

# NewsLetter

Week of Sept. 15, 2003

Vol. 4, No. 19

## Strategic Planning Retreat a study in contrasts

**"Leadership is a contact sport.  
 Get engaged."**

**—Laboratory Director G. Peter Nanos  
 to retreat participants**

by Bill Dupuy

A little more than 60 years after a small band of people gathered at Los Alamos to find a way to end a world crisis, another band gathered to create a plan for maintaining the six decades of security that grew from that early work.

Like the first group, many of the people who met for the Lab's 2003 Strategic Planning Retreat had not even talked to each other before. Yet before the three days of planning was concluded, they found themselves thoroughly engaged with each other in the complex task of developing the goals and strategies that will propel the same Los Alamos National Laboratory to a new level of national service.

This was not the Lab's first planning retreat, of course. But it was different from others in many ways.

In marked contrast to Laboratory planning retreats of other years, for example, the just-concluded session left a lot of unfinished work.

But that was not a mistake. It was part of the strategy to start building a broad-based management culture, one that would force the people at the meeting to become thoroughly engaged in the leadership of the Laboratory.



**Laboratory Director G. Peter Nanos talks to division leaders and other senior management team members at the opening day of the division leaders retreat at La Fonda Hotel in Santa Fe. Nanos made introductory remarks then later led a discussion on the Lab's mission and vision and institutional goals. The retreat continued in the afternoon with breakout discussions.** Photo by LeRoy N. Sanchez

And that was not the only difference.

This year some 70 division-level managers and Senior Executive Team members turned out for the Aug. 11-13 retreat.

After the broad outline was established, the thrust was bottom-up discussion, rather than the top-down, lecture-style direction common among typical institutional planning sessions. As Director G. Peter Nanos laid it out, "Leadership is a contact sport. Get engaged."

And the end of the meeting did not signal the last time the participants would be involved

in the strategic planning effort. Far from it. The SET members and division-level managers have gone back to their offices with the charge to flesh out the broad strokes into highly specific fine points both for a Laboratory-wide plan as well as for individual division business plans. Then, in October they will deliver their individual plans before implementing them and return for a three-day session in December to review progress and challenges they have

*continued on Page 2*

## Lab Day at Isotopes Park



**Laboratory Director G. Peter Nanos exchanges gifts with Isotopes President Ken Young before the first pitch at the regular-season closer for the Albuquerque Isotopes. Nanos was presented with an autographed bat and baseball. Young accepted a flask of "Grandslammium-238" dubbed "The Winning Isotope" by the Laboratory's Public Affairs Office.**



**Isotope's mascot Orbit performs a uniform inspection on Nicolas Walker of Protection Technology Los Alamos. Walker and other members of the PTLA color guard participated in the opening ceremony. Melissa Salazar Porter, inset photo, of Tritium Science and Engineering (ESA-TSE), sang the National Anthem before the game.** Photos by Kevin Roark and LeRoy N. Sanchez

## Inside this issue ...



**Airborne sensor technology assists emergency responders**  
Scientists at the Lab and emergency first-responders from the Environmental Protection Agency have developed airborne, infrared-sensor technology that can aid emergency crews. . . . .Page 3



**Workers proud to be associated with Lab**  
More than eight in 10 University of California

Laboratory employees who completed the 2003 Checkpoint Survey are generally proud to be associated with the Laboratory and are satisfied with their work. . .Page 4

**Employee's work leads to record number of awards**

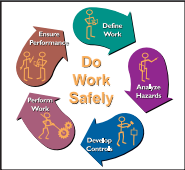
Dave Cremers currently holds a pretty amazing record. While he has been to the Olympics, it isn't an athletic record. The record that Cremers holds is the most R&D 100 Awards won by a scientist at the Lab. . . . .Page 5



**Spotlight on safety**

Last week, Laboratory Director G. Peter Nanos took the extraordinary step of asking all employees to take part in

a presentation of the Laboratory's safety initiative, "Safety Improvement: Taking the Next Steps." . . . . .Page 8



## Los Alamos NewsLetter

The *Los Alamos NewsLetter*, the Laboratory bi-weekly publication for employees and retirees, is published by the Public Affairs Office in the Communications and External Relations (CER) Division. The staff is located in the IT Corp. Building at 135 B Central Park Square and can be reached by e-mail at [newsbulletin@lanl.gov](mailto:newsbulletin@lanl.gov), by fax at 5-5552, by regular Lab mail at Mail Stop C177 or by calling the individual telephone numbers listed below. For change of address, call 7-3565. To adjust the number of copies received, call the mailroom at 7-4166.

**Editor:**

Jacqueline Paris-Chitanvis, 5-7779

**Associate editor:**

Judy Goldie, 5-0297

**Managing editor:**

Denise Bjarke, 7-3565

**Graphic designer:**

Edwin Vigil, 5-9205

**Contributing photographers:**

Fred Rick

Kevin Roark, 5-9202

LeRoy N. Sanchez, 5-5009

**Contributing writers:**

Nancy Ambrosiano, 7-0471

Hana Binder, 7-7000

Nikki Cooper (STB), 7-1448

Bill Dupuy, 5-9179

Jim Danneskiold, 6-1640

Todd Hanson, 5-2085

James E. Rickman, 5-9203

Steve Sandoval, 5-9206

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.



Printed on recycled paper. Please recycle.

## Strategic Planning Retreat ...

*continued from Page 1*

encountered. That's not all. They'll then have to re-visit execution of those plans every three to four months.

Just as important as the formal process, however, a number of participants noted after the retreat had concluded that it yielded a much more informal, yet equally positive outcome — it was a chance to find out what "Pete" Nanos is really like.

"For division leaders who have sat through meetings without having the opportunity to meet each other, or get to know the director, this was among the most important outcomes a retreat of this type could possibly have," noted Ping Lee, Institutional Planning and Evaluation Office director, who was in charge of organizing the retreat.

Nanos himself witnessed a shift in attitudes, as division-level managers turned from listeners into participants. "People asked me why I didn't talk as much the second or third day," he said. "I didn't have to; they did the talking." His strategy for creating a team, and for aligning everyone's interest and integrating it with the top level, was taking shape.

The retreat began Aug. 11 in a hotel meeting room in Santa Fe with a set of six national security goals (the goals that must mesh with Department of Energy performance objectives) and nine internal goals designed to "enable" people and functions with the responsibility and the authority to get the job done.

While the initial outline was created by the SET with input from the Division Leaders Council in July, it was subject to some change at the retreat. Some wording was changed there, the outline underwent an initial fleshing out and one new goal was added. That increased the number of goals from the original 15 to 16.

Now, the SET members who are in charge of the goals will launch into the next phase of their work — fine tuning each one in conjunction with the division leaders assigned as team members for each goal. They also will add metrics to the goals, which will allow for meaningful measurement of performance.

That will be the proof of the pudding.

Before the time for performance measurement comes, however, it's more work for the participants. While this planning retreat may have concluded, the process is far from being over.

## National Security Mission

**"W**e develop and apply science and technology to ...

- ensure the safety and reliability of the U.S. nuclear deterrent.
- reduce the threat of weapons of mass destruction, proliferation and terrorism.
- solve national problems in defense, energy, environment and infrastructure."

## Vision

"The trusted, competitive scientific solution for today's and tomorrow's national security challenges."

## Core Values

- Service to the nation
- Integrity and openness
- Passion for excellence and innovation
- Personal accountability
- Respect for others
- Teamwork

## New communications project under way

**I**n July, Laboratory Director Pete Nanos launched a new project that includes the development of a strategic plan. Part of this strategy includes the development of a communications initiative. The goal of the project is to create an approach that will communicate the Laboratory's value and societal benefits to employees, customers and stakeholders. Director Nanos chose the consultants Sabre Systems Inc. to design and develop a competitive edge in the communications initiative. Three elements included in the plan will be to create a unified corporate image and message unique to the Laboratory; develop and implement an integrated communications plan with a unified, cohesive program that everyone can use and understand; develop employee consent and involvement in the process. The projected completion date for the communications plan is January 2004.

## Upcoming anniversary volume looks to the future



**L**os Alamos Science "Celebrating 60 Years" presents a forward-looking view of the Laboratory and its missions written by some of the Laboratory's leading scientists and managers. It opens with "People of the Hill," an intimate account of building the first atomic and hydrogen bombs. The volume then turns to the present and future. "Nuclear Stewardship in the 21st Century" discusses the new ideas and hopes of those participating in the Lab's largest mission — certifying the nuclear stockpile without full-scale testing. New manufacturing techniques and experimental approaches are highlighted.

Under "Threat Reduction and Homeland Security," Terry Hawkins, special advisor to Laboratory Director G. Peter Nanos, recounts our historic role in that area. Topics include pathogen-detecting tools, sensors in space and agent-based simulations to understand terrorist networks. Finally, "Strategic Investments" hints at the breadth of talent at this Laboratory and reminds us that, to be great, we must continue to invest in the biggest ideas and nurture those whose ideas can change the world.

Everyone in the extended work force will receive a CD version of "Celebrating 60 Years" by the end of September. To order hard copies or additional CDs, write to [lascience@lanl.gov](mailto:lascience@lanl.gov).

Protecting the homeland

## Airborne sensor technology assists emergency responders

by James E. Rickman

Scientists at the Laboratory and emergency first-responders from the U.S. Environmental Protection Agency have developed airborne-infrared-sensor technology that can aid emergency crews by detecting and mapping hazardous and toxic chemical plumes unleashed by disaster or terrorist acts.

The Airborne Spectral Photometric Collection Technology, known as ASPECT, is a high-tech sensor package on board a small aircraft operated by the EPA that allows for timely surveillance of gaseous chemical releases from a safe distance. ASPECT gives emergency first responders on the ground critical information regarding the size, shape, composition and concentration of gas plumes emanating from disaster scenarios such as a derailed train, factory explosion or terrorist attack.

ASPECT is the result of more than five years of research and development by researchers in Physical Chemistry and Applied Spectroscopy (C-PCS) and the EPA. The project has been supported by the Laboratory's recently created Center for Homeland Security (CHS), which focuses on providing technical support to the U.S. Department of Homeland Security and collaborating agencies.

"Protecting the homeland against terrorist threats is a great challenge that will require development and application of such dual-use capabilities as the EPA ASPECT system," said Gary Resnick, associate CHS director for chemical and biological threat reduction.

ASPECT takes advantage of two sensors mounted aboard an Aerocommander 680 aircraft operated by an EPA disaster first-responder crew. The first sensor, called a Fourier Transform Infrared Spectrometer, detects and locates chemical vapors. It can peer through smoke and dust to get an accurate measurement of the location and concentration of the vapor plume. The second sensor, a high-resolution "Infrared Line Scanner," records an image of the ground below and plume information.

Information from both instruments is combined with high-resolution digital imagery and Global Positioning System information to create an accurate map of the land surface and the chemical vapor plume hazard. ASPECT can show the main plume as well as places where gas has collected and settled, such as in low-lying areas or locations where there is little or no air movement. It takes only minutes to produce an image.

The vapor, hazard-plume map can then be transmitted to emergency response commanders on the ground — usually the local fire chief or emergency manager — by fax, computer or other means. In areas where emergency responders lack computer equipment, ASPECT will drop a working computer via parachute to emergency responders before the plane starts taking measurements.

"By providing a capability to accurately measure and locate hazardous and toxic chemical plumes, emergency responders near disaster plumes will be able to make better decisions regarding civilian evacuations and resource deployments, as well as those that ensure the safety of response crews," said Robert Kroutil of C-PCS.

The system has been rigorously tested under stringent real-world conditions and performed admirably. ASPECT also proved its usefulness in public by patrolling the skies over Salt Lake City during the 2002 Winter Olympics on the lookout for potential terrorist attacks.

Most recently, the plane was called into service in the wake of the space shuttle Columbia disaster. ASPECT's crew monitored for extremely hazardous rocket fuels, which fortunately had evaporated before they reached the ground. But in the course of their surveillance, ASPECT's cameras recorded the location of larger pieces of debris, which aided recovery efforts.

An ASPECT system can cover a multistate area, thus reducing the amount of resources needed for an emergency response.

## Lab computer systems stop e-mail attacks

by Jim Danneskiold

Recent attempts by virus-writers to disrupt the Laboratory's networks have been foiled, but the key to stopping such attempted intrusions rests with the individual computer user, said Laboratory Chief Information Officer Raymond Neff.

"Folks in Network Engineering (CCN-5) have done a great job stopping the Sobig virus and other recent intrusion attempts at the Lab's firewall, but we're still seeing a few instances of employees connecting infected computers to the network or opening attachments and replying to e-mails from unknown senders," Neff said.

E-mails that contain viruses are stopped at the firewall, and Laboratory computer users never see those. But the Sobig virus, which originally appeared early in 2003, has some unique characteristics. Because the Sobig virus is rampant on the Internet, virus checkers outside the Laboratory often strip off infected attachments and then pass on the original e-mail message, sometimes with a warning that a Lab user sent a virus or

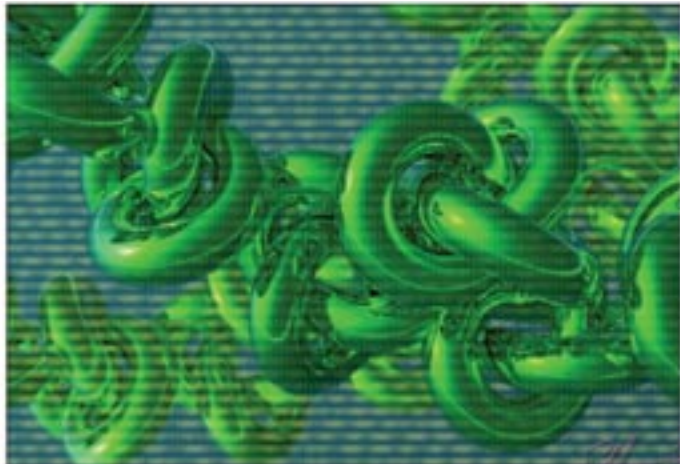
with wording that a virus was removed.

In the past weeks, Laboratory users also have seen hundreds of messages that appear to come from other infected users at the Laboratory, but in fact are coming from virus checkers outside the Laboratory.

The Laboratory's own checkers regard all of these uninfected e-mails as benign and pass them on, but users shouldn't reply to them, said Alex Kent, CCN-5 deputy group leader.

"The Lab community saw a number of these messages, but because they are not dangerous in any way, we are allowing them to get through," Kent said.

Laboratory users are seeing dozens of spoofed e-mails that look like they have bounced back from their own accounts, Kent explained. That's because when the Sobig virus infects systems, it looks for every e-mail address to which or from which the user has ever sent e-mail. It then randomly uses these addresses both as places to infect and as originating (from) addresses. As a



result, a Laboratory user's e-mail address could be captured and used as the "from" line when the virus from the outside computer attempts to infect other machines.

"When the message bounces for some reason, the bounce comes back to the Laboratory user as the owner of the address," Kent said. "It's very confusing because it looks like you have a problem but in reality it has nothing to do with you.

"The very few instances in which we've seen infected machines get onto the network have been cases in which users brought laptops or removable media that had been infected at home and then connected them to the yellow network," Kent added.

The Laboratory also has seen recent activity by a new variant of the Blaster worm called Welchia.

Following the Bugbear virus attack in June, the Laboratory banned use of alternative electronic POP and IMAP mail servers outside the Laboratory's network. For more information on the policy go to <http://www.lanl.gov/orgs/pa/newsbulletin/2003/06/30/text02.shtml> online.



### Hispanic Heritage Month

*Hispanic Americans: Honoring our Past,  
Surpassing our Present and  
Leading our Future*

**Sept. 15 through Oct. 15**

For more information, go to the  
Hispanic Heritage Month Web site at  
[http://www.lanl.gov/orgs/dvo/hdwg/hhm/  
hhmonth03.htm](http://www.lanl.gov/orgs/dvo/hdwg/hhm/hhmonth03.htm) online.

# Workers proud to be associated with Lab

## Concerns about status of UC contract also weigh on workers

by Steve Sandoval

More than eight in 10 University of California Laboratory employees who completed the 2003 Checkpoint Survey are generally proud to be associated with the Laboratory and are satisfied with their work.

But more than three-quarters of the employee respondents believe the Laboratory would be hurt if UC loses the contract: 76 percent said the Lab wouldn't be able to attract and retain talented staff and 79 percent of the respondents said their benefits would be reduced should UC not continue operating Los Alamos.

The findings were compiled recently and compared to recent-year findings by Workforce Data and Analysis (HR-WDA), which distributes the survey and analyzes the results. Division-level results are available for employees in division offices.

Group leaders have received results from the survey that are specific to their groups. Managers are encouraged to share the results of the survey with employees.

"The survey, conducted since 1994, allows employees the opportunity to give feedback to their managers and provides Lab leaders with data on how employees feel about the Lab," said John Pantano, acting HR-WDA group leader.

Forty-four percent of the surveys sent out to UC Lab employees in June were completed and returned to HR-WDA, the same response rate as last year. In 2001, 1999 and 1998 the response rate was slightly higher at 46 percent. The survey was not conducted in 2000.

The survey had 54 questions about career development, communication, diversity, job satisfaction, management, pay, productivity, performance management, safety and security. Employees could respond by checking agree, tend to agree, neutral, tend to disagree, disagree and don't know.

The survey also had two questions about the UC contract. The Department of Energy announced this spring that it would seek competitive bids on the operating contract when UC's contract expires Sept. 30, 2005. The university has operated the Laboratory since it was created in 1943.

As in previous years, safety and security received the highest marks from employee respondents. Ninety-seven percent of employee respondents said they are personally responsible and accountable for performing their work securely. Eighty-five percent, a slight decrease from 2002, said corrective action is taken when unsafe conditions are brought to management's attention; 72 percent feel safe reporting potential security incidents that they are directly involved in; and 88 percent of employee respondents said their group management ensures a safe work

environment and use of safe-work practices.

In the area of job satisfaction, 83 percent of employee respondents are proud to be associated with the Laboratory, and 79 percent said their work gives them a sense of personal accomplishment, up 2 percent from 2001 but down 2 percent from last year. And 75 percent of employee respondents said they would recommend the Laboratory as a good place to work.

Forty-two percent of employee respondents feel morale in their group is high, a drop of 8 percent from 2002.

In the area of communication, results were mixed. While 72 percent of employee respondents said the Lab keeps them informed about matters affecting them, only 47 percent said that existing channels for employee communication with upper management are adequate.

Sixty-one percent of employee respondents said group management communicates decisions to employees, about the same as last year. But only 42 percent of employee respondents said their division management communicates decisions to them, down slightly from last year.

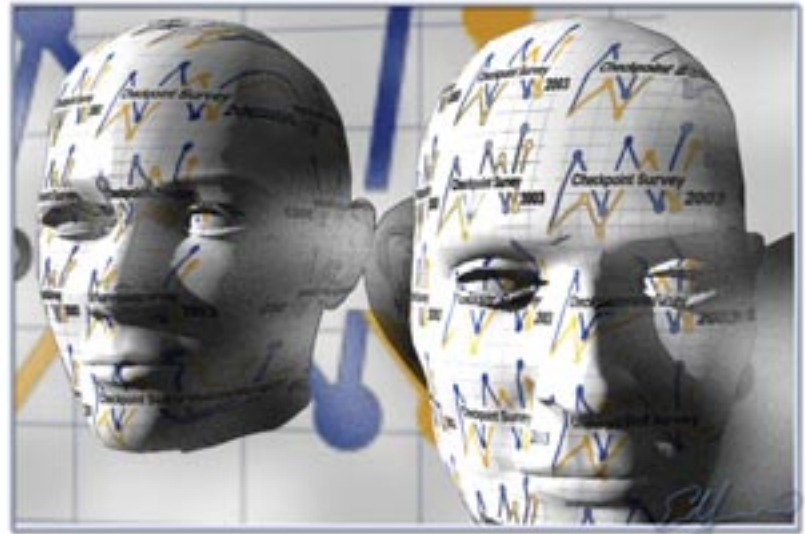
Sixty-five percent of employee respondents feel safe stating their opinion in their group, down 3 percent from 2002. Only 27 percent, however, feel that division management seeks their opinions on important issues impacting their jobs.

Seventy-two percent of employee respondents think the Laboratory keeps employees informed about matters affecting them, up 10 percent from 2002. And 60 percent are satisfied with their involvement in decisions that affect their work, down from 65 percent in 2002.

In the area of career development, several questions showed decreases compared to 2002. For example, 58 percent of employee respondents said their group is interested in their professional development, down 4 percent from last year. And 59 percent of employee respondents, down 5 percent from 2002, said they have a reasonably good understanding of possible career paths at the Lab.

Additionally, 53 percent of the employee respondents said the Lab provides adequate training to assist them in career development, down 4 percent from 2002.

In general, Lab employees responded favorably about diversity issues in the workplace. Eighty-five percent of employee respondents said their work environment is accepting of ethnic/cultural differences, and 63 percent said employees are treated with respect, regardless of their position. Also, 84 percent of employee respondents said their work environment is



accepting of gender differences, the same response rate from last year.

Sixty-seven percent of employee respondents said their group management recognizes the value of diverse perspectives and backgrounds, up 1 percent from 2001. And 58 percent of the respondents said their division provides management opportunities independent of ethnic, cultural and gender differences. But that figure was down 4 percent from last year.

Regarding employee perceptions of management at the Lab, 56 percent of employee respondents said their group management generally understands the problems they face on the job, while 59 percent of employee respondents said there is sufficient contact between group management and employees in their group. Both response rates were down from last year.

Seventy percent of respondents said their immediate supervisor is held accountable for their actions by the next level of management, down slightly from 2002. But only 31 percent said there is sufficient contact between division management and employees in their division.

And more than eight in 10 respondents to the survey said their supervisor is competent in the technical aspects of the job.

In the area of pay, 56 percent of employee respondents said that compared with other people performing similar work, they think they are fairly paid, which is up 4 percent from 2002. Fifty-eight percent said they understand how their pay is determined, up 5 percent from last year. And 60 percent are satisfied overall with their compensation, including benefits, which was similar to last year's results.

Half of the employee respondents think health-care benefits at the Lab are as good or better than those in outside companies or organizations, which was a slight decline from last year's results.

Only 46 percent of employee respondents believe the goals by which their performance is evaluated are specific and measurable. The figure is down slightly from last year.

Eighty-four percent of employee respondents say they have a clear understanding of their job responsibilities, and 55 percent, down 3 percent from 2002, said their supervisors provide regular feedback on their performance.

In the area of productivity, 48 percent of employee respondents think productivity has increased in their group during the past year. The figure is down 8 percent from 2002.

Additionally, 68 percent of employee respondents said inadequate Laboratory infrastructure and facilities hinder their productivity, up 5 percent from 2002. And 59 percent of the survey respondents said the Lab encourages and supports innovation and creativity.

To read view graphs of the employee survey, go to <http://hrweb.lanl.gov/WDA/Checkpoint/index.stm> online.

## Upward Appraisal results are out

University of California Laboratory employees are less likely to report that their manager involves them in planning and decision making, and employees also said that their manager is less likely to encourage responsible risk taking than last year.

Those were some of the results from the 2003 Upward Appraisal employees completed earlier this summer. The Upward Appraisal consisted of 20 questions, which have remained the same since 1994.

Managers are encouraged to discuss the results of the Upward Appraisal with their employees and develop plans to address issues. Managers who need assistance in understanding the results can call Blair Stephenson of Workforce and Data Analysis (HR-WDA) at 5-1423.

Upward Appraisal view graphs are available at <http://hrweb.lanl.gov/WDA/Checkpoint/index.stm> online.

From bobsleighs to Mars

# Employee's work leads to record number of awards



Dave Cremers

by Hana Binder

Dave Cremers holds a pretty amazing record. While he has been to the Olympics, it isn't an athletic record, although he did help the International Federation of Bobsleigh and Tobogganing with his work. The record that Cremers holds is the most R&D 100 Awards won by a scientist at the Lab. His current tally of five awards is the most that anyone at the Lab has won, although there are 26 other scientists who have won multiple awards as well.

Since his 1988 Mobile Beryllium Monitor, which was used at the Rocky Flats Plant to detect environmental contamination, until this year's CARISS, or Compositional Analysis by Raman-Integrated Spark Spectroscopy project — which coordinates the Lab's laser-induced breakdown spectroscopy (LIBS) technique with the University of Hawaii's remote Raman spectroscopy — Cremers has been quietly gathering award after award. Not all of his projects have been based on LIBS, but it is his work at the forefront of this relatively new field that most often has been at the center of his research. Cremers has studied this field since joining the Applied Photochemistry (AP) Division in 1981. Currently, he is working with others to develop a compact LIBS device for possible future use on rovers to Mars.

Cremers said that the CARISS team's cooperation with the Raman spectroscopy team will produce an instrument providing abundant data on the chemical makeup of a sample, adding "LIBS tells you the elemental composition of the materials, Raman tells you its chemical form, so they're complementary techniques." The combined technologies have been developed so that they can be used remotely, and the analysis time is shortened from hours to minutes, compared to currently deployed methods. This will greatly increase the scientific return from a planetary mission and provide access to samples located in areas not directly accessible by a rover. The CARISS technology also is being used on Earth to determine how much carbon is sequestered in soil to support international agreements (for example, the Kyoto Protocols) aimed at reducing carbon emissions to the atmosphere.

Cremers currently has six patents at the Lab relating to laser-based methods of detection and materials processing. He has won numerous awards from various organizations and the community of Los Alamos, but the one he says he's the most proud of is the recognition award he received, along with his former partner Lee Radziemski, in Pisa, Italy, at the 2000 International Conference on Laser-Induced Breakdown Spectroscopy. This award thanked them for their pioneering work in the LIBS field, which has become an area of high interest in Europe over the past few years.

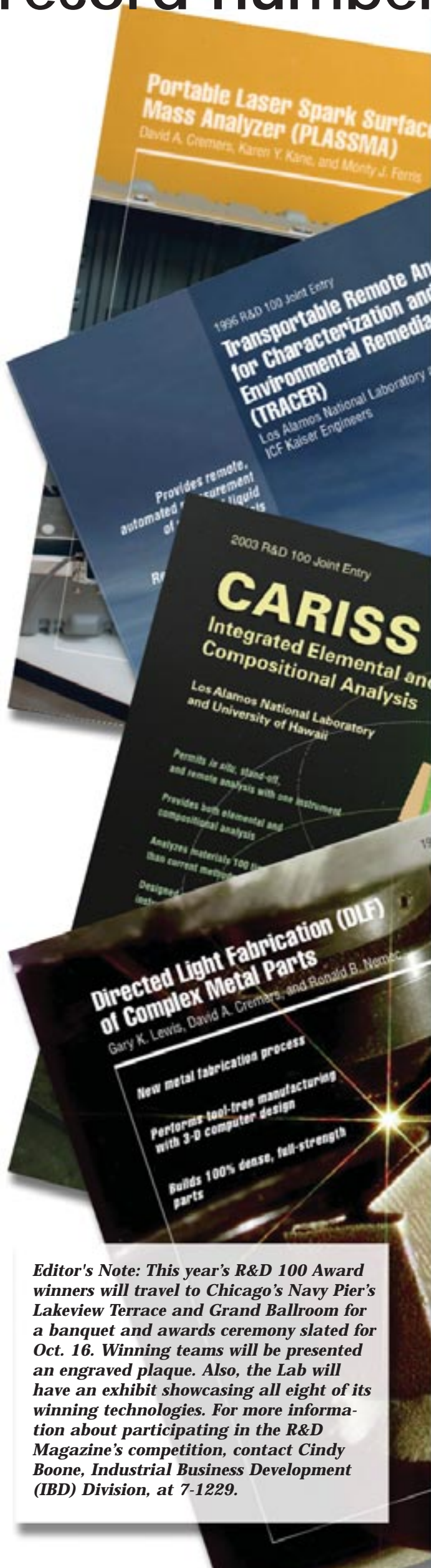
Cremers also has worked extensively for 12 years with Monty Ferris, who was Cremers' partner on three of the projects that won R&D 100 Awards. Cremers and Ferris were two members of the team that traveled to the Salt Lake City area to test, using LIBS technology, bobsled and skeleton runners for illegal coatings. This was the first time the sport used LIBS in this way.

Some of this LIBS work has been carried out in collaboration with other divisions at the Lab over the years, including Materials Science Technology (MST); Earth and Environmental Sciences (EES); Nonproliferation and International Security (NIS); and Health, Safety and Radiation Protection (HSR).

Outside the Lab, Cremers has worked with Science and Engineering Associates Inc. and ADA Technologies Inc., among others, to transfer the technology he helped to develop at the Lab to the commercial world. His work with SEA Inc. developed a cone penetrometer system for subsurface analysis of toxic metals in soils. With ADA he worked on the creation of a LIBS-based analyzer of beryllium particles in air and the development of a portable LIBS instrument.

As for beryllium monitors, Cremers' first R&D 100 award-winning project, the prototype device was originally built for the Rocky Flats Plant in 1988. Recently, the Department of Energy awarded a contract to SEA Inc. to develop LIBS-based instruments to detect beryllium on filters.

Cremers continues to work in LIBS, the field that he helped develop from its inception. Some of his other research also inspires a lot of interest, such as a procedure that creates 3-D metal objects by injecting metal powders into a laser beam, which he developed with a group from MST. In all of his work, though, nothing stands out like his work for Mars exploration. So while Cremers didn't speed down an icy track at incredibly high speeds to set his record, he can boast that his work may eventually reach as far away as Mars.



**Editor's Note:** This year's R&D 100 Award winners will travel to Chicago's Navy Pier's Lakeview Terrace and Grand Ballroom for a banquet and awards ceremony slated for Oct. 16. Winning teams will be presented an engraved plaque. Also, the Lab will have an exhibit showcasing all eight of its winning technologies. For more information about participating in the R&D Magazine's competition, contact Cindy Boone, Industrial Business Development (IBD) Division, at 7-1229.



## Castillo-Chavez is the newest Ulam Scholar



**Carlos Castillo-Chavez**, professor of biomathematics and director of the Cornell Mathematical and Theoretical Biology Institute (MTBI), has been named the 2003 Stanislaw M. Ulam Distinguished Scholar by the Center for Nonlinear Studies (CNLS) at the

Laboratory.

The Ulam award honors the Polish-American mathematician who played a central role in the Manhattan Project during World War II. Ulam, along with physicist John von Neumann, developed the powerful statistical trial-and-error technique known as the Monte Carlo Method.

MTBI is a summer research program designed for Latino, black, Native American and other minority undergraduate students in the mathematical and biological sciences.

Castillo-Chavez is a native of Mexico who received his doctorate at the University of Wisconsin-Madison in 1984. He joined Cornell in 1985 as a postdoctoral student in the Department of Ecology and Evolutionary Biology and was made an assistant professor of biomathematics in 1988. He received a Faculty Fellowship Award from former President Bush. He was promoted to full professor in 1997. He currently holds a joint appointment in the departments of Statistics, Biological Statistics and Computational Biology, and Theoretical and Applied Mechanics. In 2001 Castillo-Chavez received the Distinguished Scientist Award given by the Society for Advancement of Chicanos and Native Americans in Science.

Castillo-Chavez will spend the year at CNLS supervising seven MTBI alumni, most of them American Latinos who have doctorates and graduate students, in a program of diversified research on influenza and dengue dynamics, homeland security and the study of epidemics on human or city networks. In addition, he joined forces with the Theoretical (T) Division to bring the eighth edition of his summer program to Los Alamos. This program has trained about 200 undergraduates that include more than 160 from underrepresented groups. Castillo-Chavez' efforts to increase the numbers of minorities and women in science and mathematics have received national recognition: In 1997, he received the Presidential Award for excellence in Science, Mathematics and Engineering Mentoring from President Clinton.

Castillo-Chavez has co-authored more than 100 articles and six books. His most recent efforts include the textbook (with Fred Brauer), *Mathematical Models in Population Biology and Epidemiology* (Springer Verlag) and *Bioterrorism: Mathematical Modeling Applications in Homeland Security* (Tom Banks, co-editor; Society for Industrial and Applied Mathematics' *Frontiers in Applied Mathematics*).

## Morel appointed UNM professorship

**Jim Morel**, former leader of Transport Methods (CCS-4) has been appointed University of New Mexico-National Laboratory Professor of Chemical and Nuclear Engineering. The UNM-National Laboratory Professorship carries the same benefits and



*Jim Morel*

privileges as full professorships at the University of New Mexico.

Under the terms of the appointment, Morel will remain a Laboratory employee and receive his salary from the Laboratory, but can spend up to 20 percent of his time teaching or working on research for UNM.

"I have essentially all of the privileges of a full professor, including faculty voting rights," Morel said.

His duties could include teaching courses, serving as chairman of graduate-student dissertation committees and seeking research funding for students as a UNM faculty member. The term of the professorship is indefinite.

"My main goal at UNM is to work with other faculty to implement a computational-science option for nuclear engineering Ph.D. students, with Los Alamos staff teaching some of the courses," Morel said.

In addition to the traditional training in numerical methods, the option would offer training in advanced programming languages, parallel programming and modern processes for scientific software development.

"At Los Alamos we generally find new Ph.D. graduates lacking in the programming and software development skills required to contribute to advanced computational programs such as the Advanced Simulation and Computing program, or ASCI," Morel said. "Because there is a need for advanced computational education at the Laboratory, we expect a significant number of Laboratory staff to audit some of the courses."

This spring, Morel taught a graduate course on numerical methods for radiation transport calculations that was offered for credit through the Chemical and Nuclear Engineering Department at UNM.

"Actually, I taught the course at Los Alamos and used a relatively new Web-based technology called the Access Grid to make the course available to students at UNM Albuquerque, Sandia Albuquerque and Sandia Livermore," he said.

## Schneider named J Division deputy

**David Schneider** has been selected as deputy division leader for operations in the new Proliferation Detection and Monitoring (J) Division.

"Dave brings an extremely strong operations and technology background to this position, one that will benefit the division, its programs and its customers," said J Division Leader Doug Beason, "especially with all the challenges in standing up a new division."

Schneider's responsibilities will include assisting the division leader in operations, with a focus on larger team formation, improving project performance, satisfying customers and ensuring unification across the division. Schneider said, "The areas of science this division can claim are very impressive, and the quality of the people and the projects involved are outstanding, real growth areas for the Laboratory. I see excellent opportunities out there for this kind of expertise." He will assume his new post Oct. 1.

Schneider, most recently supporting defense transformation activities for the Threat Reduction Directorate Office, has been a Laboratory employee for 27 years, coming to Los Alamos from the Johns Hopkins University Applied Physics



*David Schneider*

*continued on Page 7*

## Nelson named CMRR project director

**Timothy Nelson** recently accepted the position of project director for the Chemistry and Metallurgy Replacement (CMRR) Project. Nelson was the acting project director for CMRR before accepting his current position.

With Nelson acting as project director in July 2002, Department of Energy Secretary Spencer Abraham signed a memorandum for Critical Decision Zero for the replacement of the CMR Building. Critical Decision Zero also authorized DOE to begin preparing an Environmental Impact Statement and to hold public meetings on the \$420 million to \$955 million CMRR Project. The project will provide space for the analytical chemistry, materials characterization and actinide research and development capabilities currently housed in the existing CMR, which has a planned end-of-life around 2010.

Before the CMRR project, Nelson was the group leader of Pit Disassembly and Nuclear Fuels (NMT-15) where he led approximately 100 people and managed a budget of approximately \$50 million. In the years leading up to his NMT-15 work, Nelson served as deputy group leader for Advanced Technology (NMT-6), United States project leader for Pit Disassembly and Conversion, United States technical team leader for Pit Disassembly and Conversion Technologies with Russia and, starting in 1994, project leader of a variety of successful projects across the DOE complex.

Originally from North Dakota, Nelson received his bachelor's degree in electrical and electronic engineering from North Dakota State University, his master's degree in physical chemistry from the University of Iowa and his doctorate in chemical physics from Kansas State University. Nelson began working with the Lab as a postdoctoral fellow in the Nuclear Materials Technology Division in 1990, and he became a technical staff member in NMT Division in 1992.



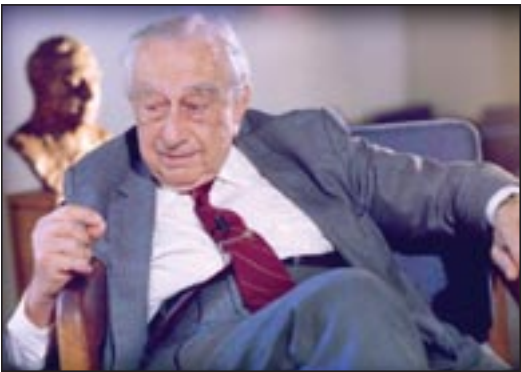
## Schneider ...

continued from Page 6

Laboratory. His accomplishments at Los Alamos include having developed advanced ion sources for the fusion program, supported technology development of the neutral particle beam program of the Strategic Defense Initiative Organization and a five-year assignment leading the low-energy demonstration accelerator project at Technical Area 53. The project was to assemble and test the world's largest and most powerful radiofrequency quadrupole proton accelerator. More recently, he served as the deputy director of the national Advanced Accelerator Applications Program, transitioning accelerator technology to enable transmutation of nuclear waste.

Schneider has a bachelor's degree in physics from the University of Missouri at Rolla and a master's degree in physics from Kansas State University.

## In Memoriam



### Edward Teller

Noted physicist and Manhattan Era scientist Edward Teller died Sept. 9 at his home in Palo Alto, Calif. He was 95.

Teller, who came to Los Alamos in the 1940s during the crash program to develop the world's first atomic bomb, had suffered a stroke earlier in September.

Less than two months ago, Teller was awarded the prestigious Presidential Medal of Freedom, the nation's highest civilian honor, during a special ceremony presided by President Bush. He also was the driving force behind the creation of Lawrence Livermore National Laboratory in California, where he was its director from 1958 to 1960.

Teller was born Jan. 15, 1908, to Max Teller, a lawyer, and Ilona Deutsch Teller, an accomplished pianist, in Budapest. Teller graduated in chemical engineering at Karlsruhe, Germany, before studying theoretical physics at Munich and Copenhagen under famed Danish physicist Niels Bohr. Teller earned a doctoral degree in physics from the University of Leipzig in 1930. He came to America in 1935 to teach physics at George Washington University and became a U.S. citizen in 1941.

In 1939, Teller, and fellow Hungarian physicist Leo Szilard, visited Albert Einstein in Princeton, N.J. Their goal: to persuade the famous scientist to write a letter to President Franklin Roosevelt urging the United States to develop the atomic bomb.

After World War II, Teller left Los Alamos, returning in 1949 as assistant director, a post he held for two years.

It was Teller who strongly advocated development of the hydrogen bomb and promised and delivered a submarine-launched nuclear weapons system. Teller was associate director for physics at Livermore until his formal retirement in 1977.

Teller is survived by his son Paul, daughter Wendy, four grandchildren and one great-grandchild.



Laboratory Director G. Peter Nanos talks to the first 18 participants in the Director's Development Program at an orientation meeting that kicked off the year-long program of leadership development. Reviewing a total of 65 group-level managers who answered the call for self-nominations and emphasizing diversity in the group's composition, members of the Senior Executive Team used a rating system to select the final 18 to take part in the program. Photo by LeRoy N. Sanchez

# Director's Development Program participants selected

## Class of '03 already at work

by Bill Dupuy

The first 18 participants in the Director's Development Program last week learned a few things about what is expected of a senior leader.

"At this point in your career, you're no longer valued for what you can accomplish alone but for what you can enable others to do," Laboratory Director G. Peter Nanos told the participants at an orientation meeting that kicked off a year-long program of leadership development. He stressed its importance to the larger Director's Performance Improvement Program sweeping through other areas of the Laboratory.

Reviewing a total of 65 group-level managers who answered the call for self-nominations and emphasizing diversity in the group's composition, members of the Senior Executive Team used a rating system to select the final 18 to take part in the program.

The initial class of participants includes Audrey Archuleta of Communication and User Coordination (LANSCE-4), Vernon Brown of Procurement (SUP-1), Vivek Dave of Process and Engineering (NMT-10), Paul Dunn of Materials Technology: Metallurgy (MST-6), Dawn Flicker of Primary Design and Assessment (X-4), Paul Gilna of the Center for Human Genome Studies (B-5), Kevin Leifheit of the Security and Safeguards (S) Division, Tobias Lovato of Project Controls (PM-4), Barbara Martinez of Nuclear Materials Science (NMT-16), Joseph Martz of the Materials Science and Technology (MST) Division, David Montoya of Weapons Systems Engineering (ESA-WSE), Joy Moore of Deployed Resources (HR-D-WP), Kimberlyn Mousseau of the Information Management (IM) Division, Andrea Palounek of the Physics (P) Division, Paul Pan of Stockpile Complex Modeling and Analysis (D-2), Geoffrey Reeves of Space and Atmospheric Sciences (NIS-1), John Sarrao of Condensed Matter and Thermal Physics (MST-10) and Carol Sutcliffe of Tritium Science and Engineering (ESA-TSE).

A novel aspect of the DDP is that leadership-development plans will be different for each one of them, evolving from an assessment study identifying their areas of development in relation to the Lab's needs. Between now and early October, each participant will take part in what's called a "360 Assessment" that draws out the individual's strengths and potential areas of development from the person's full circle of direct reports, customers, peer-colleagues and manager. Next, they will go through work-style assessments, work simulations and interviews to further zero in on areas of potential development that could benefit the Lab in the future, said Ronnie Cohen of HR-D-DIR.

Then, the results of the assessments will be used to create separate development plans for each individual, Cohen said.

Some similarities will be written into the plans. Each participant will get a coach and a mentor, all will take part in workshops on the leadership competencies important to the Laboratory and there will be team-learning activities, Cohen said.

At the same time, some plans may have substantial differences. "For example," Cohen said, "a hypothetical participant may go on a rotational assignment to a different division or take a rotational assignment in Washington." But, she stressed, it is too early in the process to determine exactly how each plan will be shaped. That will come after the assessment information is collated and studied.

In October, participants will take part in a workshop with the director and the SET, in which a two-way discussion will focus on the director's vision of the Laboratory's current challenges and future leadership needs.

Rotational assignments are scheduled to begin in early 2004, and they will continue until this first class of DDP participants graduates next year at this time.

In addition to developing new leadership skills for the long term, the DDP program has a built-in, immediate benefit for the Lab. Nanos told participants he will call on them during the development period to act as a sounding board for his questions on Lab issues. He will pose problems and seek DDP participants' solutions.

As Cohen noted, it's part of Nanos' expectation for the individuals in the group to stretch themselves, to think and act like leaders.

And while the Class of '03 starts its process, plans already are under way to launch the follow-on group, initially scheduled to start in early 2004.



# Spotlight on safety

Last week, I took the extraordinary step of asking all employees to take part in my presentation of the Laboratory's safety initiative, "Safety Improvement: Taking the Next Steps."

I'd like to give you some perspective on this initiative and tell you why safety, security and accountability are my highest priority for the Laboratory.

First and foremost, a safe workplace is absolutely imperative to me, and I feel strongly that our current commitment to safety is unacceptable.

I want a workplace where each of us cares more about each other and our mutual safety than about anything else.

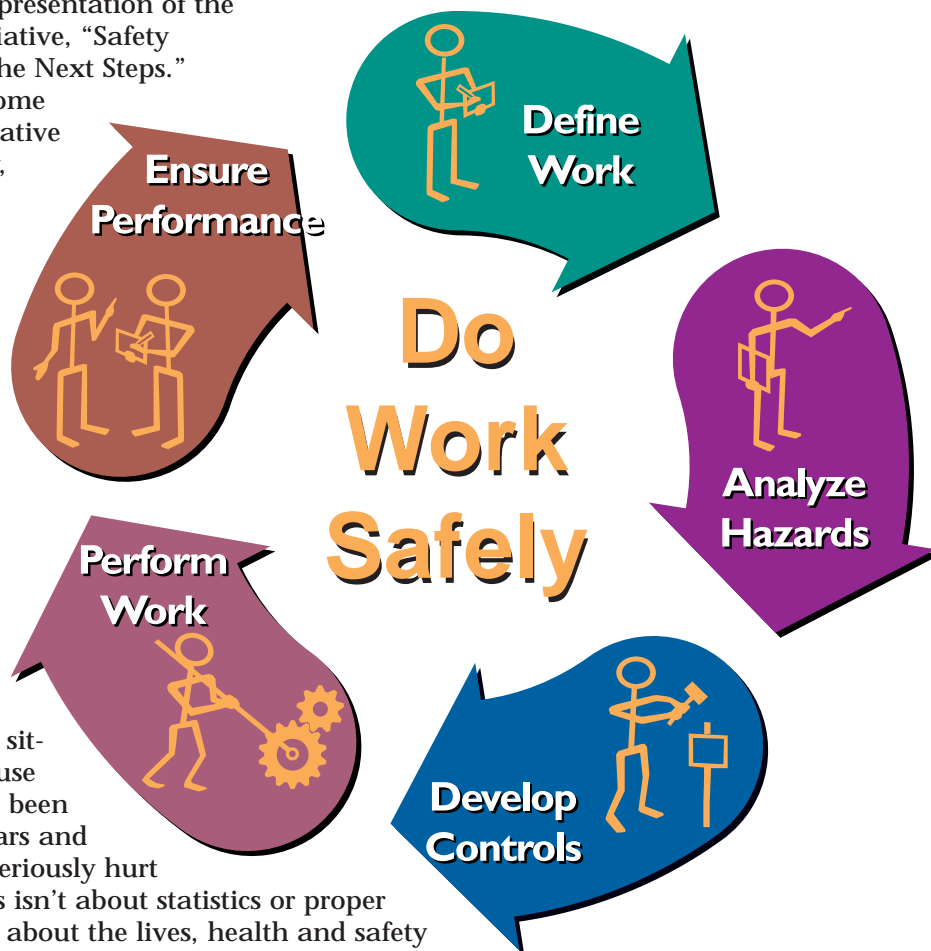
I know some feel the situation isn't grave because our accident rates have been low for the past five years and few people have been seriously hurt in recent incidents. This isn't about statistics or proper filing of paperwork; it's about the lives, health and safety of our neighbors, the people we work alongside every day.

At my final naval command post, I was responsible for thousands of military and civilian personnel engaged in construction projects, global transport and scores of high-hazard operations. While I normally can focus on getting the job done, the one thing that kept me up at night was the dread of having to call the family of someone under my command to tell them their loved one had been killed or seriously hurt.

"Taking the Next Steps" will engage Laboratory workers and managers and subcontractors to reinvigorate our strong Integrated Safety Management program and, I hope, make it easier for me to sleep at night.

My personal commitment to you, and one that I've asked every member of my management team to make, is that we will never compromise safety or security to meet our mission obligations. What I want from you is your promise to make sure you have the right resources and procedures to do your work safely and to follow the five-step ISM process.

Even if you sit at a computer and your greatest risk is driving to your office, you have an important role in preventing accidents because a strong safety culture demands everyone's attention. You can help your



Laboratory Director G. Peter Nanos kicked off a Labwide safety initiative with an all-employee meeting Sept. 9 in the Administration Building Auditorium at Technical Area 3. The initiative will engage Lab management and nonmanagement personnel in ensuring safety in the workplace. Photo by LeRoy N. Sanchez

fellow workers think about hazards and work controls, tell them where they can get help with safety and contribute to safety improvements.

Reviewing some of our recent incidents, I'm troubled by several things. Accountability and formality are weak. We're not identifying hazards, implementing controls and following procedures and LIRs. We're not managing work changes well at all.

But most of all, we're not looking after each other's safety. Managers lack firsthand knowledge of work conditions. Frequently, we're failing to conduct thorough analyses before and after we do a job, and we're not stopping work when we aren't sure that it's safe.

"Taking the Next Steps" won't eliminate all of these deficiencies. I've asked our consultant, Dave Herbert of the National Safety Council, to closely focus management walkarounds on fixing what needs to be fixed. You all have your own consultants in the environment, safety and health specialists assigned to your sites or divisions. Use their expertise, value them, even hug them, as I recommended during my presentation.

And I want all of you to take a fresh look around at your individual situations and ask yourselves, "What can I do to make this job site safe for everyone who works here?" If we all do that, we can become a Laboratory known as much for our safety culture as for our technical achievements.

## Safety accountability

- Engage in the five-step process for all work.
- Look out for your fellow workers as well as yourself.
- Follow the rules or get them changed.

## Safety initiative

Sept. 15-16 — All-managers training on safety improvement and management walk-arounds by Dave Herbert

Sept. 15-Dec. 15 — One-on-one mentored walk-arounds with division-level and above managers and Dave Herbert

Ongoing — Deliberate follow up to ensure employee and management recommendations are addressed

Los Alamos  
**NewsLetter**

P.O. Box 1663  
Mail Stop C177  
Los Alamos, NM 87545

Nonprofit Organization  
U.S. Postage Paid  
Albuquerque, NM  
Permit No. 532

LALP-03-001