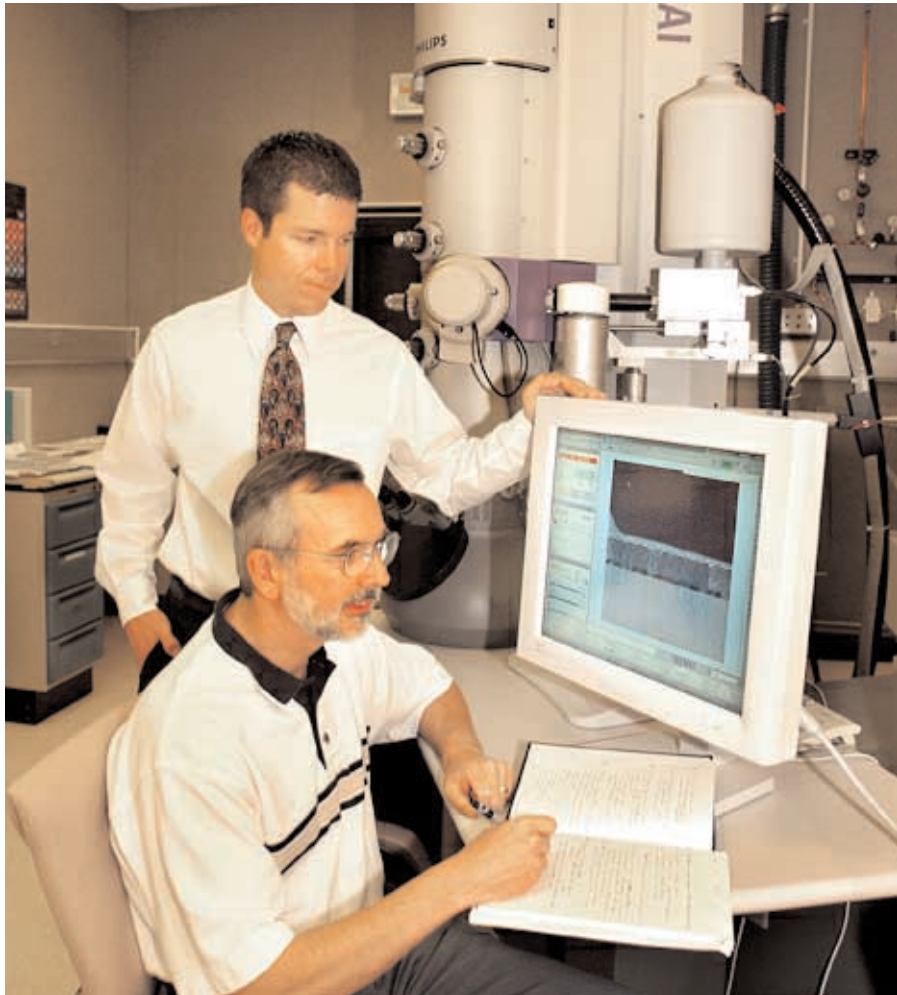


# Sandia research teams win two R&D 100 awards

**Component Analysis Software and Transponder Module are winners in competition for innovative technology**



R&D 100 WINNERS — Sandia scientists Paul Kotula (1822, standing) and Michael Keenan (1812) won an R&D 100 award for their development of the Component Analysis Software (Compass), which automatically analyzes the chemistry of a micro- or macrostructure. Also winning the award was the Sandia/EMCORE team that invented the MTR8500 Very Short Reach (VSR) OC-192 Parallel Array Transponder Module. (Photo by Randy Montoya)

Two Sandia research teams, each partnering with private industry, have won R&D 100 Awards in the annual competition for innovative technology sponsored by *R&D Magazine*, a trade magazine based in the Chicago area.

The Sandia winners invented the Component Analysis Software (Compass), which automatically analyzes the chemistry of a micro- or macrostructure, and the MTR8500 Very Short Reach (VSR) OC-192 Parallel Array Transponder Module, which promises to make very short-reach (less than 300 meters) fiber optic communications faster and less expensive.

The software was submitted by Sandia scientists Paul Kotula (1822) and Michael Keenan (1812) as a joint entry with Thermo NORAN of Middleton, Wis. The transponder was submitted by Michael Daily, Manager of Integrated Microsystems Dept. 1738, as a joint entry with EMCORE's Fiber Optics Division in Albuquerque.

Technical experts chosen by *R&D Magazine* select 100 winners of the annual contest. The winners must not only be original but also show promise of real-world application. The winners will be honored at a banquet the magazine hosts in October at Chicago's Navy Pier.

Sandia President C. Paul Robinson expressed great satisfaction in these R&D 100 Awards.

"Each of these awards recognizes innovations that are at the frontiers of science applications," Paul says. "We have focused on atoms-up engineering for several years now, and the Compass software provides essential information to make this a reality. The revolution in faster information transfer is already benefitting many of Sandia's missions, and the new fiber-optic transponder is a nice contribution to help advance the information revolution."

## Component Analysis Software

Component Analysis Software (Compass) was developed to automate chemical analysis of micron to sub-micron microstructural features in the scanning electron microscope (SEM).

"We developed Compass to make microanalysis more objective; to automatically identify and chemically characterize large areas of microstructure and large numbers of particulates; to comprehensively analyze such things as semiconductors, metals, ceramics, brazes, minerals; and to automate the microanalysis component of failure analysis," Paul Kotula says.

The principal applications of Compass are comprehensive, objective, and automated microanalysis of any material where it is desired to know the distribution of all the chemical components present, whether expected or not. The

*(Continued on page 5)*

# Sandia LabNews

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## Interfacial Bioscience Grand Challenge seeks to understand protein interactions

By Chris Burroughs

*This is the second in a series of Lab News articles on Sandia's biotechnology initiatives.*

Joe Schoeniger (8130) is quick to comment, "If you go after a difficult problem, you might as well go after an important difficult problem."

That's exactly what he, as principal investigator; Len Napolitano (8130), as project manager; and a team of about 30 scientists from California and New Mexico are doing as they strive to better comprehend communication across cell membranes via protein interactions. The research project — Interfacial Bioscience Grand Challenge (IBIG) — is part of a two-year-old internally funded Laboratory Directed Research and Development (LDRD) Grand Challenge.

In particular, the IBIG project team is trying to understand the mechanisms of "signaling and intoxication" through which biological agents, such as anthrax or botulism, might enter a body's cells and try to kill them, or interfere with the

body's internal signaling systems. This is the kind of knowledge needed to develop new detection methods or drugs that will block the agents.

The cell membrane is a water-insoluble lipid bilayer surrounding a cell, studded with membrane proteins (MPs) that control what goes in or out of the cell. In order for a bacterial toxin to penetrate an MP, it must first bind to a receptor on the cell membrane. A pore is then created through which the toxic agent migrates into the cell.

"Because deadly biological agents enter cells in this fashion, finding a way to obstruct their entry would have a large scientific impact," Joe says. "It would be a significant contribution to biomedicine and could be an important bioterrorism countermeasure."

At the heart of the project is development of unique experimental and computational capabilities for understanding membrane protein structure. The challenge is to integrate a core of technologies that can provide structural and

*(Continued on page 4)*

## Bob Eagan discusses Energy & Critical Infrastructure SBU



BOB EAGAN, Energy & Critical Infrastructure SBU leader and VP 6000, talks about Sandia's ability to respond broadly to all types of security issues in a story by Larry Perrine on page 6. The interview is the first of a series of *Lab News* articles about Sandia's four Strategic Business Units (SBUs) and two Strategic Management Units (SMUs).

## Lockheed Martin honors all Sandia employees for exceptional national service

During the gala Employee Recognition Awards banquet June 29 (see pages 8-12), Lockheed Martin's Mike Camardo presented Sandia President Paul Robinson with an award from Lockheed Martin Technology Services to all employees of Sandia for their exceptional service to the nation following Sept. 11.

Camardo is executive vice president of Lockheed Martin, in charge of the Technology Services business area, which oversees Sandia for DOE and the National Nuclear Security Administration.

"Lockheed Martin Technology Services is always proud to be associated with Sandia National Laboratories," said Camardo. "I am constantly in awe at the many amazing things you do to help our nation. Sandia's long record of exceptional service to America was never

*(Continued on page 13)*



3 Distributed Information Systems Lab breaks ground in California

8 Sandia Employee Recognition Night 2002 honors 56 individuals, 67 teams

# What's What

In his tireless struggle against profligate waste, The Energy Nag – aka Senior Scientist Al Zelicoff (5320) – reports that the “June tallies for our Bldg. 810 Energy Consumption are in, and are the best yet when weather factors are considered.” By proselytizing fellow building residents and tweaking the utility systems, The Nag and his sidekick Bob Washington (10844) managed to cut electricity use by 20 percent for a significant cost saving, but “what is more important to me, over 60 metric tons of CO<sub>2</sub> not dumped into the atmosphere, along with more than 100,000 gallons of water not evaporated for cooling. Not bad,” he says.

More about The Nag and his crusade in a future *Lab News* story.

\* \* \*

General MacArthur might have been right about old soldiers never dying, “. . . they just fade away,” but old (uh. . . make that seasoned) PR guys don't even fade away, it seems.

Retired – and well-seasoned – former Sandia PR chief Jim Mitchell flew back home to Albuquerque last week after several days in the St. Louis operations center of the historic Steve Fossett balloon flight. Fossett went into the record books July 2 after two weeks aloft, traveling more than 21,000 miles and becoming the first person to fly a balloon solo around the world.

Jim's role in that venture was to provide historical perspective, and there are few – if any – with better perspective on historic balloon flights. His goes back to the earliest ballooning days of the late Maxie Anderson, the Albuquerque aeronaut who with Ben Abruzzo and Larry Newman crewed the first trans-Atlantic balloon flight.

Part of Jim's job in the Washington University operations center was overseeing the efforts of students who volunteered to write news releases about the flight. And being the old (uh. . . seasoned) pro that he is, you can bet that was an education for them.

\* \* \*

A couple of weeks ago, a dark brown, two-inches-or-so-long something scampered across the floor in the executive suite. “Did you see that roach?” someone just about shouted. “Roach?” just-about shouted someone else. “My gosh! I thought it was a mouse!”

Insect or mammal, the folks weren't having a Boone & Crockett-class “undesireable” in that rarified part of the building and they called Telecon. To show their concern was being addressed without delay, Telecon sent for help and cc'ed the executive suite on an e-mail message:

“Giant roaches in executive suite; send exterminator ASAP.”

\* \* \*

Driving back and forth between my Nob Hill digs and a friend's boatyard in Corrales recently to scrape, clean, sand, and paint the bottom of my sailboat, I discovered a puzzle. Along West La Entrada in Corrales there are two speed bumps and one speed hump, and for the life of me, I can't figure out what makes two of them bumps and the other one a hump.

Anybody know the difference between a speed bump and a speed hump?

– Howard Kercheval (844-7842, MS 0165, hckerch@sandia.gov)

## Tom Mancini receives Yellott award for leadership in solar energy engineering

Tom Mancini of Solar Thermal Technology Dept. 6216 received the American Society of Mechanical Engineers Solar Energy Division's John I. Yellott award at the Solar 2002 solar energy conference in Reno, Nev., in June.

The award, the highest honor given by the Solar Energy Division, recognizes an outstanding individual in the field of solar energy engineering. It is given no more than once every two years.

Tom was recognized for “his outstanding record of achievement, leadership, and service to the solar energy engineering community.” The award was presented by Division Chair Stan Kleis of the University of Houston.



TOM MANCINI

Before coming to Sandia in 1985, Tom was a member of the faculty of mechanical engineering at New Mexico State University for 10 years, where he advanced through the ranks from assistant professor to full professor. In 1985 he came to Sandia as a member of technical staff in the Solar Thermal Technology Department, and in 1995 he became a Distinguished Member of Technical Staff.

Tom is known internationally for his leadership and work in the area of solar concentrators and their applications to solar energy power generation, Kleis said in presenting the award. He has also been active in Solar Energy Division and ASME leadership. He joined the SED Executive Committee in 1989 and was Chair of the Division in 1991-92. He was elected a Fellow of ASME in 1994, and he currently chairs the Council on Engineering Energy Committee. This committee produced an energy R&D needs document for the Bush administration and lawmakers in Congress in 2001. He has also led the committee in developing testimony provided Congress on the DOE energy R&D funding legislation in each of the past two years.

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## Z-Beamlet, Mail Safety teams win NOVA Awards

This year two Sandia teams are among the 50 individuals and teams winning Lockheed Martin's 2002 NOVA Awards. Both teams were Employee Recognition Award winners on June 29. (See pages 8-12 for a complete list of all ERA-winning teams.)

The NOVA-award-winning Sandia teams are:

- The Z-Beamlet Backlighter Team, nominated by Keith Matzen (1670), and represented by John Porter (1673). See p. 12 for complete team listing.

- The Mail Safety Team, nominated by

## Retiree deaths

James M. Munyon (age 89).....Dec. 23  
Ralph K. Fries (87).....March 3  
Mary Beth Brown (65).....March 10  
Daris M. Fuller (91).....March 11  
Paul F. Bahr (81).....March 11  
Mary D. McClure (87).....March 13  
Joseph Suknot, Jr. (85).....March 17  
John V. Willems (78).....March 20  
Roselyn L. Baca (72).....March 20  
Wilson M. Payne (79).....March 21  
Edward L. Smith (69).....March 24  
Phillip S. Young (83).....March 26  
James M. Caller (97).....April 16  
Cyrus D. Hall (80).....April 17  
Frank Petrini (79).....April 18  
Antonio G. Torres (70).....April 18  
Arthur R. Engquist (77).....April 22  
Pete N. Saavedra (88).....April 25  
John H. Snethen (68).....May 2  
J. R. Wimborough (87).....May 9

Malcolm Buttram (15330), and represented by Bob Turman (15335). See p. 9 for complete team listing.

Each team representative and a guest will be invited to attend the NOVA awards ceremony, scheduled for Sept. 27 at the Smithsonian Institution's National Air & Space Museum in Washington.

## Ralph Bonner to retire in December

Frank Figueroa, VP of Business Management Div. 10000 and Chief Financial Officer, issued this announcement to employees July 3:

“It is with great personal regret that I announce Ralph Bonner's decision to retire from Sandia after an exceptionally distinguished 41-year career. There are only a handful of Sandians who can claim a legacy I can characterize as sweeping and significant. Ralph Bonner is one of those select few.” [Ralph is Director of Financial Systems & Pension Fund Management Center 10300.]

“It is Ralph's desire, and my intent, to retain his services in a consultant capacity after his retirement in December. Future announcements regarding succession and realignment of responsibilities will be made later this year.

“Please join me in honoring Ralph's decision, and in supporting the transition through the rest of this year.”

# Site's computing centerpiece starts construction

**'A very exciting symbol,' Distributed Information Systems Lab breaks ground**

By Nancy Garcia

"A very exciting symbol for the future of this site," is how California Laboratory VP Mim John (8000) described the significance of the location and mission of the Distributed Information Systems Laboratory (DISL) at a groundbreaking ceremony June 12.

The 70,000-square-foot facility will face the site's central courtyard. The work conducted in DISL will help realize the vision to transform engineering in the twenty-first century and the role Sandia will play in that transformation.

DISL is being built where Bldg. 913 once stood. Bldg. 913, one of the oldest buildings at the California site, had been a significant central hub during the era of designing, building, and testing weapons (*Lab News*, April 21, 2000). DISL "is really going to be a vehicle of change for our site," program manager Steve Carpenter (8945) said. The new building "will be a major step to ushering in a new era of modeling and simulation to support design for the nuclear weapons complex."

Tom Hunter, Senior VP for Defense Programs (9000), advocated replacing Bldg. 913 with DISL during his tenure as the site's vice president. "We believed this center should be around something that was vibrant, modern, and new," he

remarked.

Mim pointed out that Sandia's vision for seamlessly integrating information technology with weapons design is now a step closer to reality. The \$36.3 million facility will house offices and labs for more than 130 Sandians and collaborators after it opens in 2004. The vision for such a facility was initiated at this site and supported by both the New Mexico site and DOE's Advanced Simulation and Computing (ASCI) program.

The building represents the first time the site has been able to bring together all its distributed information technology talents with its weapons systems engineers into one facility designed for that purpose "from the ground up," said Distributed

Information Systems Center

8900 Director Ken Washington.

Mim predicted the new facility will "play a critical, linking role in all our national security work," with state-of-the-art collaborative environments, an unclassified area for collaborations with industry and academia, and newly developed technologies to help link the other labs and weapons plants in the nuclear weapons complex.

"We wanted to make a statement that, here in the heart of the information technology revolution in California, we were a leader," said Tom. "The problems we're solving today were thought unthinkable, and we're going to be doing it routinely in DISL."



JOINING THE SPEAKERS in the ensuing DISL groundbreaking are Jamie Heard, left, Strategic Initiative Manager with DOE's Office of Stewardship Planning, Integration and Strategic Initiatives in the National Nuclear Security Administration; and Dave Wallace (8510), second from left, representing the California Site Operations Center. Beside them, from left, are Tom Hunter (9000), Ken Washington (8900), Mim John (8000), Bill Reed (NNSA), and Mike Vahle (9900).



THE DISTRIBUTED Information Systems Laboratory was designed by the Albuquerque architectural firm Dekker/Perich/Sabatini.

## Sandia California News

DISL's DOE sponsor, Bill Reed of the National Nuclear Security Administration's ASCI program, declared in his remarks prior to the ceremonial groundbreaking that he was pleased his program is supporting this new facility. He also noted Sandia's leadership in supporting the weapons programs through ASCI. "Sandia has clearly integrated modeling and simulation into the routine way of doing business," he said. "I hope you continue to accomplish great things."

Mike Vahle (9900), Sandia's program manager for ASCI, echoed that excitement as finally seeing the building come together. He emphasized that this building will be a key component in integrating information technology into the solutions for national security needs. He summed it up by saying, "Outstanding infrastructure enables talented people to do important work."

## Feedback

**Q:** Is there a limit on the pension I can receive? I was told that the plan could not pay more than 100% of my salary at the time of my retirement no matter how long I worked here. The new plan makes it possible to have my calculated benefit exceed that if I choose to keep working long enough.

**A:** The new Retirement Income Plan formula will not recognize credited pension service that exceeds 50 years. Consequently the formula will not produce a pension benefit that exceeds 100% of an employee's high-three average earnings, which is a limit on qualified plan benefits imposed by the Internal Revenue Code.

— Ralph Bonner (10300)  
\*\*\*

**Q:** Previous Feedback inquiries have addressed increasing the contribution percentage that employees can have placed in their 401(k) accounts. Has there been any discussion about periodic or even one-time contributions? For example, could employees contribute additional money if they had some "extra," or when annual non-permanent raises are distributed, would it be possible to designate that this non-permanent money be placed in the 401(k) account? Thanks for your reply.

**A:** Employees can contribute to the Sandia 401(k) Savings plan in two ways; a regular payroll deduction or a rollover from a prior employer. An ad hoc lump sum contribution would have to be done manually at Payroll and they are concerned over the possibility of input errors that would compound over time. Given these concerns, we are not planning to add the capability of lump sum contributions.

— Ralph Bonner (10300)

## Spinoff company obtains license for 'Mobile Monolith'



SEALING THE DEAL — Don Arnold, left, and Center 8300 Director Bill McLean shake hands after signing a license agreement in April in which microfluidic valve technology known as the "Mobile Monolith" was licensed from Sandia to the spin-off company Eksigent. Don, on entrepreneurial leave from Sandia, is co-founder of the start-up, which develops technologies enabled by electrokinetic micropumps. Created by Tim Shepodd (8722), Jason Rehm (on entrepreneurial leave with Eksigent), and Charlie Hasselbrink (at the University of Michigan), Sandia's valves are polymerized in place by shining light on reagents in a microchannel. The resulting polymer plugs slide back and forth due to changes in pressure, plugging or unplugging side channels to route fluids. The license covers several applications including medical diagnostics and medical devices.

# IBIG

(Continued from page 1)

functional information about membrane systems at the molecular level. Such technologies include methods for determining protein structure using mass spectrometry; a suite of novel scanning probe microscopes; and state-of-the-art membrane-simulation capabilities using massively parallel computers.

"The completion of the human genome project has created a unique opportunity for breakthrough technologies with broad impact in chem/bio defense and healthcare," Len says. "Based on Sandia's existing capabilities in bioanalytical technology, computer science, and surface science, this project is directed at developing new technologies for analyzing the interactions of cell membrane systems which should catalyze a similar leap forward, creating a unique niche for Sandia in biotechnology."

As part of the Grand Challenge, the researchers ask three key scientific questions: What is the structure of the membrane protein when it is situated in the membrane? How does the structure change in response to a signal or an intoxicating agent? How does this structure change the function of the protein?

## Core teams

To answer these questions, the IBIG project was organized with three technical cores: imaging, structure, and simulation.

The imaging core team — Alan Burns (1141), Darryl Sasaki (1141), Susan Brozik (1744), Bob Hughes (1744), Kerwin Evans (1141), and Julie Last (1141) — uses scanning probe microscopy and single-molecule biophysical measurement to connect structural changes with function.

The structure core is based on a new technology for determining protein structure originally developed by Malin Young (8130) and her collaborators at the University of California/San Francisco, the Buck Institute, and Chiron Corporation. It uses protein chemistry and mass spectrometry methods to obtain structural information about protein molecules in different functional states. Working in this area are Malin, Joe, Gary Kruppa (8360), Masood Hadi, Saul Datwyler, Camille Troup, Todd Lane, Joanne Volponi, Janaki Gokhale, Joohee Hong, Rick Jacobsen, and Pamela Lane (all 8130).

The simulation core provides computational tools to build protein structure/function models and test underlying assumptions. Simulation core team members are Malin, Jean-Loup Faulon (9212), Danny Rintoul (9212), Mark Stevens (9235), Alex Slepoy (9235), Paul Crozier (9235),



GRAND CHALLENGE — Len Napolitano, left, and Joe Schoeniger (both 8130) lead the Interfacial Bioscience Grand Challenge, which strives to better comprehend communication across cell membranes via protein interactions.

(Photo by Bud Pelletier)

and Laura Frink (9212).

## Major accomplishments

Joe says during 2001, the first year of the Grand Challenge, the IBIG project made significant progress toward both the experimental and computational goals.

One of the major accomplishments was implementation of an automated experimental and data analysis pipeline that will determine intra-atomic distances in membrane proteins. This was done through the use of chemical crosslinkers and Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FTICR/MS). (See "Membrane proteins play role in causing healthy cells to get sick" below.) These crosslinkers consist of two reactive groups joined by a linker arm of a certain length, and are used kind of like a molecular caliper. The end groups can react with certain amino acid residues on the protein, but only if these residues are the right distance apart.

Modern ultrasensitive, high-resolution mass spectrometry can determine, in hindsight, which residues were linked, and therefore how far apart they are. Different crosslinkers are used to determine the range of distances between different residues on the protein.

Joe adds that this is an entirely new methodology that has only been made possible in the past couple of years through advances in mass spectrometry and data analysis.

"Using the unique capabilities of FTICR/MS, we can ionize and fragment the whole protein to find out what parts are crosslinked to, and thus close to, other parts," Joe says. "Or we can first cut up the crosslinked protein into small peptide seg-

ments using chemicals or enzymes and analyze the peptides in more detail."

The team has also written specialized software to determine all membrane structures compatible with a given set of constraints. This allows using crosslinking-based information to build structure models, allowing further experimental refinement.

Also, a state-of-the-art computer code simulates the molecular dynamics and energetics of membrane proteins. Called LAMPPS, it is used with the Labs' C-plant massively parallel computer. Running on 100 processors, it can simulate one nanosecond of protein motion per day. With access to Sandia's super-computing resources, this would enable world-record simulations for membrane protein ensembles of about 40,000 atoms. Simulation time scales on the order of 100 nanoseconds, combined with nonequilibrium simulation techniques, will allow a whole new range of biophysical problems to be addressed,

such as the significant changes in structure related to signaling.

The progress was noted recently by an external advisory committee, composed of bioscientists from universities and the National Institutes of Health (NIH), that reviewed the IBIG Grand Challenge. In a report, the committee said the project was "very possible, very powerful, unique."

"No one else in the world has assembled the team and resources you have here and focused these on the highly compelling and daunting challenge of membrane proteins," the committee said. "You have huge potential for significant payoff and recognition, especially in the application of mass spectrometry and chemical crosslinking to membrane structure determination. If you reach your goals, Sandia National Labs will be the definitive cutting edge in a tremendously important area of bioscience."



**See more on IBIG on  
the next page**

## Membrane proteins play role in causing healthy cells to get sick

By Nancy Garcia

Researchers working on the Interfacial Bioscience (IBIG) project have learned a lot over the past two years about the role membrane proteins play in causing healthy cellular processes to go awry during illness or injury.

When a pathogen exploits the presence of a protein on a cell membrane to infect the cell, or a toxin specifically docks against a surface protein like an interlocking puzzle piece, the cell often spews out short-lived messenger compounds. This is much like the way signals are relayed after a switchboard operator patches a caller through to a phone extension.

A goal of IBIG is to better understand such signal pathways — the series of molecules that relay information between and within cells, something like a "bucket brigade" lining up to quench a fire. Also the researchers want to discern the course of cell poisoning so the outcome might be prevented.

The IBIG team is trying to develop computer simulations and models of toxin and signal-molecule interactions with cell membranes. They are

investigating the structure of the proteins themselves (coiled into shapes something like knotted skeins of wool), their interactions, and dynamics of membranes.

"We think there's room for some cross-cutting efforts that are going to be valuable in this area," says Joe Schoeniger (8130), IBIG principal investigator.

For instance, biology has been benefiting from a high-throughput approach in which many permutations of structures and interactions are screened using computer science.

"We're trying to develop new experimental and computational tools and take steps to integrate them," Joe says.

Although membrane proteins are important, they are difficult to study with most techniques because they are not water-soluble. Nor are they as abundant as the proteins that exist within the watery interior of the cell. To amass sufficient quantities of protein in question, team members have raised membrane proteins in bacterial culture.

To investigate binding, complexes of membrane proteins attached to an agent are chemically linked, trimmed, then analyzed with mass spec-

trometry — which Joe calls a new kind of "microscope" to probe structural interactions.

Molecular dynamic simulations are being studied with the world's most sophisticated massively parallel code, and data analysis has been automated for researching the structural twists and turns of a model protein system, the light-sensitive visual protein rhodopsin, which is closely related to proteins that viruses interact with when they attack your immune system.

Using an atomic force microscope (AFM) in Albuquerque, the group was able to take images of single, isolated pores formed by cholera toxin molecules bound to the membrane. This result shows that it is feasible to use the AFM to study the interactions of toxins with membranes at the single-molecule level.

Joe says the results were accomplished surprisingly fast, and "we were really happy."

Sandians are collaborating with leading universities to look at the role of membrane proteins in normal neurotransmitter function and after exposure to nerve agents (such as botulism, a toxin that shuts down the firing of neurons to cause paralysis).

# R&D 100 Award

(Continued from page 1)

software can be applied in the areas of semiconductors, ceramics, metals, welding, brazing, soldering, forensics, failure analysis, atmospheric particulate analysis, and geology. In each of these cases, knowing the chemistry of a specimen is critical to understanding how processing affects microstructure and microchemistry, or for fingerprinting known materials for quantitative comparison to unknowns.

Paul says that Compass has “made a quantum leap over available products by automating a procedure that is tedious, time consuming, and fraught with artifacts.”

He says the software provides a fast, comprehensive analysis on a standard computer, will be able to retrofit tens of thousands of SEM instruments already equipped with energy-dispersive X-ray analyzers (EDS) for automated chemical

analysis, and requires no prior knowledge of the chemistry of the sample. Also, the failure analysis portion of the software is faster and more reliable than competitive products and it can chemically analyze thousands of particles in minutes.

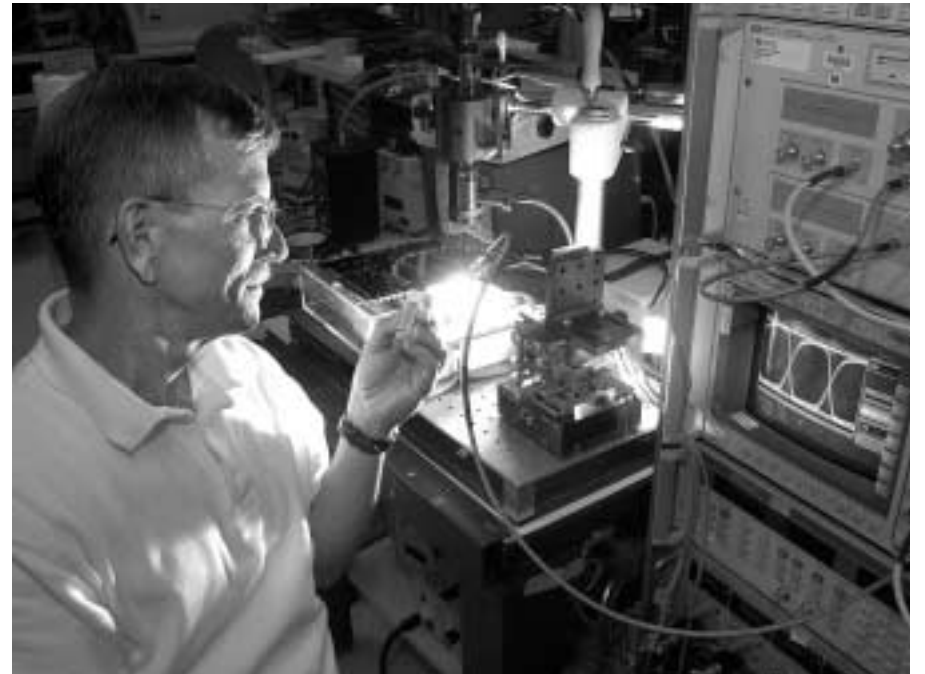
## Transponder

EMCORE and Sandia teamed up to develop a high-speed optical transponder module (*Lab News*, June 15, 2001) that promises to make very short-reach (less than 300 meters) fiber optic communications less expensive. The MTR8500 VSR Parallel Array Transponder represents a breakthrough in cost reduction for 10-gigabit-per-second very short reach fiber-optic data communications and is scalable to higher data rate systems.

“The world has the potential to benefit enormously from being interconnected,” says Mike Daily, Manager of Sandia’s Integrated Microsystems Dept. 1738. “Since 75 percent of optical interconnects are in this very short reach distance class, drastic reductions in interconnect price will open the information age to more and more people in more ways.”

Cost of the new system is reduced by trading off interconnect distance for less expensive technologies, resulting in very low cost, high-speed data interconnects.

Instead of using a single high-quality expensive fiber for serial data transmission, a low-cost, 12-parallel-channel multimode fiber ribbon cable is used. And instead of using a single, expensive



DAVE PETERSON was a member of the MTR8500 Very Short Reach (VSR) OC-192 Parallel Array Transponder Module team that received an R&D 100 Award.

(Photo by Randy Montoya)

10-gigabit-per-second edge-emitting semiconductor laser, a low-cost, single-chip array of 12 vertical cavity surface emitting lasers (VCSELs) and detectors are used. Since the conversion of signals from electrical-to-optical and optical-to-electrical is occurring at speeds a factor of 10 less than in current products, lower cost optoelectronics and packaging can be used.

Most important, the ability to implement these parallel channels in a low-cost way is made possible by proprietary microsystem assembly technologies developed and patented by Sandia and EMCORE.

Not only is the transceiver cost effective, it also is easy-to-use and provides a transparent interconnect solution for users. They only have to feed electronic digital data in one end and receive electronic digital data at the receiving end.

— Chris Burroughs

## Transponder inventors

From Sandia: Ronald Anderson (1738), Marcelino Armendariz (1751), Johnny Baca (1738), Dante Berry (2612), Daniel Barton (1739), Dahwey Chu (1730), Michael Daily (1738), Peter Dudley (2341), Edwin Duckett (2565), Rachel Giunta (14172), Anthony Griego (2565), Shanalyn Kemme (1743), Dale Leonard (2332), Robert Mitchell (1745), John Nevers (1743), David Peterson (1738), Cathleen Reber (5744), Merideth Rising (1832), Terrance Smith (14111), Belinda Tafoya-Porras (1745), and Daniel Urenda (2341).

From EMCORE: Sharon Benson, Dave Busse, Robert Bryan, Richard Carson, Al Cobb, David Maine, Frederick McCormick, Phil Ortiz, Gary Peterson, Barry Whitmore, Lei Yang, Matt York, and Lei Zhang.

## Biosystems Research Dept. like a start-up company

Biosystems Research Dept. 8130, the two-year-old department at Sandia/California established to do biotechnology research, is unlike many at the Labs.

“I think there is a different environment here than in much of Sandia,” says Len Napolitano, Dept. 8130 Manager. “The average age of the department is in the low 30s with lots of young people just out of college, so there is not

a lot of institutional precedent for what they are supposed to do and how they are supposed

to do it. They are enthusiastic and want to make a mark. They are working in a new area where they get the chance to explore their own energies and ideas and make a real contribution to our nation’s security.”

In some way, he adds, the department feels more like a start-up company.

“All of the people may not be in the office right at 8 a.m., but if you want to call a meeting at 5 p.m., no one complains because everyone works late,” Len says.

The roughly 30 department members are a diverse mix of experienced Sandians from other departments and younger scientists, representing a range of disciplines, from top-notch schools. New staff and postdocs include chemical engineers, molecular biologists, computational biologists, and six bachelors’ and masters’-level technologists with experience in protein expression, organic chemistry, mass spec-

*“I think there is a different environment here than in much of Sandia.”*

trometry, and biochemistry.

The office space in Mobile 51 (which the staff have nicknamed “Area 51”), the portable building where the department is housed with Microfluidics Dept. 8358 and some staff from centers 8700 and 9200, has a unique look and feel. For example, there’s an open area (site of a future conference room) where someone noticed that the floor monuments sporting electrical outlets for an abandoned cubicle area were positioned in closely spaced pairs that would make a great maze for playing croquet. Shortly after, croquet mallets and balls appeared and people started after-hours croquet matches. The monuments are long since gone, but the games on the now-virtual course continue.

And there’s the message board at the entry of the building welcoming newcomers. During the course of the day, department members take delight in juggling the letters to create new messages.

And there are the laboratories where the department members run experiments. They certainly aren’t like most other Sandia labs. The petri dishes, distinctive odor of steaming nutrients and agar, and “growing things” indicate that something different is going on here.

The laboratory building itself was converted to the Chemical and Radiation Detection Lab from the decommissioned Tritium Research Laboratory. Initial discussions were to tear it down after it was no longer needed. Len, along with others, championed using it for labs for several departments. Today the laboratory building contains eight Level 2 biosafety labs.

— C.B. & N.G.

## Al Romig on IBIG

Al Romig, VP 1000, noted the following about the Interfacial Bioscience (IBIG) Grand Challenge:

“Sandia’s bio-program has two major elements, one intended to address the immediate bio-threat and the second to address longer term research opportunities in bio-science and technology.

“A clear mission of the laboratory for the National Nuclear Security Administration [NNSA] in the area of nonproliferation of weapons of mass destruction is the detection and mitigation of bio-weapons both as they might be used on the battlefield or in a terrorist act. IBIG’s efforts to understand and control the ‘infection’ process may directly impact our ability to deal with this threat.

“A second clear mission of this laboratory for NNSA is pursuing cutting-edge science and technology. Discoveries emerging at the interface between the physical and life sciences are certainly a part of this cutting-edge science and will undoubtedly lead to new materials and devices which will be important to the products, including those used in national security applications, of tomorrow. Hence, the basic understanding of the functioning of a cell membrane will lead to important discoveries in creating the new bio-inspired materials and devices. IBIG is a winner in both of these contexts.”

## Proteomics and genomics

With the realization that proteins are the molecular machines that carry out cell functions, a new field of characterizing proteins has arisen. It is called “proteomics,” akin to “genomics” — the study of genetic blueprints that orchestrate protein production. Since it is the structure of proteins that carries out their functions, structural biology has also become an important new field.

IBIG, says Joe Schoeniger, addresses the joining of proteomics and structural biology, especially with regard to the cell membrane.

“We have a longstanding history here at Sandia of studying interfaces,” he says. “It often tends to be the interface of metal and vacuums, but some of the tools carry over.”

# What's hot in the Energy & Critical Infrastructure SBU?

## Series to highlight activities in strategic business and management units

By Larry Perrine

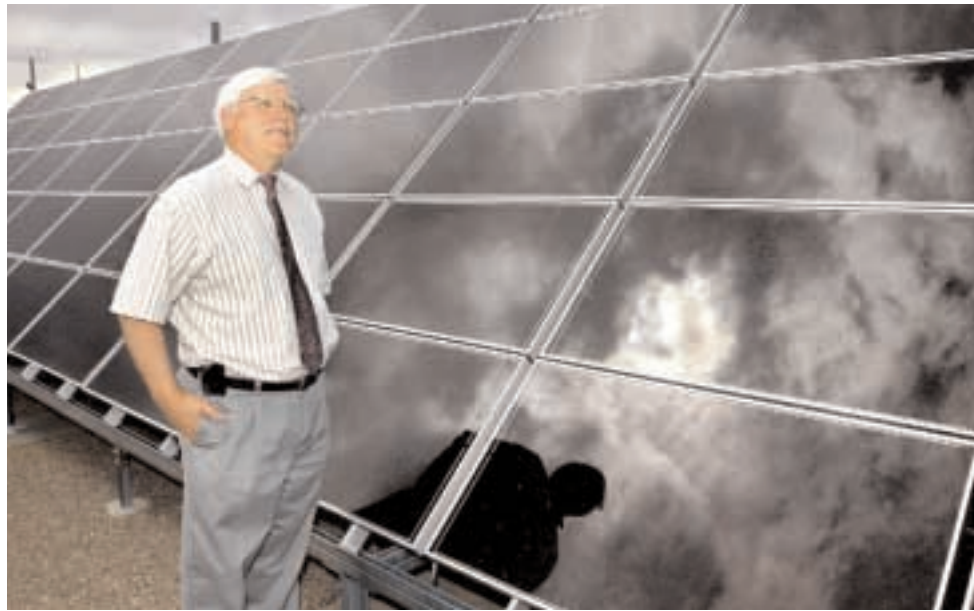
This is the first in a series of Lab News articles about Sandia's four Strategic Business Units (SBUs) and two Strategic Management Units (SMUs), discussing current programs, evolving opportunities, and how 9/11 and the volatile world situation may be changing their focus and Sandia's as a whole.

Based on interviews with each SBU/SMU leader, the articles will be published every few months. They are not intended to review all programs in each unit, go into great detail, or focus on individuals, but rather to highlight "hot projects" and new directions and give employees some insight into the thinking of these leaders. The Lab News will continue doing regular feature stories on interesting technical programs and projects, so many of those mentioned briefly in this series and the people involved will get more coverage down the line.

We begin with the \$210 million Energy and Critical Infrastructure Strategic Business Unit, led by Bob Eagan. Bob's responsibilities include energy-related projects in fossil and renewable energy, geosciences, environmental restoration, nuclear power safety, information surety, and programs dealing with the safety and security of commercial aviation and infrastructure protection. More than 80 percent of these programs include industrial or academic partners. Bob is also Vice President of Sandia's 950-person Energy, Information, and Infrastructure Surety Division.

The 9/11 terrorist attacks on the US, continuing terrorism concerns, and increasingly volatile situations around the world all confirm that Sandia made a wise move in the mid-1990s by expanding its focus into all kinds of national security issues.

Energy and Critical Infrastructure (E&CI) SBU leader Bob Eagan points out that national security



BOB EAGAN, Energy & Critical Infrastructure SBU leader and VP 6000, says Sandia's ability to respond broadly to all types of security issues is paying off for the nation and the Labs, and has enhanced Sandia's national visibility and reputation. Bob is seen here with an array of solar panels in a Labs photovoltaic test area. (Photo by Randy Montoya)

involves much more than military forces and weapons. It also involves ensuring that we have adequate, safe energy and water supplies and well-protected infrastructures for information dissemination, transportation, and energy production/distribution. And that's what his SBU is all about.

While some Sandians say they still don't fully understand the Labs' Strategic Business Unit/Strategic Management Unit method of organization that went into effect four years ago, Bob thinks it's working pretty well and gaining momentum. Sandia's four SBUs and two SMUs manage, direct, and coordinate the Labs' technical work and partnerships (see box). The SBU/SMU leaders work closely with one another to ensure cooperation and coordination among their units.

Many Sandia projects today cut across SBU/SMU boundaries and involve researchers from several of the units. Sandia President Paul Robinson has made it clear he expects SBU and SMU leaders to form teaming relationships across their units to make Sandia user friendly and responsive to customers, and Bob says this is paying dividends.

### What gets Bob going?

When asked about what projects really excite him about coming to work today, Bob cited Sandia's water initiative, the "Global Nuclear Future," critical infrastructure protection, and border security/economics issues.

**Water initiative:** "We made the right decision to focus an initiative on water," he says. "That is becoming more and more important, and under Peter Davies' [6100] leadership we have become one of the major resources in the country to look at water issues broadly. We see this continuing to grow through the efforts of both Senator Domenici and Senator Bingaman who strongly support our work."

Water quality is a major issue in New Mexico and much of the West, especially the "arsenic problem," he says, noting that Sandia has already announced promising technology for removing arsenic inexpensively from water supplies and that field tests will soon be under way.

"After 9/11, national concern soon grew over water systems vulnerability, and our people working with infrastructure protection experts in Dennis Miyoshi's group [5800] quickly gained national attention," says Bob. "We were invited by the EPA [Environmental Protection Agency] to help them put together a program that taught water systems people throughout the US how to assess their vulnerabilities. So we've 'married' our capabilities to become the national security lab for water systems. I'm excited about that because it reaches across the laboratory to bring a lot of strengths together."

**Global Nuclear Future:** The Global Nuclear Future is a vision and program put together by Bob, Roger Hagengruber (former Senior VP 5000, now on a special assignment before retiring next

year), and Senior VP 9000 Tom Hunter. They believe it is time for a new era of nuclear power in the world and for the US to again become a key player after more than two decades on the sideline.

"We have been working on this for several years," says Bob, "and we're seeing results now in the Bush/Putin dialogue and the things we expect to come out of that. They agreed to have a study on new fuel cycles in the future that would look at making them proliferation-resistant as well as economically viable. That came out of what we've been espousing for the past few years. Our approach has been to help policy-makers understand how all things nuclear are intertwined and then they can change policy. It is all tied together, it is integrated ... unlike the way nuclear programs are managed within the government. Out of this may come funds for the laboratory to do some exciting work we'd like to do."

Bob credits Tom Sanders, Manager of Nuclear Initiatives Dept. 6406, with providing strong leadership for this vision and carrying it forward.

(Note: The Spring 2002 *Sandia Technology* quarterly goes into great detail about the Global Nuclear Future program. To obtain a copy, contact Michelle Fleming at 505-844-4902 or [meflemi@sandia.gov](mailto:meflemi@sandia.gov).)

**Critical infrastructure protection:** While he's excited about Sandia's work and strong capabilities in this area, Bob says it is becoming a major challenge staying focused because so many government agencies are fighting over "who is going to own it."

Sandia has a solid record developing and modeling technology and methodology to protect and ensure the reliability of US energy, transportation, emergency services, and information infrastructure systems, becoming very active in this area five or six years ago when Executive VP Joan Woodard (then VP 6000) cranked up new programs. "Her early efforts and the work that Sam Varnado [6500] and many others have been doing to demonstrate our capabilities have been gaining Sandia a lot of visibility," Bob says.

He says major support for the relatively new NISAC (National Infrastructure Simulation and Analysis Center) had been building rapidly and that 9/11 really accelerated interest in its potential. A joint center with Los Alamos National Lab and involving educational partners MIT, Purdue, and others, NISAC will provide modeling, simulation, and analysis of the nation's infrastructures, emphasizing interdependencies. Bob says NISAC grew out of the vision that Congresswoman Heather Wilson had that Sandia and LANL should pool resources to look at the problem of infrastructure security.

**Border security/economics:** "Recently, it's become apparent that borders are a huge issue for

(Continued on next page)



WATER MODEL — Sandia's water initiative has developed modeling technology to calculate future water resources resulting from various policy decisions. Here model co-developer Steve Conrad (6515) demonstrates it to Sen. Jeff Bingaman, D-N.M., and others during one of Bingaman's Sandia visits.

## Sandia's strategic business and management units

Here are Sandia's four Strategic Business Units (SBUs) and two Strategic Management Units (SMUs), with their VP owners and missions. The *Lab News* plans to interview all of these leaders about "what's hot" in their units and publish them in coming months.

- **Emerging Threats SBU** — Owner: Jim Tegnolia. "We will develop high impact responses to emerging national security threats."

- **Energy and Critical Infrastructure SBU** — Owner: Bob Eagan. "We will enhance the surety (safety, security, and reliability) of energy and other critical infrastructures."

- **Nonproliferation and Materials Control SBU** — Owner: David Nokes. "We will reduce the vulnerability of our nation to threats of (1) proliferation and use of weapons of mass destruction, (2) nuclear incidents, and (3) environmental damage."

- **Nuclear Weapons SBU** — Owner: Tom Hunter. "Our primary mission is to ensure that the nuclear weapons stockpile is safe, secure, and reliable and fully capable of supporting our nation's deterrence policy."

- **Partnerships SMU** — Owner: Al Romig. "Our mission is to provide business leadership to develop new lines of business and establish technology partnerships that enhance Sandia's ability to achieve its strategic objectives, fulfill its mission, build constituencies, and generate revenues."

- **Science and Technology SMU** — Owner: Al Romig. "Our mission is to ensure that the right science and technology are available and provide differentiating strengths to Sandia's Strategic Business and Management Units."

this country,” Bob says. “How do you manage the borders, both from the movement of goods and people back and forth? And in the case of the border with Mexico, how do you do all that without impeding the economics along that area?”

He says Sandia is putting a program together under Margie Tatro’s (6200) leadership that is trying to look in a systematic way at the issues around border protection, economics, and health. “We’re looking at it in a global way and trying to distill that down into a set of potential actions. We’re just in the formative stages, and Margie has a cross-laboratory team that’s examining these issues.”

### What keeps Bob awake?

When asked “what keeps you awake at night,” Bob first cites something that’s keeping lots of people awake — the threat of a biological attack. “This is the most terrifying scenario, because if it happens we won’t know it until we are well into it.” He also fears the threat of so-called “dirty bombs” that could spread radioactive materials and cause some degree of public panic.

“Our role in this business unit is to try to look at all the issues around our infrastructure and determine what we can do to both protect it and then resurrect it if something drastic were to happen,” he says. “Other parts of the laboratory are looking at other aspects of terrorist attacks in the US.

“I think the President is exactly on target when he says this is the number one issue and it’s going to be there a long time,” Bob continues. “But we can’t let it completely dominate our lives. There are so many other important issues.”

Among others, he cites global warming and greenhouse gases. “You might haggle over the impact that carbon dioxide going up 50 percent or so would have on our global environment,” he says, “but the fact is if we stay on our current path, it will more than triple by 2050 ... and that seems like a really risky thing to do because we have no models that allow us to understand what the impact would be. One thing we do know is that once this happens, it will be irreversible for a long, long time.

“We can make some contributions here. Simply understanding what would happen and putting it in terms that policymakers can look at and decide what to do to reverse those trends would be a big contribution.”

Bob is also concerned that the US political system can be too cumbersome and slow dealing with difficult problems. “Our system has a hard time looking at really complicated problems,” he says, “because it’s parsed up in little pieces, and our homeland security is certainly an example of that. It’s spread among dozens, literally dozens of agencies, all of whom have to be coordinated to some degree to successfully ward off attacks. I’m discouraged that we haven’t figured out how to bring that



ENERGY SECURITY — Sandia works closely with DOE and other national labs to provide and promote technology to protect the nation’s energy infrastructure. Here Sam Varnado (Director 6500) explains physical protection technology to *Nature* magazine reporter Geoff Brumfiel at a February 2002 DOE energy security technology expo in Washington, D.C.

together better. I have a very high regard for Governor [Homeland Security Director Tom] Ridge, but he has a next-to-impossible job.” [Note: *The interview with Bob took place before the President proposed a new cabinet-level Homeland Security department.*]

### Sandia’s visibility and reputation grow

The *Lab News* asked Bob about the notion that Sandia has become much more visible and recognized for outstanding technical contributions to national security.

“Our visibility has come up substantially in the last few years,” he says, “and that’s partly because we began several years ago thinking about problems that other R&D groups tended not to think about. I’ve had a couple of people actually come up and thank me for the fact that Sandia had the foresight to ‘think about the unthinkable,’ such as the terrorist attacks on the US, and develop technologies and models that allowed us to understand how to respond relatively quickly.

“Our strategic planning that began in the mid-90s to become a national security laboratory and position Sandia to respond broadly to all types of security issues is paying off for us, and more importantly, for our nation, as the *Lab News* has documented well since 9/11. A lot of the investments that Paul and Joan and other Sandia leaders encouraged positioned us to respond quickly when 9/11 occurred.”

Bob points out with a bit of a wry smile that many of Sandia’s investments that are contributing the most to the war on terrorism were made through our LDRD (Laboratory Directed Research and Development) program, which has had some critics in recent years. The critics suddenly grew quiet.

### Other SBU programs

Bob spoke with pride about other programs and people in his SBU and division, but space constraints don’t allow detailed coverage in this article. However, here are some short notes and quotes from him about a few of these areas:

- “We’ve been doing work for the Nuclear Regulatory Commission on the safety of nuclear power plants from natural accidents for a long time, and we’ve extended that ... to attack scenarios now. There’s been a lot of concern raised about transportation of these materials. My personal view is that it’s a relatively remote possibility in both cases. That’s not to say it can’t be done, but there are so many other targets that are ‘softer’ that terrorists are not likely to go after something that hard.”

- “... we only get about 15 percent of our oil out of the Middle East now, where Japan gets a far higher percentage. But it’s a global market, so it doesn’t make any difference if the Middle East were shut down — there would be shortages worldwide. And as the largest energy consumer per capita we would feel the most pain.”

- “We think the movement toward hydro-

gen fuel is right ... that investing in long-term, high-risk research is where the federal government should be playing a role. We go further in asking where the hydrogen will come from, and that takes us back to nuclear energy again, because advanced reactors ... could generate hydrogen along with the electricity. Our best estimate, though, is that the ‘hydrogen economy’ is 20 to 30 years away.” Bob says Sandia/California’s long association with hydrogen-related products for nuclear weapons makes it a world-class center of excellence around hydrogen and that the Combustion Research Facility there has all the technology to look into other aspects of it.

- He says the greenhouse gas model and Global Nuclear Future models developed by Arnie Baker (6010) and his colleagues have proved very valuable. The greenhouse gas model was used by several national leaders — including Vice President Cheney to help prepare the Bush energy plan — to

allow them to see how changing the energy mix would alter greenhouse gases and provide energy security as well.

- Sandia has worked closely with Senator Bingaman and Senator Domenici to provide input to major pending energy legislation. While Bob believes some good, new programs will result, he says the US will remain largely

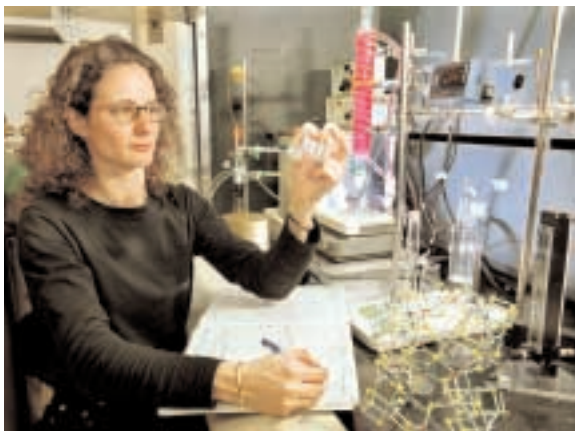


FISSION BATTERY? — Gary Rochau, Manager of Modeling and Analysis Dept. 6415, holds a cutaway model of a magnetically insulated fission electric cell. Gary’s group is planning a proof-of-principle experiment to demonstrate that electricity can be provided directly from fission, without boiling water.

dependent on fossil fuels for the next 20 or 30 years. Changing to new technologies “is going to be very, very expensive, so it’s going to be a relatively long-term switch.”

- The immediate future doesn’t promise any major new R&D programs for Sandia in alternative energy sources such as solar, wind, or geothermal, or in fossil fuel research, but Sandia has a history of steady accomplishments in these areas and will continue to work in them and partner with others as opportunities arise. Sandia continues to promote solar and wind energy systems and help optimize them in “niche markets” where the technology makes sense, such as remote areas on Native American lands and in isolated areas of Mexico with no access to electricity lines or other traditional energy systems.

- Bob says Sandia’s Environmental Restoration (ER) group “has done a fabulous job” and has a great safety record cleaning up the chemical waste landfill. “They’re doing it faster than the original schedule by a significant amount. The sad part is we could have completed it by now if adequate money had been available. Now we are looking at 2006.” He goes on to say that Sandia’s Waste Legacy R&D program has developed lots of advanced technology for cleaning up and monitoring hazardous waste sites and that Sandia is eager to transfer that technology and see it applied to the many DOE sites that must undergo long-term monitoring. Some of this technology is now being field tested in Nevada in a joint program with the Nevada Test Site.

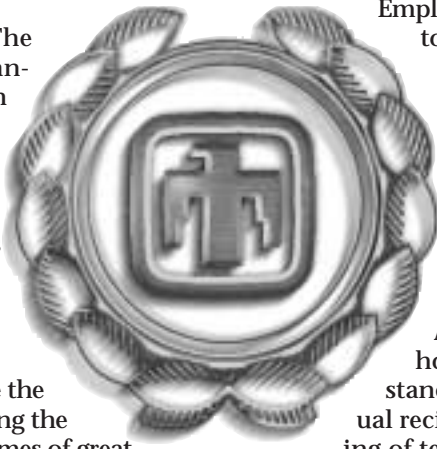


CHEMICAL TRAPS — Tina Nenoff of Sandia’s Environmental Monitoring and Characterization Dept. 6233 examines vials of crystallized SOMS (Sandia Octahedral Molecular Sieves) powder. The Labs developed SOMS cooperatively with several other national labs and universities, and it may be used to “capture” radioactive chemicals and metals from hazardous waste streams.

# Sandia Employee Recognition Night 2002 honors 56 individuals, 67 teams for exceptional achievements

The night had a thousand eyes — almost. Bobby Vee, the ageless rocker whose biggest hit was “The Night Has a Thousand Eyes,” entertained more than 300 Sandians and their guests at the annual Employee Recognition Night awards banquet on June 29 at the Hyatt Regency Tamaya Resort ballroom on Santa Ana Pueblo. The celebration banquet, which itself has earned a reputation for excellence and quality, is one of the ways the Labs says “thank you and congratulations” to individuals and teams selected in the annual Employee Recognition Awards process. This year, the awards honored 56 individuals and 67 teams for such qualities as leadership, technical excellence, and exceptional service.

“Your vision and talent, your dedication and hard work are the foundations upon which Sandia National Laboratories is building the trust of the nation and the world to deliver solutions in these times of great complexity,” said Labs President Paul Robinson in an introductory note to the



Employee Recognition Night program. “I thank each of you here tonight and all of the team members many of you represent.”

Said Executive VP Joan Woodard: “The Employee Recognition Awards program is a great addition to our rewards activities at the Lab. It has gotten better each year and is such a great way to say thanks to the heroes of the Labs. Each person and the teams they represent has done something special, beyond the normal, to contribute to the Labs’ mission. I so look forward each year, to coming to the awards banquet and joining the cheering section honoring all these great folks.”

Now in its eighth year, Sandia’s Employee Recognition Awards program carries on a tradition that since 1994 has honored Sandians — individuals and team members — for outstanding services rendered to Sandia and the nation. The individual recipients are pictured over the next few pages. A complete listing of team winners and team citations and the names of individual team members begins below.

## Individual honorees



Jocelyn Abeyta  
3111



Lorraine Baca  
2661



Sue Fae Ann Bender  
2552



Mark Biggs  
10310

## Team honorees

The 2002 Employee Recognition Awards program, continuing a trend begun several years ago year, again found divisions placing a special emphasis on team accomplishments.

The teams listed on the next three pages were deemed to have made exceptional contributions to an important program or process. A few representative teams are pictured.



SOUTH FORCE, part of the Protective Force Heightened Security Team, one of 67 Sandia teams honored with a 2002 Employee Recognition Award.



**Exceptional service**  
**Leadership**  
**Technical excellence**



John Brainard  
2564



Teddie Bruce  
9714



Donna Sue Campbell  
10305



Roger Case, Jr.  
5352

### Protective Force - Heightened Security

*Protective Force has made a significant contribution to the success of the heightened security, protecting national security interest, SNL, facilities, employees and our nation's needs.*

Grant Aguirre, Frank Alton, Andrew Aragon, Charles Aragon, Lawrence Armijo, Daniel Baca, Norman Baca, Kermiet Baker, Ronald Baker, Martina Baldonado, Daniel Barela, Gary Batson, Gregory Baum, Robert Beamon, Barbara Beggs, Michael Benavidez, Bill Boling, Joey Branch, Robert Brown, Willie Brown, Joe Campbell, Sean Carey, Duane Carr, Timothy Carr, Dennis Carrol, Joseph Castillo, Terence Chang, Jimmy Chavarillo, Edward Chavez, Erick Chavez, Josephine Chavez, Paul Chavez, Harold Clay, Frank Conrad, James Cook, Elizabeth Dees De Sanchez, Juan Delgado, Almer Dial, James Duffy, Raymond Duran, Michael Espinoza, Steven Etherington, Dwayne Fleming, Daniel Frampton, Daniel Funk, Alfred Garcia, Chris Garcia, David Garcia, Mario Garcia, Raymond Garcia, Eloy Giron, Angela Gonzales, Carlos Gonzales, Fernandez Gonzales, Phillip Gonzales, James Goodnight, Donnie Greene, Brian Griego, Orlando Griego, Bobby. Grimes, Samuel Gurule, Daniel Gutierrez, Larry Gutierrez, Daniel Harbour, Herman Herrera, General Holman III, Thelma Holman, Peter Irwin, Lawrence Jackson, Juan Jaramillo Jr., Alonzo Jeter, Willie Johns Jeffrey Johnson, Terry Keim, Constance Koch, Jesse Lopez, Albert Lucero, Walter Lucero, Frank Madalena Jr., Wes Martin II, Dale Martinez, Kenneth Martinez-Eubanks Louis Matthews, Ronald May, Gregory Maynard, Lawrence McCubbins Jr., R. Dale Meredith, Russell Mickey, Charles J. E. Montoya, Jessica Montoya, Pablo Montoya, Steven Moodie, Thomas Moquino Jr., Danny Moreno, Joseph Moreno, Scott Neely, Dwight Newell, Maunsell Nicholas, Clarence Olivas, Max Otero, Richard Otero, Joseph Padilla, Mike Padilla, Michael Padilla, Ruben Padilla, Mike Patton, Abram Prairie, Mark Quintana, Anthony Ramirez, Steve Rivera, Richard Rodarte, Paul Romero, Richard Salazar, Scott Sanderville, David Seabrook, Tommy Serna, Walter Smith, Ray St. John, Patrick. Stott, Daniel Stump, Michael Tachias, Paul Tapia, Peter Tapia, Steven Teague, Ernest Torres, Joseph Torres, Matthew Torres, Stephen Towne, Robert Ulibarri, Zack Vigil, Leroy Wallace, Maurus Wanya, Mark Washington,

### Not pictured

Twila Parker . . . . . 9512  
Paul Schrader . . . . . 8356

Darlene Wright, Joseph Zamora

### Radio Frequency (RF) Crada Team

*For creating a new approach to design and manufacturing of radio frequency products by adopting methods of the commercial electronics industry.*

Ron Diegle, Steve Garrett, Richard Knudson, Julio Marchiondo Jr., Roger Woodrum

### Near Real-Time Range Safety Analysis Tool Development Team

*For developing a novel and unique simulation tool for the quantification of “real-time” rocket flight safety hazards (during launch countdown) utilizing a massively parallel computer architecture.*

Teresa Jordan-Culler, Marc Kniskern, Bev Sturgis, Larry Young

### Advanced Atmospheric Research Equipment (AARE) Team

*The AARE team has successfully focused a broad diversity of technical skills on solving a highly complex R&D challenge with vital National Security implications.*

Glenn Barker, Walter Caldwell, Augie Chapa, Irene Dubicka, Jef Duncan, James Finch, Jeff Hampton, Roger Hartman, David Hawn, Jim Hogan, John L. Montoya, Susan Moore, David Rakestraw, Nedra Raney, Mark Reineke, Joe Sanders, Brian Schwaner, Rick Silver.

### Gas-Phase MicroChemLab Team

*The MicroChemLab Team has developed several prototype CW agent detection units that were successfully demonstrated in field tests and live agent tests at ECBC.*

Doug Adkins, Larry Anderson, Carol Ashby, Matthew Blain, Robert Brocato, Joy Byrnes, Chris Colburn, Dolores Cruz, George Dulleck Jr., David Fein, Ed Heller, Richard Kottenstette,

(Continued on next page)



# Team awards recognize achievement



THE 9/11 OFF-SITE Emergency Response Center Team

(Continued from preceding page)

Patrick Lewis, Ronald Manginell, Jesus Martinez, Cup Mowry, Alex Robinson, Steve Rohde, James Sanchez, Steve Showalter, Michael Siegal, Joe Simonson, Sara Sokolowski, Dan Trudell, Fernando Uribe, David Wheeler, W. Graham Yelton, Sherry Zmuda.

## Area III Search & Recovery Team

*The team developed and implemented a successful process to search for two rifle grenades reported lost by USAF Security in TA III.*

Jad Dykes, Charlie Eberle, Mike Short, Michael Strosinski

## Code Management System (CMS) Team

*For ingenuity and dedication in the development of the Code Management System program and in the successful implementation and delivery of the CMS USEUCOM/USAFE application.*

William Abel, Stephen Becker, Valene Begano, J. William Bonahoom, W. David Cain, Dan Caton, Carol Christensen, Doug Clark, Nancy Clark, Larry Claussen, Manuel Contreras, Mike Daniels, Lorie Davis, Matt Donnelly, Andrew Dumas, Elaine Paulsen Evans, Edward Fronczak, Blasé Gaude, Brian Geery, Dave Gelet, Rosemary Gergen, Pam Harris, Ry Hubka, David Ingersoll, Reed Jackson Jr., Charlotte Johnson, Benjamin Kemp, Tran Lai, Rudolph Lewis, Michael Maestas, Douglas Mangum, Marianna Mauritz, Don Moore, Marty Murphy, David Neidigk, Tom Obenauf, Harvey Ogden, Steven Ohrt, Larry Olson, Barbara Pass, David Percy, Tom Perea, Dan Porter, Steve Rezac, John Roberts, Steve Romero, Paula Sanchez, Joel Turner, Rob Turner, Melissa Wilson

## Selective Availability Anti-Spoofing Module (SAASM)/Key Data Processor-II (KDP-11)

*Sandia team delivers an NSA-approved KDP-II hardware design and software implementing next-generation cryptography that significantly enhances the security of the military GPS capabilities.*

Steve Callaghan, Elmer Collins, Ken Goussak, Jeanne Green, Bradley Hance, Randy Hudgens, Margaret Hug, Fred James, Debby Kill, Norm Kolb, Gary McGovney, Russell Mikawa, Chuck Miller, Timothy Mirabal, Marty Murphy, Joe Perry, Steve Reynolds, Steve Richards, Glenn Russell, Hui-Chien Shen, Steve Silva, David Ther

## Mail Safety Team

*The Mail Safety Team performed a detailed feasibility assessment for various emergency response scenarios for the US Postal Services while actively planning an implementation strategy.*

Jennifer Jacobs, Ronald Kaye, Bob Turman, Jan Vinson, John Vitko, Jr., Richard M. Wheeler

## Weapon Security Matrix Project Team

For conducting an integrated security and use control assessment of the protection provided to nuclear weapons in all continental US locations.

Roger Breeding, Jeffrey Everett, Steven Humbert, Karen Jefferson, Keith Johnstone, Ray Page, Timothy Petersen, Bill Robinson, Jack Stayton

## Center 9100 Aerodynamics Technologist Team

*The two-man aerodynamics technologist team demonstrates unsurpassed technical knowledge, dedication and quality executing experiments for research and applications customers while maintaining a state-of-the-art wind-tunnel facility.*

Rocky Erven, John Henfling

## SNL 9-11 Off-Site Emergency Response Center (ERC) Team

*On 9-11, this volunteer team operated the SNL ERC on a 24/7 basis for four days. They alerted and organized ER team members and assured continuous communications.*

Ruth Boyd, Angela Campos, Ralph Carr, Archie Gibson, Earl Graff, Vern Hermansen, Jack Hoffman Jr., Sandra Hughes, Cheryl Huppertz, Michael Krawczyk, Bill Lucy, Brian Philipbar, Tim Picchione, Erica Sanchez, Harry Season Jr., Daniel Summers, Joann Tallant



Robert Crocker  
8111



Michael Daily  
1738



Michael Desjarlais  
1674



Johnny Ellison  
8514



Mark Ensz  
14184



Diana Fein  
1101



Tod Felver  
8512



Claire Gallipoli  
10001



Reeta Garber  
9140



Dan Garber  
12111



Camille Gibson  
10507



Jeanne Green  
5911



Lauren Hancock  
2995



Ann Harper  
8945

## DISCOM/ASCI Milepost Team

*The Tri-Labs Team implemented an ASCI environment for the designers and analysts from the Tri-Labs to utilize the 12 TeraOPS supercomputer installed at LLNL.*

Jim Ang, Esther Baldonado, William Barber, Marty Barnaby, Judy Beiriger, Hugh Bivens, Manoj Bhardwaj, Robert Boland, Joseph Brenkosh, Doug Brown, Wayne Butman, Bill Callovini, Larry Claussen, Dwight Coles, Bill Collins, Robert Cunningham, Kimberly Cupps, David Dannenbert, Jerry Delapp, Jay Drew, Iverson Ebanks, Diana Eichert, Martha Ernest, Parks Fields, Keith Fitzgerald, Linda Foss, Christopher Garasi, Sam Garcia, Sue Goudy, Bruce Griffing, Mark Hamilton, Michael Hannah, Carol Hardesty, Clark Haskins, Dick Hawkins, Kathie Hiebert-Dodd, Ann Hodges, Tan Chang Hu, Stevarino Humphreys, Barbara Jennings, Dal Jensen, Morris Jette Jr., Wilbur Johnson, Chuck Keller, Jason King, Jonathan Kreisle, Lois Lauer, Bryan Lawver, Ellen Lemen, Richard Light, Per Lysne, Glenn Machin, Richard Mark, Robert Mason, Paula McAllister, Geoff McGirt, Timothy Merrigan, Luis Martinez Jr., Ronald Moody, Don Moore, Pat Moore, Freddy Mora, Melissa Myerly, John Naegle, John Noe, Harvey Ogden, Thomas Otahal, Tim Picchione, Georgia Pedicini, Amy Pezzoni, Thomas Pratt, Bill Rahe, Ron Rhea, George Rivera Jr., Randal Rheinheimer, George Richmond, Daniel Sandoval, Virginia Schuler, Steve Simonds, Joe Slavec, Bryan Spicer, Leonard Stans, Judy Sturtevant, Connie Sutton, Gail Swingle, Larry Tolentino, Ruthe Lynn Vandewart, Ronald W. Wilkins, Vicki Williams, Kathleen Wong

## Warhead Monitoring Technologies Project (WMTP) Team

*The WMTP Team successfully executed a fourteen-week system field trial at a DoD storage site that contributed to DoD and NNSA weapon stewardship planning efforts.*

John Brabson, Jack Bartberger, Bobby Corbell, Rudy Garcia, Phil Georg, Lauren Gleason, Mark Grohman, Martha Haines, Peter Havey, John Herzer, Wen Hsu, Frank Lucero, Richard Lucero, Bob Martinez, Frederick Mendenhall, Bill Pregent, Dusty Rhodes, Laverne Romesberg, Howard Sanger, Sig Schneider, Kevin Seager, Carla Ulibarri

## The California Staffing Team

*This team led the hiring of 91 permanent and 50 LTE/Postdocs, coordinated 70 relocations, conducted 250 interviews and 400 counseling sessions with managers concerning salaries and negotiating strategies.*

Talenea Dixon, Rose Ketchum, Kristina Krumbien, Carol Olmstead, Diana Pereira, Dave Rosenzweig, Linda Sager

## Sandia Yucca Mountain Project Site Recommendation Team

*For exceptional service in providing technical support of the Secretary of Energy's Site Recommendation of a high-level radioactive waste repository system at Yucca Mountain.*

Richard Aguilar, Joe Archuleta, Bill Arnold, Carl Axness, Bob Baca, George Barr, Patrick Brady, Nancy Brodsky, David Bronowski, Tom Corbet Jr., Delene Cox, Cheryl Flores, Nicholas Francis Jr., Katherine Gaither, Jack Gauthier, Barry Goldstein, Joe Hardesty, Mary Heerd, Clifford Ho, Cliff Howard, Michael Itamura, Richard Jensen, Roy Johnston, Robert Lloyd Jones, Carlos Jove-Colon, Hong-Nian Jow, John Kelly, Stephanie Kuzio, Joon H. Lee, Clinton Lum, Robert J. Mackinnon, Ronald McCurley, Steve Miller, Chris Northrop-Salazar, Jim Nowak, Andrew Orrell, Maria Owens, John Pelletier, Ron Price, James Ramsey Jr., Rob Rechar, Al Reed, Bob Richards, Alex Sanchez, Paul Sanchez, James Schreiber, Steve Sobolik, Christine Stockman, Harlan Stockman, Peter Swift, Ron Taylor, Michael Wallace, Steve Webb, Mike Wilson

## Water Security Risk Assessment Team

*This team has contributed significantly to Home-*

(Continued on next page)



Richard Hurley  
2125



William Ling  
9813



Albert Lucero  
10252



Michael Malinowski  
8730



Dorothy Martin  
9612



Sean McKenna  
6115



Rosemae McKillip  
2305



Frederick Mendenhall  
5902



Kim Mitchiner  
9800



Sandra Monroe  
1843



SOMS — The Sandia Octahedral Molecular Sieves team



Adele Montoya  
3131



Sharon Moyer  
3031



David Noble  
9113



Michael Oliver  
2554



Renae Perrine  
6000



Ami Peterson  
10001

## Team honorees

(Continued from preceding page)

### *land Security, completing the risk assessment methodology and fielding vulnerability assessments of water infrastructure at multiple major US cities.*

Douglas Adams, Philip Campbell, John Covan, Jeff Danneels, Jennifer Depoy, John Dillinger, Ray Finley, Tim George, James Lloyd, Flo Lucero Jr., Sharon O'Connor, William Paulis, Denny Pedrotty, Rick Ramirez, Martin Sandoval, Steve Showalter, Jason Stamp, Basil Steele, Ivan Waddoups, Larry Wright, Bill Young

### **The Developers of Sandia Octahedral Molecular Sieves (SOMS)**

*The team developed SOMS, which can help purify industrial waste streams, filter out valuable chemicals or reuse, and show promise in cleaning up radioactive waste.*

Mari Lou Balmer, Rodney Ewing, Robert Maxwell, Alexander Navrotsky, Tina Nenoff, May Nyman John Parise, Yali Su, Hongwu Xu

### **Lockheed Martin/Sandia Shared Vision Development Team**

*For outstanding organizational skills in working with Sandia's technical organizations and with Lockheed Martin to promote a doubling (to \$6M) of the Shared Vision program.*

Brenda Barajas-Romero, Alane Dulski, Martha Garcia, David Goldheim, Susan Homer, Margaret Lovell, Deborah Payne, Gladys Shaw, Dorothy Stermer, Denise Taylor, Victor Weiss

### **Voltage Enhanced Deformation in PSZT Ceramic Team**

*This team identified a previously unreported electrical field enhanced deformation in PSZT ceramic which caused significant damage to MC4437A current stacks.*

George Burns, Roger Moore, Pin Yang

### **Benefits Choices 2002 Open Enrollment (OE) Team**

*This team developed and implemented a successful OE campaign which introduced new benefits/benefit changes for eleven distinctive groups of participants with differing benefit options.*

Lara Adams, Barbara Allen, Debra Babb, J. Robert Bullock, Janey Carroll, Veronica Chavez Merrillee Ann Dolan, Sara Fernandez, Paige Harper, Peter Keegan, Mary Lahusen, Jodi Loftis, Valerie Mascarenas, Yolanda Miller, Debbie Moore, Suzanne Moya, Deborah Nunez, Donna Jo Purchase, Andrea Rael, Karen Roybal, Gabrielle Sarfaty, Gary Shepherd, Kristy Sibert, Becky Statler, Betty Straba, Marlene Vigil, Carol Wade.

### **Rapid Reactivation Project Team**

*This team renovated existing space, constructed new space, and installed new equipment to more than double Sandia's neutron generator production capacity without affecting on-going operations.*

Ken Burris, Larry Chavez, Richard Curlee, Julia De La Cruz, Jenny Dubbs, Dave Furgel, Albert Garcia, Mick Gorospe, John Harding, David Hendrick, Bill Herdst, Dennis King, Tom Merewether, William Ortiz, Richard Passwater, Joanne Paulos, Lex Pegues, Larry Pope, Patrice Saxton, Frank Scott, Dan Severinghaus, Jerry Smith, Bonnie Surbey, John Thayer, Don Tidwell, Matt Turgeon, Evelyn Tuttle, Ron Vanaman, Bill Weis, Dan Williams, Kirt Wilson

### **Post-September 11 Special Needs Communication Team**

*This team responded to the unprecedented need for special communications to employees and interactions with news media after the Attack on America.*

Iris Aboytes, Rod Geer, John German III, Bruce Hawkinson, Candis Hoffman-Bomse, Howard Kercheval III, Chris Miller, Larry Perrine, Neal Singer, Bob Weaver, Jeff White

### **Pollution Prevention Staff and Line Partners**

*For excellence in assessing and enhancing line operations through technical analyses of processes,*

*products and facilities to conserve resources and reduce hazardous and other waste.*

Vicky Blackberg, Lavone Cobb, Karen Dewees-Lee, Charles Hollis, Judy Jojola, Jim Kadlec, Kristin Klossner, Brett M. Locke, Ron Maes, Marty Mitchell, Jack Mizner, Kylene Molley, Francis Nimick, Stacy Richardson, Jimmy Romero, Tony Roybal, Art Sena, Douglas Vetter, Ed Williams Jr., Mary Wolf, Ralph Wrons, John Zich

### **DAKOTA Optimization Team**

*The DAKOTA team has provided significant optimization capabilities to DOE's modeling and simulation efforts, including algorithm and code development, documentation, public release, and customer support.*

Mario Pio Alleva, Roscoe Bartlett, Mike Eldred, Anthony Giunta, William Hart Bart Van Bloemen Waanders, Steve Wojtkiewicz Jr.

### **MC2992 Neutron Generator D-Test Failure Review Board (DFRB)**

*This D-Test Failure Review Board was formed to determine the cause of a new neutron generator failure signature and recommend corrective actions.*

Jerry Gurule, Bill Hanson, Ed James, Robert Koss, Jim Krupar, Mark Martin, Doyle Morgan, Maria Owens, Gerald Smith, Ernest Tabb



THE MC2992 Neutron Generator D-Test Failure Review Board.

### **Neutron Generator Process Engineering Team**

*This Team supported activities necessary to bring a new Production Facility on-line and to meet MC4368A Neutron Generator delivery schedules for the W76 Program.*

Edward Astle, Naomi Christensen, Errold Duroseau, Al Garcia, Michael Gilbert, Jim Kajder, Bruce Kinchen, Christopher Kureczko, Anne Lu, Lou Malizia Jr., Kenneth Pierce, Gary Pressly, James Provo, Brian Ritchey, J. A. Romero, Gloria Roybal, Deanna Sevier, Mark Sloane, Manny Trujillo, Lisa Walla, Jean Williams

### **DARS Project**

*The DARS multidisciplinary team integrated novel approaches to successfully solve the customer's problems and create a valuable nuclear material detection capability for the nation.*

Randolph Anaya, Peter Havey, Wayne McMurtry, Dean Mitchell, Lin Moore, Frank Noda, Mark Reineke, Howard Sanger, Kevin Seager, Howard Seltzer, Karl Shrouf, Jerry Strother David Merle Vandevalde, Vern Willan

### **W80 Flight Test Scoring (JTA 1067) Team**

*This Team successfully conducted post-test measurements and analyses to score a mission-critical surveillance flight test that had experienced a telemetry failure.*

Sandy Chavez, Bernard Gomez, Rod Heimgartner, Jeff Keck, Lyle Kruse, Jerry Miller Jr., Danny Mitchell, Arir Mohagheghi, Roy Pearson, Mark Poiles, Arvil Rhinehart, Albert Romero, Gordon Scott, Sonoya Shanks, Lynn Zirkle

### **Electro Microfluidic Dual In-Line Package Team**

*For development of a standard Electro Microfluidic Dual In-line Package (EMDIP) for enabling cost effective MEMs devices such as drop ejectors, chemical*

(Continued on next page)



Fran Phipps  
5903



John Reno  
1123



Jonathan Rogers  
9813



Don Rountree  
5742



Dan Schmitt  
15211



Duane Schneider  
6245

## Team honorees

(Continued from preceding page)

### sensors, and biological sensors.

Clint Atwood, Gilbert Benavides, Dawn Bennett, Matt Donnelly, Paul Galambos, Rachel Giunta, Rex Jaramillo, Dennis Kuchar, Murat Okandan, Ken Peterson, Michael Saavedra, Dave Zamora

### Oracle 11i Upgrade Team

The Oracle team was one of the first in the country to successfully upgrade to the web-enabled financial and manufacturing Enterprise Resource Planning (ERP) software.

Al Alvarado, Andy Ambabo, Viola Baca, Richard Baird, Allen Ballweg, Tom Beller, Ralph Bonner, Leanne Brandiger, Paige Briggs, Art Brito, Dottie Brockman, Donna Sue Campbell, Peggy Casbourne, Ralph Chapman, Donna Chavez, Kent Christensen, Tim Cline, Jay Clise, Gary Concannon, Shauna Cordis, Charles Cote, Eric Detlefs, Elouise Dickenman, James Eanes, Jerry Esch, Julie Fillinger, Don Flores Sr., Joanna Frumkin, Kim Gallagher, Valerie Garcia, Duane Garrison, Ramona Gauna, Maria Gendreau, Susan Gonzales, Adrian Gurule, Mike Hagengruber, Ruth Harris, Pat Hebert, David Heckart, David Hendrickson, Jorge Hernandez, Jim Hilts, Elena Holland, Paula, Jim Johnson, Tracy Jones, Patricia Kaufmann, Sally Kiess, Bill Klein, Stana Kopczuk, Larry Kovacic, Laura Lang, Norma Lauben, Frank Lujan III, Glorianne Martinez, Marjorie McCornack, Joe Kurham, Bob McCornack, Richard McLendon, Paul Merillat, Sandra Mills, Martin Montoya, John Mounho, Cindy Myers, Jesus Ontiveros, Elaine Ortiz, Jennifer Outka, Julie Perich, Van Pham, Gwen Pullen, George Martin Redwood, Corey Reitz, Vanessa Rodriguez, Scott Rogers, Dick Rogers, Mike Rouse, Mark Rule, Eric Santillanes, Sandra Seymour, Michael Sides, Suzie Simpson, Tammy Strickland, Robert Trujillo, Pam Tyler, Janice Vaughan, Monica Vigil, Anthony Wagner, Walter Walkow, Jan Wallner, Ron Weagley, Mark Weber, Bill Wenrich, Caryn White, Mike Widmer, Steve Wimpy, Bob Wright

### LANL Safeguards & Security Enhancement Project (SSEP)

Technical security consultation and leadership by the SNL SSEP Team resulted in the successful rapid investigation and initial implementation of significant security enhancements for LANL.

Patricio Abeita, Jerry Anderson Jr., Mike Benson, Jerry Crowder, Bob Cutler, Jake Deuel Jr., Glen Fowler II, Michael Garcia, Tommy Goolsby, Charles Greenholt, Paul Haddock, Paul Helmick, Mike Henry, Marty Kodlick, James Larson, Tony Montoya, Willy Morse, Michael Oborny, Ken Padilla, Mike Pendley, Marv Plugge, Dan Pritchard, Fred Raether, Steve Roehrig, David Samuel, Steve Sanderson, Larry Scott, Steven Scott, Mark Snell, David Swahlan, Teresa Torres, Mike Williams

### Carlsbad Soil and Sediment Transport Team

The team has attracted a million dollars of Work-for-Others funding to Sandia National Laboratories while simultaneously leading a new applied research field.

Mike Chapin, Scott James, Rich Jepsen, Jesse Roberts, Ed Schaub

### W80 LEP Qualification Management Team

The W80-3 Qualification Management Team has overcome formidable obstacles to create a prototypical weapons qualification program.

Bill Delameter, Davina Kwon

### Customer Service Request (CSR) Process Improvement Team

The Facilities Express CSR process provides customers specified services that utilize competitive unit price contracts to perform the work in a quick turn-around timeframe.

Christine Cooper, Rose Cordova, Rhonda Dukes, Nita Estes, Judy Follis, Charles Herrera, Gina Sanchez, Janelle Santillanes, Lisa Schluter, Kathy Sedlacek, Mike Spitz, Marie Steele, Shari Tucker-Mehler, Lambert Turnage, Lance Thompson

### Nuclear Power Plant Vulnerability Assessment Team

This multi-lab and multi-center team conceived,

secured funding, and completed the 90-day first-phase of a multi-phase, multi-million dollar assessment of nuclear power plant vulnerability.

Lupe Arguello, Scott Ashbaugh, Dave Bennett, Dennis Berry, Nathan Bixler, Andrew Boone, Allen Camp, Becky Campbell, Vince Dandini, John Darby, Felicia Duran, Randy Gauntt, Libby Greene, Barbara Hawkins, Mike Hessheimer, Eric Klamerus, Jeffrey Lachance, Mark Leonard, Vincent Luk, Anna Martens, Pat McClure, Barb Meloche, Charlie Morrow, Steve Nowlen, Emily Preston, Gary Rochau, Marcie Salvador, Sharon Shannon, Stewart Silling, Jeff Smith, Teresa Sype, Willard Thomas, Annie Valencia, Bob Waters, Timothy Wheeler, Donnie Whitehead, Hugh Whitehurst, Francis Wyant, Greg Wyss

### "Technologies to Protect America," Homeland Security Technology Expo at DOE Headquarters

Sandia led the NNSA laboratories in organizing and creating displays and technology demos for Homeland Security Director Ridge and DOE Secretary Spencer Abraham.

Rita Betty, Larry Bustard, Mike Clough, Jerry Gorman, Dave Hannum, Paul Klarer, Patrick Lewis, Duane Lindner, Mike McDuffie, Chris Miller, Mark Tucker, Barry Spletzer, Sam Varnado, Al Zelicoff

### Mobile Distributed 3D Sensing

Demonstrated an autonomous robotic 3D sensing system that tracked tanks and other military vehicles at the Marine Air Ground Combat Center in 29 Palms, California.

Jeffrey Carlson, Chris Lewis, Daniel Small

### SNL 14400 Lean/Six Sigma Black Belt Team

The SNL 14400 Lean/Six Sigma (LSS) Black Belt Team successfully provided the energy, expertise, and structure to begin implementation of LSS in 14400.

Scott Gillespie, Dave Goy, Cindy Longenbaugh, Ruben Muniz, Maryann Olascoaga, Gilbert Theroux, Lisa Walla, J. Anthony Wingate, Steven Woodall

### New Mexico Small Business Assistance Program Team

The New Mexico Small Business Assistance Program (NMSBA) Team finished its inaugural year, achieving a major milestone with outstanding results.

Victor Chavez, Anthony Brian Gallegos, Mariann Johnston, Mona Plummer, Luigia Pyle, Lee Swanger

### The 858 Fan Rebuild Project Team

The team provided the knowledge and expertise required to rebuild 37 Cleanroom and Makeup air fans at Building 858 without impacting the customer's mission.

Mario Candelaria, Grover Edwards, Bryan Guernsey, Mark Guidry, Ralph Gutierrez, Marcos Martinez, Jr., Carl Peterson, Matthew Puariea, Steven Schneider, Richard Toledo, Robert Urias, Eugene Wade, James Whatley

### Institutional General Plant Project (IGPP) Building Team

Sandia was the first DOE contractor to pilot an indirect-funded, fast-track design and construction process to provide much needed office space.

Gilbert Aldaz, John Anderson, Jim Bruniske, Christine Cooper, James Davis, Laura Draelos, Jenny Dubbs, Paul Duran, Stephen F. Fritz, Jerry Gallegos, David Gibson, Roy Gideon II, Walt Heimer, David Humble, Rich Hykes, Dennis King, Randy Lanier, Wayne Potter, Tom Romero, Cindy Silva, Paul Silva, Bobbie Surbey, Orlando Vigil

### Security Police Association (SPA) Contract Bargaining Team

This team achieved both corporate and organizational goals during the 2001 bargaining session to renew the Sandia-SPA contract.

Jackie Adams, Frank Alton, Debra Babb, Mark Biggs, Lew Calvin, Larry Clevenger, Susan Harty, Terri Lovato, Mark Ludwig, John McAuliffe Charles J. E. Montoya, Lillie Peters

### SNL Copier Fleet Procurement Team

For creativity, innovation, and leadership in applying web technology in an unprecedented procurement (Continued on next page)



Brian Schwaner  
5941



Samuel Sevier  
2554



Clifford Sharp  
2331



Mary Katherine Shears  
6850



THE MOBILE Distributed 3D Sensing team



Barry Spletzer  
15211



Susan Stubler  
10260



Bruce Thompson  
15312



William Vanselous  
14186



Daniel Wahl  
5912



Eunice Young  
6532

(Continued from preceding page)

*process to acquire a copier fleet resulting in ~ \$1.2M savings.*

Lee Cunningham, Jack Hudson, Doug Otts, Del Packwood, Jr., Matt Riley, Anthony Sanchez

#### **Glass-To-Metal (G-T-M) Seal Process Improvement for B61 Lightning Arrestor Connectors (LACs) Team**

*B61 LACs began to fail hermeticity requirements at HW/FM&T. This multi-discipline team modified the design, materials, processes, and acceptance criteria to yield robust product.*

Steven Burchett, Wayne Buttry, Terry Ernest, Terry Guilingger, Alice Kilgo, Bonnie McKenzie, Joseph Michael, Sandra Monroe, Clay Newton, Rob Sorensen, Ron Stone, Don Susan

#### **Weather Advanced Concept Technology Demonstration Team**

*For exceptional work in developing and delivering a revolutionary weather processing system to its military users.*

Glen Ankenman, Sherman Begay, Dana Joseph Belding, Barbara Funkhouser Bob Gregory, Dan Holloway, Phillip Lewis, David Miller, Dog Mom, Erik Reckase, Jeff Romine, John Rowe, Ron Schmidt, Michael Sharp, Sue Spaven, Scott Strong, Steve Wagner, Richard Wickstrom

#### **Innovative Sensor Enhancement and Integration Technology (ISEIT) Team**

*ISEIT, a Space-Based Soldier System pathfinder, demonstrated unique, near-real time, wide-area information transfer from overhead sensors to a Special Ops soldier in the field.*

Dana Joseph Belding, Rich Hunt, Phillip Lewis, Jody Smith, Jerry Van Slambrook, Scott Strong.

#### **Web Fileshare Project Team**

*Web Fileshare is an enterprise information management tool, which has been improved in particular to allow sharing of content with other Nuclear Weapons Complex sites.*

Andy Ambabo, Sam Cancilla, Susan Gonzales, Deborah Hansknecht, Denise Jaramillo, Tim Macalphine, Beth Moser, Bev Ortiz, Amy Shrouf, Crystal Stein, Hank Witek

#### **Bi-National Sustainability Lab (BNSL) Team**

*For successfully developing the Bi-National Sustainability Lab concept into a Sandia initiative to enhance US-Mexico border security and foster sustainable economic development in both countries.*

Vipin Gupta, Gary Jones, Maher Tadros, Jessica Turnley

#### **Fleet Services Department Team**

*This team responded to an urgent call from DOE on a special vehicle project. Their professionalism and innovation enhanced the viability and reputation of Sandia.*

Jerry Clark II, Mark Crawford, Joseph Lesperance, J. C. Powell Jr, Art Sena, Richard Wilmesherr

#### **Vulnerability Assessment Team**

*A computational/experimental team successfully developed a methodology for assessing the consequence of an aircraft impacting numerous NNSA and DoD facilities.*

Stephen Attaway, Melvin Baer, Thomas Bickel, Dave Crawford, Pat Drozda, Jean Gollan, Lou Gritzo, Kenneth Gwinn, Chuck Hanks, Marv Larsen, Joel Lash, Kurt Metzinger, Jaime Moya, James Nakos, Vernon Nicolette, Sandy Pino, John Pott, Michael Ramirez, Bob Schmitt, Sheldon Tieszen

#### **NGST Micro-Mirror Array Development Team**

*This team successfully built a latching Micro-Mirror Array which will lead to sensor technology advances. Of equal importance, the customer was delighted with the team's achievements.*

Judy Beiriger, Fernando Bitsie, Michelle Dueterhaus, Ernest Garcia, Bob Habbit, Sita Mani, David Peterson, Marc Polosky, Rosemarie Renn, Steve Rohde, John Sackos, Danelle Tanner, Ed Vernon, Jerry Walraven, Joyce Zamora

#### **EnRad - Enhanced Radiometer Sensor Development Team**

*This team developed a complex optical sensor coupling mixed-signal ASIC, and 3-dimensional (Z-plane) multi-chip module (MCM) interconnection and assembly technologies for next generation national security satellite needs.*

Carol Adkins, Ivan Alderete, Steve Babicz, Johnny Baca, Delfin Bangate, Wilson Barnard, Irene Bentz, Dave Campbell,



ENHANCED Radiometer Sensor Development Team

Pat Case, Frank Chavez, Greg Christiansen, Dahwey Chu, Dennis Clingan, Ken Conrad, Rebecca Coones, Eric Disch, Dean Dixon, John Emerson, Donald Evans, John Falls, Thom Fischer, Steve Garrett, James Garsow, Tim Gibson, Ron Goeke, Ron Grant, Don Greene, Bob Habbit Jr., Stacie Hammerand, Tammy Henson, Mike Knoll, Kerry Lamppa, Paul Lemke, Dennis Lierz, Darlene Maldonado, David Martinez, Ken McGuire, Anthony Medina, Bill Morgan, James Mulhall, Cathy Nowlen, Kate Olsberg, Ken Peterson, Robert Pierce, Alex Pimentel, Bob Poole, Guy Prevost, Cathy Reber, Juan Romero, Fred Rosen, Heidi Ruffner, Emmett Sandoval, Gayle Schwartz, Ed Scussel, Patrick Shea, Cathy Sifford, Simone Smith, Patty Snipes, David Staley, Bergen Stephens, Bob Stokes, Kerry Sturgeon, Jim Sweet, Belinda Tafoya-Porras, Mark Terhune, Tim Turner, Jeremy Walraven, Georgia Weebothee, Ted Welton, Henry White Jr., Gary Whitlow, Steve Young, David Zamora, Thomas Zipperian

#### **Z-Beamlet Backlighter Team**

*The \$12.875M project to construct ZBL was a multiyear effort that culminated in capturing an x-ray image of a nearly perfectly spherical implosion of a fusion capsule on only its second attempt at being synchronized to the Z Machine. In capturing this image, the ZBL Backlighter Team achieved their goal of synchronizing the firing of ZBL to the production of X-rays on Z to better than 3 billionths of a second.*

Richard Adams, Rafael Aragon, Guy Bennett, Robin Broyles, Robert Clevenger, Ellis Dawson Jr., Stephen Fritz, Antonio Jose Garcia, Catherine Green, Jerome Hands, Mike Hurst, Harry Ives III, Steve Nickerson, John Porter, Patrick Rambo, Dean Rovang, Larry Ruggles, Walt Simpson, Michael Slattery, Ian Craig Smith, Shane Speas, Benjamin Thurston, Chris Valleau, Colleen Wakefield

#### **MESA Security and Telecommunications Team**

*The MESA Security and Telecommunications Team has provided exceptional service to projects outside of MESA, including JCEL, DISL, and the Barelas Job Training Center.*

Ivory Alexander, Jon Eberhart, Frank Martin, Mark Schaefer

#### **Monolithic Ballasted Penetrator Design & Development Team**

*The Monolithic Ballasted Penetrator Team is nominated for exceptional contributions to advance the state of the art in high-g penetrator design and fabrication.*

Alfred Foster, Leif Gonnesen, Kent Harvey, John Heise II, Ed Henry, James Hickerson, Jr. Tom Hitchcock, Jim Maroone, Tedd Rohwer, Tom Warren, Annie Webb, Dennis Wilder, Frank Zanner

#### **CA Automated Defibrillator Program Team**

*This program resulted in the deployment by the SNL/CA Security Force of the Automated External Defibrillator.*

Stephanie Ball, Douglas Brown, Paul Clark, Edwin Diemer

#### **Target Site Geologic Characterization Team**

*A team of geoscience experts at Sandia was assembled to support USSTRATCOM efforts to characterize underground facilities of interest world wide, including possible terrorist camps.*

Laurence Costin, Al Lappin, Ron Price, Chris Rautman, Jonathan Rogers

#### **Infrastructure System Engineering Study (ISES) Team**

*The ISES Team created an Infrastructure system design that will deliver integrated mission-enabling services that are agile, business focused, and worth the cost.*

Terry Bahill, Wendy Bechdel, Doug Bloomquist, James Bryson, John Coffman, Frank Dean, Rosemary Duniyan, Waylon Ferguson, Rod Geer, Arthur Grimley III, Carol Harrison, Charles Hartwig, Linda Houston, Curtis Johnson, Marlene Keller, Tim Knewitz, Denise Krupka, Chris Madigan Daniel Rondeau, Edward Saucier, Susan Schear, Douglas Weaver

#### **Defense of Cities**

*The Defense of Cities project examined and assessed the application of technology to more effectively protect urban populations from biological weapons attack.*

John Finn, John Hinton, Dawn Katoaka, Fred Lykam, Larry Madsen, Todd West

#### **Sandia California Telecommunications Team**

*The continuous evolution of telecommunications technology and services made it necessary to upgrade the 12-year-old telephone switch serving the California site.*

Les Brown, Jane Churchhill, Brian Grossmann, Leroy Hahlbeck, Marsha Jacobs, Michele Kahn, Larry Landon, Ralph Lytle Albert Mar, Eddy Morales

#### **Intrusion Detection Systems Team**

*The Intrusion Detection System (IDS) team is responsible for the network security of the corporate networks at the Sandia/CA site.*

James Hutchins, Tim Toole, Jamie Vanrandwyk

#### **Locomotive Team**

*The Locomotive team has delivered the first hydrogen fuel-cell powered locomotive on schedule despite many budget, political, and technical road blocks.*

Ray Baldonado, Ken Black, Jennifer Chan, Gordon Gibbs, Donald Meeker, Dan Morse, Annette Newman, Tim Sage, Gregory Soo, Ken Stewart, George Thomas, Dan Trujillo, Mark Zimmerman

#### **Xyce™ Electrical Circuit Simulation Code Development Team**

*The Xyce Code Team developed and demonstrated, via the FY01 ASCI Normal Environment Milestone Calculation, unique high-performance electrical modeling and simulation.*

Carolyn Bogdan, Steve Brandon, Dave Day, Rob Hoekstra, Scott Hutchinson, Eric Keiter, Tammy Kolda, Ken Marx, Thomas Russo, Regina Schells, David Shirley, Lon Waters, Charles Williamson, Steve Wix

#### **EUDP Materials Advanced-Options Team**

*The Enhanced Use Denial Project (EUDP) "Materials Advanced-Options" Team identified, created, and matured multiple new Surety technologies.*

Charlie Andrews, Thomas Bennett, Mark Bleck, Edwin Bochenski, Bob Bradshaw, Paul Dentinger, James Dremalas, William Even, Jr., Kathleen Gee, Steven Goods, Carol Hildebrandt, Marion Hunter, Chrima Jackson, Pat Keifer, Robert Kinzel, Scott Lindblom, Jim McElhanon, Frederick Medenhall, Jack O'Connor, Robert E. Oetken, Jenny Pierce, Jerry Stoffleth, David Straub, Ray Swoboda, Leroy Whinnery, Jr., Marion Wilde, Thomas Zifer

#### **Scalable Visualization Team**

*For deployment of a state-of-the-art visualization facility, groundbreaking scalable rendering results, and outstanding application support for use of these capabilities.*

Milton Clauser, Carl Diegert, Philip Heermann, Lisa Ice, Jeffrey Jortner, Carl Leishman, Vlewis Lewis, David Logsted, Christopher Maestas, Stephen Monk, Kenneth Moreland, David Munich, Constantine "Dino" Pavlakos, Nathan Rader, David Thompson, Brian Wylie

#### **MC4277 Header Assembly Defect Reduction Team**

*The Header Assembly Defect Reduction Team increased yield dramatically by reducing the dimensional tolerance stack-up failures through implementation of new brazes fixtures.*

Bob Boney, Mary Gachupin, Scott Gillespie, Robert Koss, Lou Malizia, Jr., Matthew P. Senkow



**Exceptional service**  
**Leadership**  
**Technical excellence**

# 'Response to Terrorism' issues of *Lab News* honored

The attacks of Sept. 11 affected Sandians viscerally like all other Americans, but because of Sandia's special responsibilities as a national security lab, the Labs' counterterrorism and defense R&D efforts quickly intensified. Sandians throughout the Labs found their work newly visible and ever-more urgent to the national interest.

The immediate post-attack emergency shutdown put the *Lab News* behind schedule for producing the first post-Sept. 11 issue. Despite that, the *Lab News* ended up getting the Sept. 21 issue printed 36 hours early due to concerns that another base closure could otherwise prevent delivery to the site and distribution to employees. That issue (with a dramatic color photo across the top of page one of a Sandia security police officer raising the American flag) was devoted nearly entirely to responses to the Sept. 11 events. It included a moving invited personal message from Sandia President Paul Robinson (who once worked on the 93rd floor of the World Trade Center's Tower Two) that he wrote on deadline the night of Sept. 13.

Over the next six issues, through the end of 2001, the *Lab News* carried three to four articles per issue (plus special editor's columns) about the counterterrorism work of Sandia and other Labs' and employee responses to the Sept. 11 attacks. These seven *Lab News* issues and the main articles and features in them were intended to inform and help unite employees and engender a sense of pride in the Labs' work on behalf of the nation — as well as inform Sandia's outside audiences and constituencies (including key government officials in Washington).

Last week the *Lab News* was notified that these seven *Lab News* issues have been honored with a Grand Award in the national 2002 APEX Awards for Publication Excellence competition



THE SEPT. 21 issue of the *Lab News* was devoted nearly entirely to responses to the Sept. 11 events.

for communications professionals. Collectively titled "Response to Terrorism: Sandia Emergency Responses to the Sept. 11 Attacks," the post-attack *Lab News* issues received the Grand Award for campaigns in crisis and emergency communications.

John German, Chris Burroughs, Bill Murphy,

Nancy Garcia, Randy Montoya, Neal Singer, and all the staff of the *Lab News*, published by Media Relations and Communications Dept. 12640, were specifically mentioned in the awards submission.

The APEX awards for publication excellence are sponsored by Communications Concepts, Inc., of Springfield, Va., and this year there were nearly 5,900 entries. This is the third APEX Grand Award, the highest possible, the *Lab News* has won since 1996, but this one is the most gratifying, because I think it honors not only our great staff but all of Sandia. The articles and photos we published in those issues following Sept. 11 exemplify the best of everything that Sandia and Sandians represent to the country.

— Ken Frazier, Editor

## APEX Awards

In addition to the Grand Award for the post-Sept. 11 coverage, Sandia communicators also won seven APEX Awards of Excellence, recognizing "exceptional entries" in subcategories. Here is a brief summary:

**Magapaper & Newspaper Writing**, *Sandia Lab News* Staff, *Sandia Lab News*, March 8, 2002, issue.

**Design & Layout**, *Lab News' Labs Accomplishments 2002 Special Issue*, February 2002, Bill Murphy.

**News Writing**, "The attacks: Sandia terrorism analyst gives his perspective," Nancy Garcia (California writer), *Lab News*, Oct. 5, 2001.

**Feature Writing**, "Three Sandians are Answer to Snowbound Couple's Prayers," Bill Murphy, *Lab News*.

**Photographs**, *Sandia Annual Report 2001*. Randy Montoya, Lynda Hadley, and Bill Doty, photographers.

**Magazines & Journals - Printed Four Color**, *Sandia Technology*.

**Web Sites**, Sandia Corporate Web Site, External Web Project Team (Manny Ontiveros, 9517, team leader).

## Lockheed Martin

(Continued from page 1)

clearer than following the attacks in September. I appreciate the work of the many Sandians who rushed to Washington and other sites around the world to help America respond to the many serious threats America faced. It is my pleasure to present this gift to every employee at Sandia as a token of our appreciation for your ongoing service to our nation."

In accepting the award, Paul thanked

Camardo on behalf of every Sandian. "I appreciate Lockheed Martin Technology's commitment to helping Sandia be the laboratory America turns to when it needs help solving major technology challenges. I know I can always count on you and the management of Lockheed Martin to support us. I also want to thank you for your support and your leadership to get our new pension approved by DOE. We would never have accomplished that without our close partnership with Lockheed Martin."



## Operation America

**DOG & ROBOT SHOW** — Chris Cherry (5932) discusses advanced bomb-disablement technologies with reporters during a June 12 kick-off demonstration for the Operation America bomb squad training conference in Portsmouth, Va., June 12-16. Assisting Chris is Fifi, a prototype bomb-disablement robot developed by the Riverside (Calif.) Police Department. More than 100 members of local and state bomb squads from the surrounding area (including Virginia, West Virginia, Maryland, North Carolina, and Washington, D.C.), as well as representatives of federal agencies and the US military, participated. The conference was the fifth in a series of regional Operation America workshops around the country designed to share the latest bomb-disablement techniques and technologies with the nation's first responders. The workshop was sponsored by the National Institute of Justice, DOE, DoD, and Sandia and was hosted by the Virginia State Police. "Our goal was to give them the training they'll need to deal with the kinds of terrorist-type devices we think they'll encounter in the next 10 to 20 years," says Chris.

## School to World, *Lab News* win Cumbre 'Best of Show' awards

Sandia was honored with six Cumbre Awards at the New Mexico Public Relations Society of America (NMPRSA) annual awards dinner June 28.

The highlight was two "Best of Show" awards: The *Sandia Lab News* (Media Relations & Employee Communications Dept. 12640) was a Best of Show co-winner with Rick Johnson & Co., and Corporate Outreach Dept. 12650 won a Best of Show for its "School to World" program.

Also, the *Lab News* and *Sandia Daily News* each won Gold Awards and Sandia's "Shoes for Kids" and "Change the World" recruiting campaign materials each won Silver Awards.

The annual NMPRSA Cumbre Awards honor the outstanding public relations achievements of New Mexico practitioners.

## Recent Patents

James Martin (1122), Robert Anderson (1843), and Chris Tigges (1742): Method for Making Field Structured Memory Materials.

Christopher Dyck (1742), James Allen, and Robert Huber (both 1769): Microelectromechanical Dual-Mass Resonator Structure.

## Congratulations

To Renita Elder (3021) and Clarence Collins (1732), married in Albuquerque, May 31.

# Bi-National Lab team participates in Rotary exchange to tackle water issues along US-Mexico border

By Chris Burroughs

When you turn on the spigot in the US, you expect the water to flow and be clean and safe to drink. You don't think about it.

Not so in parts of Mexico where the recent drought means decreased water quality or even no water at all when you turn on the tap.

Gray Lowrey (6216) recently spent a month as part of a Rotary International Group Scientific Exchange, looking at water issues on the US-Mexico Border and in the state of Chihuahua, Mexico. His efforts tie in with goals of the new Bi-National Sustainability Laboratory Initiative (BNSL) initiative.

On his 3,000-mile trek during the exchange, Gray saw numerous problems with how water is delivered and treated. In Ciudad Juarez, the fourth largest city in Mexico, there are two new water treatment plants, and effluent has only recently begun to meet the Environmental Protection Agency's minimum standards for US water. And some speculate that Juarez will run out of fresh water from the Hueco aquifer as early as 2004-2005. In other parts of Chihuahua, there are no water systems at all and people get water from surface wells that are unprotected and often contaminated.

The team Gray was part of included two New Mexico State University professors, a local geohydrologist, and a New Mexico Environment Department water quality specialist. They visited



GRAY LOWREY (6216, left) videotapes a leaking pipe during his Rotary International Group Scientific Exchange in Mexico.

cities, villages, and rural areas in Chihuahua, which is one of the five states in Rotary District 4110. A similar Mexican contingent visited New Mexico and the El Paso area — which make up Rotary District 5520 — to learn more about ongoing water research and development programs and receive an update on the BNSL initiative.

While it is commonplace for Rotary to do these

exchanges, this was the first scientific exchange between the two districts. Rotary Clubs around the world do Group Study Exchanges where members of one Rotary district visit another Rotary district to meet with members there. Simultaneously members from the second Rotary district visit the first.

These encounters are meant to exchange cultural and professional knowledge. The exchange Gray participated in had an added mission — to focus on water problems in the bi-district zones of 5520 and 4110.

Gray says the group visited areas where drinking water was collected from shallow wells and springs going untreated and was, most likely, contaminated. In a time of drought, pipes carrying water in one location were leaking thousands of gallons a day because of poor maintenance. Even in the large city of Juarez, people were using compost toilets because water wasn't available to their part of the metropolitan area.

In one small town, Gray remembers being in the middle of taking a shower when the water shut off, giving him personal experience that, indeed, the water delivery system there left much to be desired.

Among their stops in Mexico was a visit to drought-stricken Basigochi in the Sierra Tarahumara Region where native Indians performed a rain dance.

One of the biggest problems with water delivery, Gray notes, is the government's relationship with its citizens.

"Mexico has a history of charging little or nothing for water service," Gray says. "This makes it difficult to build and maintain the infrastructure since there is always a lack of revenues."

After the visits the US and Mexican groups met in Taos, N.M., to brainstorm about what can be done to improve water delivery and purity in the borderlands. In the end the two teams wrote a report outlining the issues and 15 projects that Rotary Clubs could help implement over the next few years.

"Even though I have had a lot of contact and experience in working with Mexico," Gray says, "I am always reminded how different we are culturally and how important it is to maintain contact and improve communication."

The goal is for Rotary Clubs to adopt a project from these ideas and carry it through.

Gray was encouraged to participate in the exchange by Vipin Gupta (16000), a member of Sandia's Advanced Concepts Group. As one of the people at Sandia involved in the BNSL, Vipin worked on the Rotary planning team that organized the Group Study Exchange activities. This new endeavor encourages the US and Mexico to pursue their common goals for increased science and technology cooperation between the US and Mexico and leverage this cooperation to improve the quality of life in the border region.

"The exchange in which Gray participated is exactly the type of activity that is needed to prepare for the BNSL," Vipin says.

## How the Rotary Study Exchange worked

The two Rotary Group Study Exchange teams began their journey together by exploring water issues in the El Paso-Juarez region, visiting many of the agencies that work with border and water issues. They then parted ways with the Mexican team visiting communities in New Mexico and far west Texas. The US team toured the Mexican state of Chihuahua. The teams reconvened briefly in Juarez, mid-way through the trip, to present preliminary findings to an audience at the Rotary 4110 District Conference. The teams assembled for the final time in Taos, to give a presentation to the Rotary 5520 District conference and to prepare a report to Rotary summarizing the group's findings and recommendations.

The US team's experience in Chihuahua primarily focused on municipal and domestic water issues. For example, they discussed prob-

lems concerning municipal water issues with agencies in Ojinaga, Nuevo Casas Grades, Juarez, El Paso, and Cd. Chihuahua. They also toured communities with problems pertaining to infrastructure including communities surrounding Juarez and several pueblos and ejidos in the Sierra Tarahumara.

The Mexican team studied the broad problems related to a range of water uses such as irrigation and municipal water issues. They met with organizations that have been investigating water issues. Among them was Sandia where they heard from Vince Tidwell (6115) on water modeling; Howard Passel (5324), cooperative water monitoring; John Strachan (6218), Sandia's renewable energy program in Mexico; Mike Hightower (6251), Sandia's desalination program and evaporation suppression effort; and Vipin Gupta (16000), the BNSL.

## Water scarcity

The areas that the US exchange group visited include most of the Chihuahua desert, the Southern Rocky Mountains, and the northern end of the Sierra Madre Occidental. In this zone water is very scarce, due to low rainfall and rapid runoff. Much of the area has been in a brutal drought for 10 years.

Chihuahua has been harder hit by the drought. A lack of rain has led to decreased farming, which has driven workers from the fields to the city and across the border into the US. As a result, Mexico has virtually stopped all flow of water down the Rio Conchos, causing farmers in Texas to go bankrupt and leading to an international emergency that was recently discussed by Presidents George Bush and Vicente Fox at their meeting in Monterrey.

Mexico is unable to produce its own commodities such as beef, wheat, and corn, which can now be bought cheaper from the US. The end result is a failing border economy, which affects political and social issues such as immigration.

*"The exchange in which Gray participated is exactly the type of activity that is needed to prepare for the BNSL." — Vipin Gupta*

## Rotary exchange is first of its kind

The Rotary International Group Scientific Exchange that Gray Lowrey (6214) participated in had two firsts, says 20-year Rotarian Clark Lovrien of Albuquerque. He is a former governor of Rotary District 5520 — which covers all of New Mexico and West Texas from Fort Stockton to El Paso — and was district chairman of this group exchange.

The firsts included: the first time an exchange was done with an adjacent district (in this case Rotary District 5520 with District 4110 in Mexico) and the first time an exchange was done with a single scientific focus — water.

"All the participants were selected because they were interested in or their business had something to do with water," Lovrien says.

He was particularly pleased by the partici-

pation by Gray, who was on the US team that visited Mexico, and Vipin Gupta, who arranged for Sandia's involvement.

"Between Rotary's contacts and Sandia's technology, we were able to make this exchange a success," he says.

One of the highlights of the Mexican delegation's trip to Albuquerque was the visit to Sandia, where they met with scientists who have been investigating water issues.

Lovrien anticipates that out of the research the Mexican and US teams did will come specific projects in which Sandia and Rotarians can participate. Lovrien hopes the relationship between the Rotary Clubs and Sandia is on-going.

"We will continue to ask for advice or participation from Sandia, he says. "We'd like to maintain our relationship."

# Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

## MISCELLANEOUS

SECURITY DOUBLE DOOR, iron, \$100; Stifel brass lamp, Grecian urn base, \$100; bath transfer bench, \$50. Gomez, 291-1062.

GARMIN GPS, pre-'88 Chevy trailer hitch, free homemade bumper, 5th wheel tailgate Ford '87-'98, '84 Ford manuals. Gallegos, 293-5634.

COFFEE TABLE, w/compartments, \$60; breakfast bar, 2 stools, apt.-size, \$65; chair, recliner, \$50; office chairs. Garcia, 888-3686.

CAR SEATS, 22- to 80-lb. child, 2 Century Breverra Contour, 2 Cosco, 5-point, excellent condition, \$30 ea. Phelan, 869-6094.

UPRIGHT VACUUM, Kenmore, 12.5-hp, \$40 OBO; kitchen table, 3 x 5 glass, w/4 gray chairs, \$200 OBO; water skis, w/carrier, \$40. Sandoval, 866-6991.

ARMOIRE, \$150; triple dresser, \$125; pier-system headboard, w/built in lamps, \$150; gas grill, \$50. Fromm-Lewis, 291-8181.

END TABLES, oak, 2 shelves, American Home, excellent condition, \$25 ea. Wilson, 293-2228.

HALOGEN LIGHTS, PIAA, for SUV, have original instructions, \$212 new, asking \$100. Borgman, 299-6010.

DRESSER, high-quality, solid oak, w/mirror, 6-drawer, 2-door, cedar-lined, 5-pc., w/dove-tail joints, \$1,250 OBO. Kraft, 266-1975.

CAMPER SHELL, Toyota long-bed, \$90; Pentium computer, 20-in. monitor, \$75; futon frame, \$30; dining set, \$50. Moore, 281-2480.

CD BURNER, brand new, never been used, \$100 OBO. Prieto, 897-2764.

SAXOPHONE, Yamaha YST-21, excellent sound & playing condition, w/some normal wear & tear, \$500. Clevenger, 450-7586.

MATTRESS, king-size Serta, about 3 yrs. old, excellent condition, \$275. Mounho, 299-0883.

MATTRESS, full-size, Sealy Master-pedic II, box spring & base frame \$150; sleeper sofa, floral print, \$200. Gore, 836-7477.

PICNIC TABLE, 2 x 8 table & benches, steel tube legs, 8 ft. long, \$65. Boyes, 296-0654.

LOVESEAT, black, w/4 throw pillows, end table, coffee table, & lamp, \$450 OBO. Cotinola, 304-1128.

BASSET HOUND, needs lots of love & attention, black, brown & white, 14 mos., \$50 OBO. Archuletta, 450-9058.

WOMEN'S MOTORCYCLE BOOTS, hardly worn, like new condition, size 8-1/2, \$100. Zamora, 899-6330.

LADIES BOOTS, size 8, Dan Post, black, \$75; Tony Lama w/crepe sole, \$75. Harris, 822-0236.

"Z-TOOL" PROFESSIONAL CAR OPENING TOOLS, for aspiring locksmith, clean record, NM driver's license required, \$220 firm. Mooney, 294-5161.

RUG, 10' x 13', beautiful, burgundy on beige background, floral design, green & blue accents, good condition, \$280 OBO. Kalinina, 507-8765, ask for Alex.

TV, 27-in., complete w/factory manuals, needs parts; carpet cleaning machine, needs parts, both free. Bentz, 857-0728.

OFFICE PHONE SYSTEM, many phones, wire connection panel, controller unit, music hold, etc., complete system, make offer. Duncan, 271-2718.

DALMATIANS, 2, 16 wks. & 12 mos., shots, house-broken, obedience-trained, nice temperaments, \$100 ea. Lin, 452-0939, ask for Jane.

RECLINER, black leather, like new, \$300. Snyder, 281-3822.

FIREWOOD, cottonwood is topped, you cut & haul the stubs & trunk, all or part, free. Horton, 883-7504.

NORDICTRACK EXCEL, ski machine, good condition, \$250 OBO. Jones, 797-4894.

ATLAS METAL LATHE, thread cutting 10-in. swing, 54-in. bed, tapered bearings, old but good, trade for same but w/36-in. bed. Adams, 881-4351.

TRUCK ACCESSORIES, steel tool boxes, diamond-plate bed/tailgate caps, bed liner, from '96 Ford F250 short-bed. Otts, 839-1268.

BUNK BED, white metal, new mattresses, barely used, \$250. Zender, 294-8210.

DESK, student, roll-top, pine, \$75. Hudson, 821-8988.

CUPBOARDS, cherry, taken from kitchen for your kitchen, garage, utility room, \$10. Malcomb, 294-6975.

WASHER/DRYER, stackable, \$150. Hernandez, 831-1191, ask for Lucia.

TWIN BEDS, 2, mattress/box spring sets, frame, good condition, \$50 set; twin headboard & footboard, \$20. Thornberg, 869-0421.

TWIN BED, w/large drawers & bookcase headboard, used only 6 mos., paid \$300, asking \$150. Edge, 271-0738.

REFRIGERATOR, Admiral, 18.6 cu. ft., w/icemaker, \$250; queen-size brass bed, w/mattress, \$200; bookcase, 6' x 4' x 1.1', \$50. Goel, 828-9799.

REFRIGERATOR/FREEZER, Sub-Zero, under-counter, w/ice maker, \$125; standard-size double basin, stainless-steel kitchen sink, w/faucet, \$45. Martin, 830-2722.

COMPUTER DESK, \$30; office swivel chair, \$15; misc. computer books; 18-in. new gas fireplace set, \$40. Williams, 293-4307.

MOVING SALE, July 12 & 13, 8 a.m. -1 p.m., 7800 Northridge NE, DR table, 6 chairs, china cabinet, 3 large tables, console TV, other good stuff. Easterling, 379-9683.

MICHELIN TRUCK TIRES, 4, XCLT4, LT235/85-R16, mud & snow, approx. 15K miles, \$200. Wright, 296-3850.

EVAPORATIVE COOLER 4500 CFM, window unit, 120V, used one season, \$200. Bauer, 266-8480.

PAINTBALL MARKER, Kingman Spyder, semi-automatic, well cared for, 1 yr. old, w/steel braided hose, \$120 OBO. Nation, 298-5605.

ENTERTAINMENT CENTER, from Homestead House, 12 ft. long, 5-pc., in new & outstanding condition. Steele, 298-3815.

PLAY STATION 2, 2 controllers, 2 memory cards, 7 top games (Tony Hawk, Grand Turismo 3, etc.), \$400. Schneeberger, 286-3254.

NINTENDO 64, w/4 games, \$120 OBO. Lucero, 792-7719.

NEW TILT TRAILER, 4' x 8', payload 1,600 lbs., axle 2,000 lbs., idler, w/side racks, \$750. Gonzales, 823-2081.

TABLE SAW, motor scooter, portable air tank for auto, take all, free. Williams, 298-2624.

ENTERTAINMENT CENTER, black marble design, w/shelves, coffee & matching end tables, rounded edges, gold stands. Torres, 352-9342.

BRA & WHEEL, silver w/gray, fit '88 vintage (F-body) Camero IROC/Firebird-TA/etc., \$35 & \$60 OBO. Hubbard, 293-2819.

PRINTER, Lexmark 1000 ColorJet w/color & black toner cartridges, cable, \$25. Lunsford, 255-0307.

CRAFTSMAN 6-IN. JOINTER, \$160; Craftsman scroll saw, 6-in., \$75; Stanley headplanes, \$25. Shaffer, 256-7601.

PA SPEAKERS, Eminence 15-in. Kappa Drivers, 5" x 15" horns, 400W RMS, 800W max, like new, \$490 both. Kureczko, 286-4426.

SATELLITE DISH ANTENNA, 18-in. DirecTV, digital satellite receiver, new condition, \$20 both. Linnerooth, 299-6558.

MAKITA CORDLESS DRILLS, new 9.6V angle drill, \$125; used 9.6V w/2 batteries, \$70, chargers included. Barnard, 856-1952.

## How to submit classified ads

**DEADLINE:** Friday noon before week of publication unless changed by holiday. Submit by one of these methods:

- E-MAIL: Michelle Fleming (classads@sandia.gov)
- FAX: 844-0645
- MAIL: MS 0165 (Dept. 12640)
- DELIVER: Bldg. 811 Lobby
- INTERNAL WEB: On Internal Web homepage, click on News Center, then on Lab News News, and then on the very top of Lab News homepage "Submit a Classified Ad." If you have questions, call Michelle at 844-4902. Because of space constraints, ads will be printed on a first-come basis.

## Ad rules

1. Limit 18 words, including last name and home phone (We will edit longer ads).
2. Include organization and full name with the ad submission.
3. Submit the ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. One ad per issue.
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active and retired Sandians and DOE employees.
10. Housing listed for sale is available without regard to race, creed, color, or national origin.
11. Work Wanted ads limited to student-aged children of employees.
12. We reserve the right not to publish an ad.

CAR-TOP CARRIER, Sears Sport 20SV, fits rack 32-in. long x 28-in. wide, \$50. Smith, 256-4186.

BICYCLE RACKS (ROOF), 3, Yakima, \$50 ea.; double cross mount, \$50; 58-in. crossbars, \$25; 6-pc. lock set, \$25. Hillhouse, 275-0659.

JOGGING STROLLER/BIKE TRAILER, \$45; child's dresser, \$25; kitchen table, w/4 chairs, \$40. Nicolaysen, 275-9657.

GAS GRILL, Sunbeam, w/empty propane tank, \$50. Blickem, 271-1413.

EXTENSION LADDER, 24-ft., lightweight, commercial, aluminum/fiberglass, used once, 1/2 price, \$110. Cooper, 281-0950.

L-SHAPED DESK, & computer desk, w/hutch, large, beautiful knotty pine, lots of storage & nice details. West, 869-3962.

BEAMS, 6 x 10, various lengths, 40¢/bf; blocks, 8 x 8 x 16, 50¢, 6 x 8 x 16, 40¢; windows, 3 x 8 x 6, dual-pane, single-hung, \$40 ea. Talbert, 298-9036.

DISHWASHER, portable, works well, \$100. McLellan, 299-0266.

COCKATIELS, male breeders, show bird quality, \$35; parakeets, medium & large cages. Gasser, 255-6244, ask for Ken.

TIRES, 4, LT235/85R16, B.F. Goodrich ATOs, 8/32 tread (16/32 new), \$100. Beer, 350-3455.

STORM/SCREEN DOOR, Sears black/amber, 36" x 80", \$30; Sears 4-hp gas mower, \$40; 1/2-hp AC motor, \$15. Thompson, 292-2877.

APPLIANCES: Admiral 21.1-cu. ft. frostless refrigerator, Roper 2-spd. washer, Westinghouse dryer, all white & like new, \$750. Brenkosh, 286-9497.

BRUSHCUTTER, Husqvarna Megamondo, w/harness, \$160; sprayer, 4-gal. backpack, \$40; both excellent condition, little use. Jones, 292-1581.

**TRANSPORTATION**

'87 ISUZU TROOPER, 2-dr., runs, almost new tires & brakes, tired motor/interior/body, mechanics special, \$1,000 OBO. Eichert, 873-4981.

'92 FORD RANGER XLT, AT, AC, PS, reg. cab, AM/FM/cassette, brilliant blue, fiberglass shell/topper, \$3,500 OBO. Jaramillo, 615-4891.

'94 CADILLAC SEVILLE STS, V8, Northstar System, gold, loaded, HF cell phone, 61K miles, excellent condition, \$12,600. Dye, 299-2250.

'94 FORD ESCORT, 4-dr., loaded, low mileage, 1 owner, great car, book \$3,150, asking \$2,800. Saavedra, 864-9626.

'76 CHEVY PICKUP, 4-dr., 454, V8, w/10-ft. camper, low mileage, \$4,500 OBO. Martin, 869-1212.

'93 MERCURY VILLAGER LS, leather seating, fully loaded, red/silver, new tires, excellent condition, 103K miles, \$3,800 OBO. Gaona, 889-0248.

'89 FORD E150, conversion van, white, V6, 179K miles, downsizing, \$4,900 or trade dirt bikes/tractor/bobcat. Wiseley, 286-9473.

'85 CLUBWAGON XL, 15 passengers, new transmission, new brakes, clean, w/nice interior, great AC, \$2,999. Sotelo, 298-0358.

'98 TOYOTA 4 RUNNER LIMITED, loaded, mint condition, 45K miles, \$23,500 OBO. Stauder, 298-3815.

'84 TOYOTA 4X4 PICKUP, 4-cyl., Snug top, custom bumper, 1,500 miles on rebuilt engine, \$2,500. Bain, 837-1392.

'95 TOYOTA COROLLA, 4-dr., 4-cyl., AT, AC, PW, AM/FM/cassette, great condition, 107K miles, \$5,444 OBO. Rogahn, 299-2710.

'66 FORD BRONCO, 289 V8, 3-spd., uncut fenders, new paint, windshield, 107K miles, \$6,600. Gutierrez, 239-7059.

'96 JIMMY 4x4, power everything, leather, SLT, many extras, 95K miles, mostly highway, NADA \$10,200, asking \$9,400. Sparling, 281-7267.

'98 FORD MUSTANG, silver, excellent condition, \$9,000 OBO. Padilla, 247-8163 or 280-8332.

'01 FORD F-150 XLT, ext. cab, \$17,350. Clarke, 922-9138.

'99 HONDA ACCORD EX, 4-dr., 5-spd., AC, ABS, sun roof, CD, silver, creampuff, below NADA. Henderson, 299-6083.

'92 FORD CROWN VICTORIA, runs well, 111K miles, \$3,100. Bartholomew, 896-4221.

'01 HONDA CIVIC, 5-spd., AC, PL, PW, PM, CD changer/cassette, floor mats, cruise, excellent gas, 20K miles, retail \$15,200, asking \$14,000. Sanchez, 720-9078.

'86 TOYOTA TERCEL WAGON, 4WD, AC, AM/FM/cassette, complete records, well maintained, 234K miles, runs well, \$900. Odom, 298-6822.

'97 MERCURY TRACER, white, 43K miles, 30-mpg, nicely equipped, below book. McKiernan, 255-2277.

'63 CHEVY PICKUP, classic, step side, 6-cyl., AT, PS, low mileage, \$2,200. Daniel, 260-0461.

'95 TOYOTA PICKUP, x-cab, V6, 4x4, AT, blue, 92K miles, new tires, great condition, \$10,200 OBO. Trujillo, 203-9150 or 899-0349.

## RECREATIONAL

'76 CLASS A ARGOSEY, runs great, \$4,200 OBO; 90-hp Johnson outboard, \$1,000 OBO. Vickers, 291-1333.

CATAMARAN SAILBOAT, fast, Supercat 17, beach launch, ready to sail, w/trailer, extras, \$1,900 OBO. Penn, 883-4195.

'99 TAHOE 5TH WHEEL, 25-ft., fully loaded, beautiful, used 3 times, must sell, \$17,000 OBO. Gabaldon, 268-0088.

'79 CHEVROLET HUNTSMAN, 23-ft., Class C, sleeps 4-6, dual AC, bath, kitchen, good condition, 45K miles, \$7,000 OBO. Montoya, 265-6874.

'92 CBR 600, custom paint & parts bike, \$3,000 OBO. Strauch, 259-3423.

SAILBOAT, 14-ft. Bonito, \$150. Stromberg, 299-8591.

'83 HONDA CR480 MOTORCYCLE, plus a parts bike, \$800 OBO. Hill, 856-0745.

PIPER CUB LOOKALIKE, RANS S-4 taildragger, Rotax 503DC, 2 wing tanks, 100 hrs TT, licensed experimental. Woods, 299-6928.

MINI-MOTORHOME, 23-ft. Dolphin, '86 Toyota, AC, self-contained, shower, 3 beds, excellent condition, 53K miles, \$7,000. Matthews, 881-7368.

BICYCLES: Bianchi Champoined Italia racing 22.5-in., \$100; Bridgestone touring, 24-in., \$50; '60's Schwinn, like new, \$25. Gabaldon, 897-2817.

'02 HONDA CBR600F4i, yellow/black, 4 yr. warranty, 250 miles, excellent condition, pictures available, \$8,500 OBO. Maestas, 228-0636.

'96 HONDA CBR1000F, new in crate until '99, Two-Brothers exhaust, tank bag, 19K miles, perfect, \$6,500. Jacobs, 301-6440.

'97 ALPENLITE 5TH WHEEL, lots of extras, excellent condition, \$26,500 OBO. Rogers, 505-588-7931.

'86 HONDA VF700C MAGNA, very good condition, must see, book \$2,420, asking \$2,000. Grasser, 828-9051.

'96 KTM 620RXC, dual sport motorcycle, less than 5K miles, extras, \$2,700 OBO. Zarick, 898-8840.

BICYCLE, Trek Navigator, on/off road, 1 yr. old, excellent condition, w/extras, new \$400, asking \$250. Hammond, 823-9619.

'98 ARCTIC CAT, ATV, full time 4x4, 5x2 spd. standard transmission, have service record for life of vehicle, \$3,500. Shoemaker, 869-2775.

## REAL ESTATE

5-BDR. HOME, + office, 13.5 acres, Aspen T&G, FP, Country Chef's kitchen, 3-car garage, 1,600-sq.-ft.-barn w/living quarters, sell ASAP, \$399,900. Rowe, 286-5432.

COMMERCIAL PROPERTY, C1 zoning, .4767 acres, 350-sq. ft. building, fenced, great small business location, on Central Ave. SW, near Old Town Plaza, \$245,000 OBO. Bristol, 843-9490.

2-BDR. TOWNHOME, 1-1/2 baths, great home, only minutes from work, 1,000 sq. ft., fully landscaped w/sprinklers, 1-car garage, pellet stove, excellent condition, \$76,900. Dukes, 271-6383, ask for Carrie.

2-BDR. TOWNHOME, w/office, new, 3124 Renaissance, gated, by Rio Rancho CC, 1,337 sq. ft., FSBO, \$133,900, open house Sundays, 1-3 p.m. Estrada, 858-1149.

3-BDR. MOBILE HOME, 2 baths, double wide, 1,350 sq. ft., many upgrades & extras, \$39,900. Miller, 831-4541.

2 ACRES, premium Paako East Mountain lot, superb views, underground utilities, paved roads, well below retail, \$130,000 OBO. Blacker, 798-9095.

## WANTED

DONATED PC LAPTOP, w/Microsoft Office software, for a nonprofit providing childcare for homeless children. Tapia, 857-0475.

'90-'98 TOYOTA, or Nissan pickup, in excellent working condition. Herrin, 838-0285.

AKC GOLDEN RETRIEVER STUD, for AKC golden retriever female, pick of the litter for stud fee. Brito, 833-5911.

COMPUTER, 200-MHz or faster processor, Windows 98 or later operating system. Coleman, 884-5009.

REFRIGERATOR, full-size, also table & chairs, for Zuni Elementary School parent room. Furnish, 884-6626.



## La Luz Childcare open house is July 14

The La Luz Early Childcare Center, a new non-profit facility, is hosting an open house on Sunday, July 14, from 10:30 a.m.- 2:30 p.m. Sandians are invited to stop by and visit.

La Luz teachers and administrative staff will be on-site to show the new facility and to answer questions. The La Luz Childcare Center is located in the new Sandia Laboratory Federal Credit Union (SLFCU) building one block east of Eubank on Gibson (Gibson and Britt St. SE)

The La Luz Center is open to the Sandia National Laboratories community and will open its doors for operation on Aug. 1.

La Luz was built with help from the SLFCU, which was able to lease space for the childcare facility at the site of its new branch office. In addition, Lockheed Martin also made donations from its community funds to help this new facility with start-up costs.

The center, a high-quality learning facility for children, is open to all parents. Many Sandians have been inquiring about this new daycare center and are interested in finding out more about it. Some parents learned about the new facility in late



April when Sandia sponsored a childcare fair. About 20 area childcare facilities participated, including La Luz.

La Luz will be operated by the Albuquerque Country Day School. Contact La Luz at <http://www.laluzelc.org/> or call 797-2200 for more information or to get a child enrolled.

Sandia parents are also eligible to use the Shandiin Child Development Center located on base at the corner of Pennsylvania and M St., Bldg. 20401. Shandiin can be reached at 845-5013 or visit its website at <http://www.doeal.gov/shandiin/index.htm>.

## Iris Aoytes is big Savings Bond winner



**STRONG BOND** — Savings Bond Coordinator Juanita Sanchez (12660, right), aka Uncle Sam, presents a \$1,000 bond to winner Iris Aoytes (12640). Other winners were: \$500 bond, Margaret Box (9511) and Clifford Sharp (2331); \$200 bond, David E. Rogers (14181), Adam Sandoval (8513), and Susan Gloria Smith (5922). All prizes for Savings Bond payroll deduction participants were donated by Lockheed Martin. For a complete list of all the winners contact your savings bond representative. Winners were drawn by Dept. 3051 using a random number generator in Microsoft Access. (Photo by Randy Montoya)

## Feedback

**Q:** Does Sandia have a policy against backing into parking spaces, especially in parking lots with one-way traffic? The other day I turned into the parking lot (a one-way) and there was a car, which had backed into a parking space, it zipped out and nearly caused an accident. When you turn into the parking lots many times you cannot see because of vehicles already parked there so it is dangerous when someone is driving the wrong direction as is the case when you back into a parking space. I know that the base at one time had a restriction against backing into parking spaces on one-way traffic parking lots and citations with a fine were issued.

**A:** Sandians, students, and visitors must park in designated parking spaces following the identified flow of traffic. Backing into a parking slot is not in compliance with KAFB and Sandia National Laboratories requirements. Please call security at 844-3155,

or Nicole Morgan at 844-7950, if you observe vehicles parked in a dangerous or unauthorized manner.  
— Ed Williams (7849)

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**Q:** What is the blue-green powder that I see sprayed around on the dirt in Tech Area I? Is it an herbicide, and if so, which one? The idea of breathing this stuff to save on landscaping gives me the creeps.

**A:** The herbicide used is a pre-emergent called Sahara, which prevents germination of unwanted vegetation. Sandia requires the contractor be licensed and submit an Environmental, Safety, and Health Plan for review. The plan identifies the hazards and methods the contractor uses to protect its employees, Sandia employees, and the environment in the course of its work. A color or tint dye is mixed with the herbicide, which is USDA approved. This dye is used to verify application, indicating which areas have been completed. This is a process that prevents duplicate work and ensures proper coverage and accurate cost. The herbicide is noncorrosive, nonflammable, and is not identified as a carcinogen or sensitizer. This product is widely used throughout the landscaping industry.  
— David Corbett (10800)

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**Q:** In this current age of companies responding to employee needs to work part time, telecommute, etc., why aren't managers advertising part-time positions to provide Sandians more job autonomy within the Lab? Why can't the post-and-bid system include these opportunities?

**A:** Sandia offers various flexible work schedules such as temporary positions, part-time employment, telecommuting, 9/80 work schedule, etc. Part-time and telecommuting arrangements are available at the manager's discretion and take into consideration the needs of the business, the needs of the employee, and the suitability of the position and the employee to that type of arrangement. Currently there are 7,554 regular full-time employees at Sandia and 236 regular part-time employees. Also, there are more than 100 formal telecommuting agreements in effect.

In many instances, the flexible work schedule is approved for a unique set of circumstances between the employee and their manager, and their job responsibilities. If any of those circumstances change, it is likely that the flexible arrangement would be reconsidered. The job posting system does include the opportunity for the manager to indicate a need to fill a part-time job (although part-time employment is not the prevailing method of conducting business at Sandia), or have part-time matrix work available on a project. The specific work arrangements required in a particular opening will be in the job posting description.  
— Don Blanton (3000)

— Don Blanton (3000)



FIREWORKS lit up the sky July 3 at the New Mexico State Fairgrounds in an early celebration of the nation's Independence Day. Sandia photographer Randy Montoya captured this image of the fireworks display.