk about her work July 15 in the Physics Building Auditorium; Omenetto gave his talk, also in the Physics Building Auditorium, July 22. Each was given a monetary award and a certificate by the funder of the prize, Damon Giovanelli, on the day of their presentations.

Berkeland discussed, "Linear Paul Trap for Strontium Ions," her paper that was published in the Review of Scientific Instrument in August 2002. Richard Huges and Malcolm Boshier, both P-21, nominated her for the prize.

Her paper documents a significant advance in experimental atomic physics, describing a novel design and the construction and operation of an ion-trap system for fundamental quantum-optic experiments.



Fiorenzo Omenetto

The capability and results documented in Berkeland's paper have brought to the Lab the ability to more rapidly and precisely execute a variety of quantum information experiments with isolated atoms. Berkeland has set out a path that makes quantum optics and quantum-information experiments with individual atoms much more readily and quickly accessible to much smaller research groups.

Berkeland came to the Lab in June 1998. She received her bachelor's degree in physics from the University of California, Berkeley, and her master's and doctorate, both in physics, from Yale University.

Omenetto's prize-winning publication is, "Adaptive Control of Femtosecond Pulse Propagation in Optical Fibers," which was published in Optics Letters, June 2001 and written in collaboration with Antoinette Taylor of Condensed Matter and Thermal Physics (MST-10) and Mark Moores and David Reitze of the University of Florida, Gainesville. Omenetto was nominated for the prize by Laboratory Fellow Steve Lamoreaux of P-23. Omenetto's paper deals with the possibility of generating a self-correcting pulse; this has broad implications for telecommunications as it will allow the bandwidth of optical-fiber pulse communications to be increased by a factor of 1,000 over the present limit. In addition, it also provides a new approach for energetic-pulse delivery through optical fibers, new optical processing schemes and secure communications.

Omenetto came to the Lab in 1997 as a postdoc and received his bachelor's and master's degrees in electrical engineering and applied physics from the University of Pavia, Italy, and a doctorate from the University of Illinois, Chicago.

The Postdoctoral Publication Prize was created as a way to recognize the importance of experimental work being done by the Lab's postdocs. Damon Giovanelli funds the prize. A committee composed of six highly respected technical staff members selected Omenetto and Berkeland earlier this year, noted Mary Anne With, the Laboratory's Postdoctoral Program coordinator. The work represented by all nominations was of extremely high quality, added With, who facilitated the review committee meeting.

This prize has been competed for three years, beginning in 1999. There have been a total of five winners, including Omenetto and Berkeland. The previous winners and the year they won the competition are Scott Backhaus, 1999, and Kathy Prestige and Chunlej Gug, 2001.

For more information about this prize or the Postdoctoral Program see the postdoctoral Web site at <http://stb.lanl.gov/uc/postdoc.shtml> or contact With at with@lanl.gov via e-mail or by phone at 5-5306.

Webb to head up new Policy Office

M. Diana Webb is the leader of the Director's Policy Office, a new organization that will streamline and consolidate policy functions at the institution. The Policy Office will report to the Director's executive chief of staff, advise senior managers on policy issues and assist all Laboratory organizations with matters related to internal policy and procedures.

The Policy Office is one of two new elements Laboratory Director G. Peter Nanos has put in place to help execute his vision of excellence for the Laboratory. Along with the new Institutional Planning and Evaluation Office, the policy staff will work across the organization to consolidate and streamline policies to align them with corporate strategies and mission objectives.

"A centralized Policy Office is long overdue for this institution," Nanos said. "We operate on a daily basis under a framework of policies, procedures and other requirements. It is imperative that we understand what is expected of us and execute our work crisply. Moving the policy function to my office underscores my commitment to streamline our operation."

Webb comes to the Policy Office from the Operations Directorate Office. She served as the group leader for Ecology (RRES-ECO) from 1995, when she joined the Laboratory, until 2002. She also served as the acting office leader for Program Integration for the Risk Reduction and Environmental Stewardship Division. Before joining the Laboratory, Webb worked for many years as a staff member and a manager for the Department of Energy headquarters in Washington, D.C., and the then-DOE Los Alamos Site Office, in matters pertaining to environmental policy, defense programs initiatives and tribal relations. She also has worked for the Bureau of Land Management, the Army Corps of Engineers and private consulting firms.

Webb holds a master's degree from the University of Illinois.



M. Diana Webb

Lee named director of Institutional Planning and Evaluation Office

Ping Lee will lead the Laboratory's new Institutional Planning and Evaluation Office.

The office was established recently by Laboratory Director G. Peter Nanos to improve the Laboratory's institutional planning, analysis of corporate strategy and goals, and evaluation and assessment of programmatic performance.

"This position and its efforts are key for the Laboratory not only over the next 18 months; they also will provide the framework for the next three to five years," Nanos said. "The importance of a customer-focused strategic plan for the Laboratory from which the directorates, divisions and groups can take their cue cannot be overstated."

Lee was a staff member from February 1977 until March 1982, working in fusion research. He subsequently worked with Ball Aerospace and General Atomics, rejoining the Laboratory in 1990 as principal investigator in the Nonproliferation and International Security (NIS) Division. From 1994 until 1997, he served as scientific adviser for arms control in the office of the Under Secretary of Defense for Acquisition and Technology.

In July 1997, he was named special assistant to the associate Laboratory director for nuclear weapons and subsequently served as military applications and weapons study leader and chief of staff in that office. Since September 2001, he has served as special assistant to the Laboratory director.

Lee received his doctorate in physics from Massachusetts Institute of Technology.



Ping Lee

Lab family shares a day of fun in the sun

Thousands of employees, retirees and their families and friends stopped by Los Alamos High School's Sullivan Field on July 19 for a day of food, fun and frolicking, as the Lab held its first Family Festival. The intent of the festival was to salute all members of the Laboratory's extended work force family — past and present — for their contributions. The event also was a way to thank the work force for their "outstanding support and dedication," according to Laboratory Director G. Peter Nanos. Below are some photographic moments from the day's festivities.

—Photos by Michael Carlson and Judy Goldie



Laboratory Director G. Peter Nanos gives a brief talk to kick off the Family Festival. Balloons on the stage noted that "The best is yet to come."



Above, Matthew Boebinger, 10, prepares to soak his father, Greg Boebinger of the Materials Science and Technology Division Office (MST-DO), photo at left. The dunk booth was a popular station at the Laboratory's Family Festival.



"You might want to have some water" noted one of the salsa-competition judges. The salsa competition had 10 entries and the judges took their task seriously. Martha Zumbro, center, group leader of Hydrodynamics (DX-3), is the picture of concentration as she ranks the entries. After the scores were tallied, the \$75 first-place prize went to Dana Watt (family member of Toni Mork of Nuclear Materials Technology Division Office [NMT-DO]); the \$50 second-place prize went to Sascha Kreiskott of the Superconductivity Technology Center (MST-STC); and the \$25 third-place prize went to Crystal Sanchez of KSL Services.



Lynn Wysocki-Smith of Security Plans and Programs (S-1), displays her juggling skills.



Protection Technology Los Alamos brought out its ever-popular "hummer." Family members of all ages enjoyed climbing in and looking around and out the turret.



At right, Emily Silks, 8, and Cydney Remellius, 7, dance a light jig. They were part of Celtic de Santa, an Irish rhythm and tap-dance group based in Santa Fe.



Among the activities aimed at the youngsters attending the Family Festival were large inflatables for bouncing in and climbing on and through. The Buzz Lightyear inflatable, inset, drew large crowds.



The Los Alamos National Laboratory Foundation gave little sluggers the opportunity to whack open piñatas — and there were seven to break open throughout the day. Eventually, each piñata yielded its contents of candy for the approximately 350 children between the ages of two and 12 to scoop up. The Laboratory Foundation also handed out about 1,000 balloons.





'I Believe' ...

'Music Makes the World Go Round'



Left to right, members of the Jemez Jarmony quartet at July's Family Festival are Horton Struve (tenor), David Danniel (lead), Bill Willson (bass) and Don Brown (baritone). "This is the standard 'line-up' or 'position' for barbershop quartets. This is so the two most important parts (lead and bass) can hear each other very well. It's up to the tenor and baritone to make their parts fit the other two. This is the easiest when the tenor is next to the lead and the baritone is next to the bass," noted Struve. Photo by Michael Carlson



by Judy Goldie

The Laboratory is a place of discovery — and not solely in science and technology. Coming early to a meeting in the Administration Building's Green Room has advantages, in this case, one of finding researchers working to perfect not new formulas but familiar tunes.

Bill Wilson of Nuclear Physics (T-16), bass; Don Brown of Geophysics (EES-11), baritone; David Daniel of the Advanced Computing Laboratory (CCS-1), lead; and Horton Struve of High Power Microwave, Advanced Accelerator and Electrodynamics Applications (NIS-10), tenor; have been singing together as the Jemez Jarmony quartet for almost three years, but most have been involved in the Lads of Enchantment, a larger barbershop organization, for many more. And with their years of service combined, they have more than 80 years at the Laboratory. They practice at lunch time in available conference rooms in the Administration Building.

How wonderful, after the noisy assaults of everyday life, to be serenaded by unaccompanied voices blending into standards of a bygone era. It is truly serendipity in the depths of the Administration Building to be treated to "I Believe" and "Hello, Mary Lou."

Barbershop quartets engender visions of straw hats, striped vests and handlebar mustaches — blue badges and dosimeters are not usually a part of the picture. Nonetheless, these "Labbies" sing from the heart and pull on those strings of nostalgia.

The group harmonized at the Laboratory's Family Festival July 19 with a repertoire of "Hi, Neighbor!" and "I'll Fly Away." The Lads of Enchantment chorus, including the Jemez Jarmony, started its set with "The Old Songs," which is sung at the start of each Society for the Preservation and Encouragement of Barbershop Quartet Singing in America chapter meeting — everywhere, noted Wilson. The set also included an audience sing-along with "Let Me Call You Sweetheart."

Barbershop music ranges from "Sweet Adeline" — which by the way is the name of the distaff organization that also sings barbershop music (The Sweet Adelines International: <http://www.sweetadelineintl.org/>) — from "gay '90s," the 1890s that is, to the more modern pop tunes of the 1960s and beyond. Barbershop songs tend

toward roaring 20s and jazz-era numbers, said Brown.

Adapting a song to the barbershop genre takes re-arranging the music to accommodate four male voices and usually means moving it up the register a tad, noted Brown. But the object is to tell a story, he added. Daniel's favorite is "I'll Fly Away," while Brown really enjoys singing, "Georgia on My Mind."

One of the barbershop traditions is its affinity for free and frequent use of embellishments or "indulgences" such as echoes, bell chords (singing that mimics the "bongs" of bells), patter, lead-ins (song verses of familiar choruses, for example), key changes, elaborate introductions and extended tags. Having fun with the music is what it's all about, said Wilson.

Listening to close harmony by those having a good time just enhances the experience, or so it seems when watching an audience of smiling, occasionally chuckling, toe-tappers.

For more information about regional barbershop music, contact Michael Benelli at mhenelli@lanl.gov, the current president of Lads of Enchantment or check out the international organization's Web site at www.spebsqsa.org/web/groups/public/documents/pages/pub_homepage.hcsp online. There is audio as well as general information on the site.

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