JOHN SHELNUTT headed a team that won an R&D 100 Award for NanoCoral™: Dendritic platinum nanostructures. Sandia won five R&D 100 awards and shared in a sixth. (Photo by Randy Montoya)

Sandia wins five R&D 100 Awards, plays role in sixth

By Neal Singer

Sandia researchers — competing in an international pool that includes universities, start-ups, large corporations, and government labs — received five R&D 100 Awards this year and played a role in a sixth.

R&D Magazine presents the awards each year to researchers who, in the opinion of teams of judges selected by the magazine, have developed the year's 100 most outstanding advances in applied technologies.

> *"The Department of Energy's national laboratories are incubators of innovation, and I'm proud they are being recognized once again for their remarkable work."*
>
> **— DOE Secretary Steven Chu**

The six Sandia award winners are:

- A high-temperature silicon carbide power module that more efficiently converts electrical energy from one form to another.
- An ultra-low-power silicon microphotonic communications platform that enables optical data transmission and routing on a silicon platform at nanosecond switching speeds with up to 100 times less power consumption and 100 times the bandwidth density compared to traditional electronic approaches.
- The Catamount N-Way (CNW) lightweight kernel, which delivers significant improvements in data access performance for today's parallel computing applications.
- NanoCoral™: Dendritic platinum nanostructures, an innovative nanotechnology for producing platinum catalysts for the renewable energy sector.
- The hyperspectral confocal fluorescence microscope system, which rapidly finds all emitting fluorescence species of an image.
- Sandia played a role in the Artificial Retina Project, part of a large multilab/industry project funded by DOE.

Sometimes referred to as "the Nobel Prizes of technology," the R&D 100 Awards were first presented in 1963 as the I-R 100s, in keeping with the original name of the magazine, *Industrial Research*.

For more on the R&D 100 Awards, see story on pages 8-9.

Employee Recognition Awards

49 individuals, 74 teams honored with 2009 Employee Recognition Awards. See pages 10-12

Sandia LabNews

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Sandia National Laboratories

Managed by Lockheed Martin for the National Nuclear Security Administration

Full Spectrum Leadership: A framework guiding performance, behaviors

By Julie Hall

As Sandia strives to remain competitive in an ever-changing global landscape, more attention than ever is being focused on the role of leadership in moving the Labs forward and shaping its future.

The key word here is leadership, not management. While both are essential to Sandia's success, the Labs needs "to separate the notion that leadership equates with individuals whose role it is to manage people," says Div. 1000 VP Steve Rottler.

Steve, who previously served as Div. 2000 VP for four years, is one of the early adopters of Full Spec-

(Continued on page 6)

Computer scientists at Sandia's California site have for the first time successfully demonstrated the ability to run more than a million Linux kernels as virtual machines. See story on **page 3.**

Also inside . . .

Tom Hunter talks about Change@Sandia, leadership changes, future prospects for the Labs . . . and a little about himself

LABS DIRECTOR TOM HUNTER

Note: The Lab News *recently had the opportunity to sit down with Labs Director Tom Hunter to talk about a number of issues that fall under the general category of Change@Sandia — what it means, why it's happening, where it's going. The discussion also touched on recent senior leadership changes: new VPs in Divisions 1000, 2000, and 8000 and new directors in key positions Labs-wide. The interview starts below:*

Lab News: *Change@Sandia has been a theme at the Labs now for several years. Will change continue to be the norm for us?*

Tom Hunter: We concluded about four years ago that the world we live in is changing radically and that the national security role of the Lab needed to change as well. We committed to transforming the laboratory to meet the needs of the new era, to adapt to the new environment. We created something called Lab Transformation, so absolutely we're about transformation and change, but hopefully change in a deliberate way that allows us to have the flexibility to deal with a constantly changing environment and to forge a better future.

(Continued on page 4)

VPs assume new roles

In recent months, a number of changes at the vice president level have been announced. **Rick Stulen** moves from VP of Science & Technology and Research Foundations Div. 1000 to VP of California Laboratory Div. 8000. **Steve Rottler**, previously VP of Weapon Engineering & Product Realization Div. 2000, moves to Div. 1000 and **Carolyne Hart**, previously director of Electronic Systems Center 5300, takes the helm at Div. 2000.

Two VPs, **Lenny Martinez** and **Jim Tegnelia**, are leaving the Labs. Lenny, formerly an executive with Digital Equipment Corp., helped transition the Labs into the post-Cold War era role of manufacturing and production of key weapon components. Jim played a major role in the transition of Sandia from AT&T management to Martin Marietta (later Lockheed Martin) management. He served as Executive VP from 1993-1995.

Consistent with the Labs' intent to have a broader and deeper program structure that requires fewer vice presidents, Lenny and Jim's positions will not be filled.

Get to know bit more about these leaders in separate stories on **page 3** (Rick Stulen), **page 5** (Steve Rottler and Carolyne Hart), and **page 16** (Lenny Martinez).

A story about Jim's retirement was published in the May 8 *Lab News.*

That's that

By now, you've read and heard the pundits and historians, the scientists and engineers and astronauts reminiscing about the 40th anniversary of Apollo 11 — what that "one small step" meant to the nation and the world; what it says about us that after Apollo we never returned to the moon. Do you mind if I weigh in just a little after the fact and offer a couple of thoughts of my own?

Predictably, much of the commentary has conveyed a sense that we let a great opportunity slip away from us, that we should have gone back and stayed, and then headed for Mars. You heard, too, in the comments, that plaintive pitch of deep regret and loss, even a sense of anger. And if you are of a certain age all of those responses make sense.

I was in my late teens when we landed on the moon; I very clearly remember President Kennedy laying down the challenge to put a man on the moon and return him safely to Earth "before this decade is out." To me, it made perfect sense that we'd do this thing, "not because it is easy, but because it is hard."

Throughout the 1960s, I just absorbed everything I could about the space program. I could rattle off the details of every Mercury, Gemini, and Apollo flight. I could tell you about the prime contractors, what they were building, how they were doing. And the Russian stuff? I knew all that, too, to the extent that it was public. You get the picture. I totally embraced and personalized the space program and — probably more to the point — the spirit of discovery and adventure it represented.

So in the ensuing decades, as I watched the moon wane from full to quarter to just a little tiny sliver up there, it seemed that something very important — to me! — had passed away. Crazy, sure, but people are complicated.

I wasn't alone, I think, in going through something very much like the five stages of grief described by Elisabeth Kubler-Ross: denial, anger, bargaining, depression, and acceptance. I wasn't in a position to do any bargaining about the fate of the space program, of course, but I think in one way or another I've experienced the other things. And I have reached today, at this late hour — grudgingly — a state of acceptance: The moon is still there, and the planets. They're not going anywhere. And some day, when it makes sense, we will return.

* * *

You know those ethics awareness training videos? We all watch them as part of our required annual training. This year, one individual in our group had, perhaps, a different response than most of us to those videos. Our summer intern, Stanford student Rachel Kolb, is profoundly deaf. For her, watching videos can be an exercise in frustration. Good news, though: the ethics videos were subtitled. Rachel was so pleased that she felt she just had to thank someone. So she sent a note to Lockheed Martin CEO Bob Stevens. Here, in part, is what she wrote:

"Yesterday I attended my Sandia organization's annual ethics awareness training session and was very impressed that the video, "A Culture of Trust," [was] subtitled. This is not something I find very often . . . I believe such inclusiveness is a testament to Lockheed Martin Corporation's standards. It shows true consideration for your employees, and exemplifies appreciation for diversity — the very principle that this annual ethics training strives to promote. Thank you for taking the initiative to make this video, and other similar material, accessible. It means more to me as an individual than you will ever know."

Bob Stevens responded within the hour: "Rachel — Thank you for your very kind note. I do not think you could find a more invigorating and challenging environment to experience an internship than at Sandia. Enjoy the summer and continued success at Stanford. RJS."

Class — it's one of those things that's tough to define but you know it when you see it. And in this exchange, you just can't miss it.

See you next time.

— Bill Murphy (505-845-0845, MS0165, wtmurph@sandia.gov)

Are you exploitable? Speaker shares insights with summer interns

By Rachel Kolb

We interact with people and make decisions every day, confident in our ability to act perceptively and rationally. But this notion is not always true. Each of us has psychological weaknesses that occasionally get the better of us, making us ripe to be exploited.

On July 21, Philip Kegelmeyer (8962) discussed this very topic with a group of young adults from Sandia's Student Internship Program (SIP) as part of a summer seminar series. In his presentation, "The Psychology of Persuasion," he encouraged students to understand their psychological vulnerabilities in order to avoid exploitation in their professional and personal lives.

Philip has found that his work in machine learning and decision support at Sandia/California has required him to learn some psychology to better understand how humans make those decisions. During his presentation, he discussed six common psychological errors, or "trigger behaviors," described in Robert Cialdini's classic book *Influence: The Psychology of Persuasion,* providing real-world examples of each.

Read on for a brief summary of each trigger:

Reciprocity. We'll do something for someone who did something for us, even if we didn't want the original favor. Organizations seeking donations use this trick, sending unsolicited trinkets such as address labels in order to boost return contributions.

Consistency. We'll try to be consistent with prior actions, even if the reasons for the original actions have changed. An example: an impartial phone survey asks people to predict their response if asked to spend three hours a week canvassing for a charity organization. A week later, a charity representative calls and asks for exactly that. The results are immense, a 700 percent increase in volunteers.

Social proof. We tend to do and think what other people are doing and thinking. Laugh tracks work for this reason, especially with poor jokes. Unfortunately, social proof can also manifest itself in the form of the bystander effect, in which onlookers neglect to help an individual in distress when other surrounding people do nothing.

Liking. We'll cooperate with someone who seems to like us. Our knowledge of whether that person has good or bad intentions does not matter. We respond well to flattery, whether it is accurate or not. The liking effect also works via association; we are more inclined to like friends of friends than we are complete strangers.

Authority. We'll cooperate with someone who seems to be in charge. Orders from someone who appears to be a doctor or security guard induce more obedience than orders from someone in regular street clothes. We will even suppress our own knowledge and common sense to defer to an authority figure.

Scarcity. We'll overvalue apparently scarce resources. Christmas toy crazes are a perfect example of this. Scarcity makes us evaluate objects as being higher quality and more expensive. This effect also explains why censorship often backfires.

So how do we protect ourselves from these tricks? "Self-awareness is the only fix," said Philip. "You have to practice, to actively develop contrary reflexes."

The best way to do this, Philip told the group of students, is to try out the tricks on other people. "I'm not suggesting that you go over to the dark side, but I think you can think of innocuous examples," he said.

"Hoping your parents will loan you the money for a summer in Aspen?" he said with a grin. "First, ask for Switzerland."

Congratulations

Congratulations to Liz (412) and Lorenzo Gallegos on the birth of their second daughter, Tiffany Gianna Gallegos, on Nov. 27, 2008 (Thanksgiving Day).

Labs' annual Retiree Social set for August 27

The 2009 Retiree Social — the event that brings together Sandia retirees and spouses — will be held Thursday, Aug. 27, 6-8:30 p.m., at the Rio Grande Botanic Garden in Albuquerque. Attendees to past events have found the Botanic Garden to be the perfect setting for a gathering of friends, good food, reminiscing, and catching up on each others' lives.

Sandia will provide a park-and-ride service from Hoffmantown Church. Watch for an invitation with event details in the mail.

Sandia LabNews

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Sandia computer scientists successfully boot one million Linux kernels as virtual machines

By Mike Janes

Computer scientists at Sandia's California site have for the first time successfully demonstrated the ability to run more than a million Linux kernels as virtual machines.

The achievement will allow cyber security researchers to more effectively observe behavior found in malicious botnets, or networks of infected machines that can operate on the scale of a million nodes. Botnets, says Ron Minnich (8961), are often difficult to analyze since they are geographically spread all over the world.

Sandia scientists used virtual machine (VM) technology and the power of the Albuquerque-based Thunderbird supercomputing cluster for the demonstration.

Running a large number of VMs on one supercomputer — at a similar scale as a botnet — would allow cyber researchers to watch how botnets work and explore ways to stop them in their tracks.

"We can get control at a level we never had before," says Ron.

Previously, Ron says, researchers had only been able to run up to 20,000 kernels concurrently (a kernel is the central component of most computer operating systems). The more kernels that can be run at once, he says, the more effective cyber security professionals can be in combating the global botnet problem.

"Eventually, we would like to be able to emulate the computer network of a small nation, or even one as large as the United States, to 'virtualize' and monitor a cyber attack," he says.

A related use for millions to tens of millions of operating systems, Sandia's researchers suggest, is to construct high-fidelity models of parts of the Internet.

"The sheer size of the Internet makes it very difficult to understand in even a limited way," says Ron. "Many phenomena occurring on the Internet are poorly understood, because we lack the ability to model it adequately. By running actual operating system instances to represent nodes on the Internet, we will be able not just to simulate the functioning of the Internet at the network level, but to emulate Internet functionality."

A virtual machine, originally defined by researchers Gerald Popek and Robert Goldberg as "an efficient, isolated duplicate of a real machine," is essentially a set of software programs running on one computer that, collectively, acts like a separate, complete unit.

"You fire it up and it looks like a full computer," says Don Rudish (8961). Within the virtual machine, one can then start up an operating system kernel, so "at some point you have this little world inside the virtual machine that looks just like a full machine, running a full operating system, browsers, and other software, but it's all contained within the real machine."

The Sandia research, two years in the making, was funded by DOE's Office of Science, the NNSA Advanced Simulation and Computing (ASC) program, and Sandia Laboratory Directed Research and Development — LDRD — funding.

To complete the project, Sandia used its 4,480-node Dell high-performance computer cluster known as Thunderbird. To arrive at the one million Linux kernel figure, Sandia researchers ran one kernel in each of 250 VMs and coupled those with the 4,480 physical machines on Thunderbird. Dell and IBM both made key technical contributions to the experiments, as did a team at Sandia's Albuquerque site that maintains Thunderbird and prepared it for the project.

The capability to run a high number of operating system instances inside virtual machines on a high-performance computing (HPC) cluster can also be used to model even larger HPC machines with millions to tens of millions of nodes that will be developed in the future, says Ron. The successful Sandia demonstration, he says, means that development of operating systems, configuration and management tools, and even software for scientific computation can begin now before the hardware technology to build such machines is mature.

"Development of this software will take years, and the scientific community cannot afford to wait to begin the process until the hardware is ready," says Ron. "Urgent problems such as modeling climate change, developing new medicines, and research into more efficient production of energy demand ever-increasing computational resources. Furthermore, virtualization will play an increasingly important role in the deployment of large-scale systems, enabling multiple operating systems on a single platform, and application-specific operating systems."

Sandia's researchers plan to take their newfound capability to the next level.

"It has been estimated that we will need 100 million CPUs (central processing units) by 2018 to build a computer that will run at the speeds we want," says Ron. "This approach we've demonstrated is a good way to get us started on finding ways to program a machine with that many CPUs."

Continued research, he says, will help computer scientists come up with ways to manage and control such vast quantities "so that when we have a computer with 100 million CPUs we can actually use it."

SANDIA COMPUTER SCIENTISTS Ron Minnich (foreground) and Don Rudish have successfully run more than a million Linux kernels as virtual machines, an achievement that will allow cyber security researchers to more effectively observe behavior found in malicious botnets. They utilized Sandia's powerful Thunderbird supercomputing cluster for the demonstration.

(Photo by Randy Wong)

RON MINNICH is seen with a Sandia testbed cluster known as Talon, consisting of the same servers that comprise the 4,480-node Thunderbird cluster in Albuquerque. In running more than a million Linux kernels as virtual machines, Minnich and his colleagues ran one kernel in each of 250 virtual machines and coupled those with the 4,480 physical machines on Thunderbird.

(Photo by Randy Wong)

Sandia CaliforniaNews

California Laboratory Div. 8000 VP Rick Stulen seeks more engagement with state officials

After four years in New Mexico serving as chief technology officer and VP of Science & Technology and Research Foundations Div. 1000, Rick Stulen has returned to the California site as VP of Div. 8000.

RICK STULEN

"New Mexico was a tremendous learning experience," Rick says. "I had a very large organization with all of the extremely high-hazard facilities and a huge set of very interesting science, technology, and engineering activities with some operational complexities.

"One fascinating aspect was the engagement with the state and the New Mexico delegation to Washington, both of which are highly coupled with where Sandia fits into local thinking. I'd like to do something similar in California, though on a different scale, obviously. I don't think we are leveraging this location to its full extent. It is going to look different here, but there are ways for us to play significantly in the state."

Rick says he is excited about the opportunities for the California site, which, he says, "can be a window for the rest of the Laboratory into California, helping to connect the Stanfords, the Berkeleys, and the rest of the University of California system."

The California site, says Rick, has a significant role to play in development of alternative and efficient energy technologies.

"Clearly," he says, "the Combustion Research Facility (CRF), Livermore Valley Open Campus and the Hub for Innovation in the Transportation Energy Community are all positioning this site to play a role that will be a highlight of the entire Laboratory. If you stand back from Sandia and walk in the halls of DOE's Office of Science, the buzz is about the CRF — it's a crown jewel of the Laboratory."

As he settles into his new job, Rick says he's looking forward to riding his bike to work occasionally, but says he'll miss those roasting green chiles of New Mexico.

Note: The Aug. 14 issue of the Lab News *will be focused largely on California site news; that special edition, edited by Mike Janes and Patti Koning (both 8529), will feature a more comprehensive interview with Rick Stulen.*

Tom Hunter Q&A

(Continued from page 1)

To adapt to this external environment, we must adapt internally as well. Our Change@Sandia initiative, begun last summer, is a Lab-wide effort to make sure that when we deliver national security solutions to our customers, we offer the greatest results possible at the most competitive cost. After nearly a year, Change@Sandia continues to be the vehicle that allows us to capture those initiatives and events that benchmark transformation and change here at the Lab.

TOM HUNTER

LN: *We've seen a number of changes in the Labs executive team. Why is that happening, and is it part of a deliberate attempt to position Sandia for the future?*

TH: Four years ago we made our first significant changes in leadership and we've continued to make changes. Those changes have included Steve Rottler (Div. 1000), Rick Stulen (Div. 8000), Mike Hazen (Div. 4000), Joe Polito (Div. 9000), John Slipke (Div. 3000) and Matt O'Brien (Div. 10000), as well as new roles for the EVPs — Paul Hommert (Div. 0002), Al Romig (Div. 0003), and Joan Woodard (Div 0004). And most recently we announced that Carolyne Hart is being promoted from director to VP of Div. 2000.

We want a different perspective on our executive roles both at the VP and director levels. We want our vice presidents to be much more engaged in high-level customer interaction, more engaged across the Laboratory in carrying out strategic efforts on behalf of the Laboratory, and planning the Laboratory's future. As a consequence, we have changed the structure of the divisions so they have a broader and a deeper program structure, and that requires fewer vice presidents, although each will need to take a much broader and bigger role.

We've also seen two vice presidents leave the Laboratory — Jim Tegnelia retired and Lenny Martinez is transitioning into a new position outside the Laboratory. All these transitions have been along a deliberate path matching the skills of our executives to the needs of the Laboratory, and also based on a key theme of mine, which is strengthening the leadership engine and developing the strength of the leadership team to have a broader set of experiences, a broader engagement across the Laboratory.

LN: *And there have been changes in the director ranks as well.*

TH: Absolutely. Again, this is part of building a leadership team that has much stronger engagement across the breadth of the Laboratory. We've been consciously looking at the director population and asking how we can strengthen the background of our directors through assignments that better strengthen and round out their careers and their experience. And we've had people who have chosen to retire, so it's a combination of people's plans and priorities changing and our deliberate plan to give a broader experience to our directors across the Laboratory.

LN: *How can the Labs remain strong given the challenges currently with the economy and new policies under a new administration?*

TH: The Lab is extremely viable today with our diversity of programs and customers and our solid budget foundation. The future will be built on those same ingredients. We have central missions in the nuclear weapons program for which we see a continued strengthening in national engagement. We see a continued demand for our products and our capabilities across the spectrum in DOE and in our Work for Others community.

We have been working with the new Department of Energy staff. I've spent quite a bit of time working with DOE leadership on different areas. We see a strong focus on the country's energy future enabled by DOE. We also see a lot of support for the national security mission of DOE and in how the national laboratories can be engaged in matters such as nonproliferation. This makes the Labs stronger in the aggregate. While we have experienced significant business realignment within the Labs, I see us as strong across the board. If I were to try to summarize it, I would say first of all we have to understand who we are and what our values are. Secondly, we have to look at this diversity of work and ask how we can build the right fundamental capability to support the country. As we engage our customers we should always put the nation first. I think we are also viewed as a laboratory that partners very effectively across the FFRDC [federally funded research and development center] spectrum.

LN: *How important was it for Secretary Chu to visit Sandia so soon after his appointment?*

TH: It was clear that the Secretary had a strong view of DOE's future with respect to science and the country's energy needs. It was extremely important that Secretary Chu came to Sandia and Los Alamos because that enabled him early in his tenure to see firsthand our national security portfolio. I believe he felt that was an extremely important dimension of his job. It's very important for DOE to make national security a prime part of its mission.

LABS DIRECTOR Tom Hunter, left, shares insights about the Labs' prospects for the future with Public Relations and Communications Center 3600 Director George Rhynedance, center, and Media Relations and Communications Dept. 3651 Manager Chris Miller. (Photos by Randy Montoya)

LN: *You've been at Sandia since 1967. Are you as excited today about the challenges this Laboratory faces and our approach to solving them as you have been at other times in the past?*

TH: When I came to Sandia as a new member of the technical staff it was an exciting time and I enjoyed the work. However, there obviously are differences in my current role since I now see both the opportunities and the challenges and they also are extremely exciting. I don't think there's been a time in our nation's history that we have had so many national challenges that are met or can best be met by the role of science and engineering. My career at Sandia has convinced me that the nation's future lies in innovation, and in the ability to solve tough problems that we have both globally and domestically. I think this time in our nation's history is unprecedentedly challenging and exciting.

"We see a continued demand for our products and our capabilities across the spectrum both in DOE and in our Work for Others community."

LN: *What would you say is the greatest challenge still facing Sandia? And what will it take to solve it?*

TH: I think the biggest challenge facing Sandia is to move the Laboratory forward as an enterprise to a new dimension so that the work we do, the way we deliver, and the way we manage the enterprise are excellent examples of how a modern R&D institution should function. That means we must understand and respond to global changes and demonstrate how it can and should be done. This is a challenge that will hopefully be with us forever. The world will never stop changing and hopefully we will never stop adapting to it and we will always maintain a leadership position.

LN: *On a lighter note, so as to understand a little more about Tom Hunter, the individual, what's in your car's CD player for the ride home tonight?*

TH: Actually, I don't play my CD on the way home. I play the radio. And often I use the time during my drive, in a safe hands-free way, to talk with people I don't have a chance to communicate with during the day. So on the drive into work I talk with my office and we do most of the communication for the day, including running over my schedule and getting caught up on messages. If there's any time left, I listen to the radio. And then on the way home I respond to calls that came throughout the day, and I sometimes make calls with family.

When I listen to the radio I listen to any one of three stations. I listen to the oldies, which remind me of the formative time of the modern era in America. Or, I listen to a country and western station because I believe it is really the heart of the emotion of the country. They write and sing songs about how they feel, particularly the stresses and joys and the tragedy of life. I love patriotic songs. Every time I hear Ray Charles sing "America the Beautiful," it really gets to me, whether I'm driving or at home.

And then I particularly like talk radio, both left and right, so I listen to both versions to try to understand what people are saying, how people are feeling.

LN: *As Laboratory director can you ever fully get away from job?*

TH: This job has an unlimited dimension and so it's very hard to get too far way. Now, you can get away for a day or an hour and get engaged in other things. It's hard to get too far away, though. But I don't find that a problem. Sometimes my escape is through my mind. I sometimes do projects in my head. I think them through, plan them out, and lay them out entirely in my mind. I especially like to think through something that is complicated.

LN: *Do you like being director?*

TH: Oh, very much. What I like most about the job is the opportunity to represent and engage with the people. Sandians are enormously talented, very creative and they have lots of ideas.

The fruits of his invention: Willis Whitfield and the clean room

WILLIS WHITFIELD, second from left, invented the laminar airflow clean room at Sandia in 1964. The invention is widely recognized as having played an indispensable role in enabling the microelectronics revolution of subsequent decades. In 2007, Sandia dedicated a statue of Willis, which forms a centerpiece and focal point for the Labs' Innovation Corridor. Recently, Gil Herrera, left, director of Microsystems Science, Technology, & Components Center 1700, gave Willis and his wife Belva and son James a behind-the-scenes tour of Bldg. 858's microfab facilities. (Photo by Randy Montoya)

Carolyne Hart becomes new Div. 2000 VP, chief weapons engineer

By Chris Burroughs

Less than two weeks into her new job as Div. 2000 VP, Carolyne Hart says she is anxious to start working with her partners, including Labs President Tom Hunter, the other vice presidents, and her division.

"I am excited to see what I can contribute to the program," she says. "I have an opportunity to work with a superb set of leaders across the nuclear weapons community. I have a feeling I am really going to enjoy this job."

"What has really kept me here are the people. You can't have a finer collection of people. I enjoy their enthusiasm, collaborative spirit, innovative nature, and dedication to serving the nation."

— Div. 2000 VP Carolyne Hart

In addition to her role as vice president of Weapon Engineering and Product Realization Div. 2000, Carolyne will serve as chief engineer for nuclear weapons, responsible for the qualification and quality of Sandia's nuclear weapons products and for ensuring a structured, disciplined approach to engineering with the nuclear weapons program. She assumes that role Aug. 14.

Tom, who recently announced Carolyne's appointment, says about her, "We're particularly pleased to have Carolyne join us on the Labs Leadership Team because of her breadth of background, particularly in the weapons program. She has served two very important assignments in the weapons program, one overseeing the stockpile and the other in the science and technology area. She also has had a very rich experience in the Work for Others community and has dealt with some extremely important national issues with outside customers. The Div. 2000 VP serves as the Labs' chief engineer for the nuclear weapons program, and Carolyne will bring a disciplined and structured approach to that role. I think she will be an excellent member of the team."

Carolyne grew up in Seminole, Texas, a small town about 30 miles from Hobbs, N.M. Her father worked for the US Department of Agriculture as an expert in soil erosion. "We were certainly in the right place because soil erosion is a primary concern in far west Texas and the High Plains region," Carolyne says.

Even as a young girl she was always interested in math and science, particularly mathematics. "I absolutely loved math — the rigor of math," she says. "I especially enjoyed applied mathematics, as opposed to pure theoretical inventions. It is very satisfying seeing quantitative discoveries make a difference in the world outside our own mental exercises and to, in turn, drive further developments in mathematics. My interest in the application of mathematical logic is why I chose to pursue engineering for my advanced degrees."

Her love of math and science led her to obtain a BS in mathematics and biology from Howard Payne University, a small liberal arts college in Brownwood, Texas. She went on to earn an MS and PhD in electrical engineering from Oklahoma State University in Stillwater, Okla.

Carolyne came to Sandia in 1978 after being recruited at Oklahoma State, where the Labs had a rigorous recruiting campaign.

"I decided on Sandia because it had the reputation of being a premier R&D laboratory and a great place to work. Sandia offered me a balance between innovation and discovery in the research arena and delivering product," she says.

When she started at Sandia she was on the technical track, spending her first years in oil and gas exploration. Over the next several years she researched and delivered technical solutions to problems in biomass energy; microseismic and geoelectric methods for oil and gas exploration; synthetic aperture radar imaging; navigation, guidance, and control; and automatic target recognition. In 1988 she was selected as a Distinguished Member of the Technical Staff.

For the past 18 years Carolyne has been in Labs management, taking on such positions as Exploratory Systems Center director, Engineering Design and Integration Center director, program director for Sandia's Nuclear Weapons Science and Technology and Stockpile Systems programs, and most recently Defense Systems and Assessments Reconnaissance and Surveillance program director and line director of Electronics Systems Center.

"I have had a great career at Sandia," Carolyne says. "I have been able to move around in a number of different disciplines, contributing to the innovation and maturation of a variety of technologies. But what has really kept me here are the people. You can't have a finer collection of people. I enjoy their enthusiasm, collaborative spirit, innovative nature, and dedication to serving the nation."

New Div. 1000 boss Steve Rottler likes a coherent picture, emphasizes importance of work/life balance

By Neal Singer

Steve Rottler, newly appointed VP of Science, Technology, and Research Foundations Div. 1000, is unafraid to wear a violet shirt, silver belt buckle, and mirror-polished shoes. He doesn't look like a dude, he just looks thought-out. He gets his ability to understand dressing well from his mother, he says. So does his sister. It's something the two have talked about.

"People feel they can't make time for themselves and create a reasonable work-life balance. But it's not expensive to do and requires little time. What takes time is building new habits."

— Div. 1000 VP Steve Rottler

He tells his executive assistant Kelli Collins to arrange weeks off for him throughout the year "but without bottoming out the balance," so that he can spend time with Lee, his wife of 28 years, his daughter and son, both in college, when available, and two border collies recently adopted from the Humane Society. He's about to trek on a weeklong family vacation to Disneyland, where he can leave work behind.

A balanced life is important to Steve, and that includes daily exercise — something he learned from Health Services, he says, when he found his weight, cholesterol, and blood pressure reaching unhealthy heights some years ago.

Health, in fact, is something he plans to emphasize as Div.1000 VP. "People feel they can't make time for themselves and create a reasonable work-life balance," he says. "But it's not expensive to do and requires little time. What takes time is building new habits." As VP of Div. 2000, from which he's moving, the division leadership started a program to increase health awareness and promote health opportunities. He expects to follow a similar approach in Div. 1000.

What Steve says he wants at Sandia is "a healthy and robust science and technology base that enables — and is valued by — Sandia's business units." He wants "delivery on commitments with a lot more predictability in outcomes." He recognizes that experimenting by very bright, committed people takes time and money and can lead in unexpected directions. What he doesn't want is scientific progress or customers subjected to "a facility shut down because we don't have a permit," or a potentially hazardous trial performed without a thorough exploration of possible consequences and a plan to deal with those consequences.

He understands these problems from his own journey. He started as a researcher in Sandia's shock physics department 25 years ago, fresh from Texas A&M with a bachelor's ('80), master's ('82) and doctoral degrees ('84) in nuclear engineering. Along the way at Sandia, among those he worked for were Sam Thompson, Paul Yarrington, John Cummings, Ed Barsis, Dave McCloskey, Dennis Hayes, Roger Hagengruber, Gerry Yonas, Heinz Schmitt, Gary Beeler, John Stichman, and more recently Tom Hunter and the other members of Sandia's Executive Office. "I learned a great deal of what I know about technical leadership from these individuals," he says.

He's looking for innovation, excellence, and leadership from every Sandian, not just from those in management. He wants to make life more bearable for the division's first-level managers, whom he thinks are overburdened. He gives talks on the ethical implications of science and engineering. He finds innovative products developed without a "bleeding-edge" science and engineering base both "sterile" and "no fun." What pleases him is to learn something new every day.

As to where his heart is: On the income tax form in which one identifies one's job, he says that every year he writes: "Engineer" — meaning, one who understands and values from his own experience the fundamental importance of science, engineering, and technology to Sandia and its missions.

KAFB Summer Bash a real smash

A CV-22 OSPREY aircraft presented by the 58th Special Operations Wing was the center of attention at the July 17 Kirtland Air Force Base Summer Bash on Hardin Field. The bash attracted more than 7,500 people, who enjoyed games, musical entertainment, a car show, safety demonstrations, and exhibits of World War II-vintage vehicles. According to 377th Air Base Wing Vice Commander Mohsen Parhizkar, the bash was "the perfect summer family event." (Photo by Randy Montoya)

When resources become scarce

Sandians among researchers worldwide focusing on issues of environmental security, degraded ecosystems

SMOKESTACKS from a wartime production plant during World War II. With the growing industrialization of the developing world, environmental degradation and human-caused impacts on ecosystems have become global issues.
(Public domain image from Library of Congress collection)

By Rachel Kolb

As human beings, we essentially survive on life support: Natural resources endow us with prosperity and life. But what happens to our comfort, peace, and security when that life support gives out and resources become scarce?

These problems are attracting increasing attention from scientists around the world, including Sandia researchers Howard Passell (6313), Ray Finley (6313), and Erik Webb (12151). The group's work focuses on the idea that well-functioning ecosystems are a critical foundation for stable and secure international social, political, and economic conditions.

Ecosystems, says Howard, provide many services free of charge to humans, including clean air and water, soils to grow food and fiber, pollinators, waste decomposition, and a predictable and stable climate, among others.

However, ecosystems are declining worldwide, diminishing these valuable services. Their deterioration, Erik says, is due not only to global climate change (an example of large-scale ecosystem decline in itself), but also to other factors such as population growth, increased per capita consumption, human conflict, and normal climate cycles.

"The decline of environmental conditions around the world represents one of the most fundamental, long-term threats to human security at all scales, most notably for poor people and developing countries around the world," says Howard. Declining ecosystems, he says, may prompt increases in migration, famine, disease, and regional conflict, all of which could impact US national security.

This field of study, becoming widely acknowledged as "environmental security," has several implications for technology and analysis. First, the problems require innovation in systems thinking. According to Howard, they are "regionally and globally scaled, integrated, whole-system problems that can be exceedingly difficult to untangle and comprehend." Instead of addressing them separately, which could lead to wasted time and effort as well as unintended and negative consequences, he says it is more useful to view them as interconnected "symptoms" and to seek unified and integrated solutions.

Environmental security, according to Erik, also has direct interplay with how we develop infrastructure systems. For example, he says, "A warehouse, proper farming techniques, and a market can help a community adjust to environmental degradation to some extent. Without these, even minor changes in the environment may require migration."

The Sandia group has taken several steps to increase awareness of these problems. Howard has made presentations at several conferences, including Sandia's Earth, Wind, and Sun event the last two years. The group has released a Marshall Plan Report that proposes an integrated response to global development objectives. Finally, a workshop with the Center for Strategic and International Studies (CSIS) is planned for this October in Washington, D.C. The workshop, "Water, Energy, Food, and Environmental Security," will lead to a concrete project proposal aimed at clearly defining the links between all those subjects and US national security.

The work, the group says, need not stop there. All three researchers agree that environmental security could be perfect mission space for Sandia. "Environmental security is a sibling to Sandia's energy security, water security, and climate change efforts, which have fairly significant corporate investment," says Erik.

Howard emphasizes that the problems require the kind of complex systems modeling at which Sandia is very good. "With our modeling we could work with experts from around the world to design a roadmap for how to get to a secure, stable, and sustainable future," he says.

JUNGLE HABITAT burned to clear land for agriculture in southern Mexico. (Public domain image by Jami Dwyer/Wikipedia)

Full Spectrum Leadership

(Continued from page 1)

trum Leadership at Sandia. Full Spectrum Leadership is a construct developed at Lockheed Martin that cultivates leadership in two dimensions: performance and behaviors.

While the model was developed at Lockheed Martin, "it could've come from any company focused on leadership excellence," says Human Resources Center 3500 Director Karen Gardner. "The bottom line is it's a best practice."

Full Spectrum Leadership was introduced at Sandia in 2006 at the executive management level and is gradually percolating throughout the Labs. All VPs have now deployed it down to the director level.

Full Spectrum Leadership defines the competencies and behaviors of successful leaders and provides tools to assess current competency levels as well as identify areas of improvement.

At the heart of Full Spectrum Leadership are five "imperatives" — key characteristics and behaviors of leaders:

• **Shape the future:** Involves leading change, driving innovation, and leading through vision and values.

• **Build effective relationships:** Focuses on demonstrating social acumen, and developing enduring relationships.

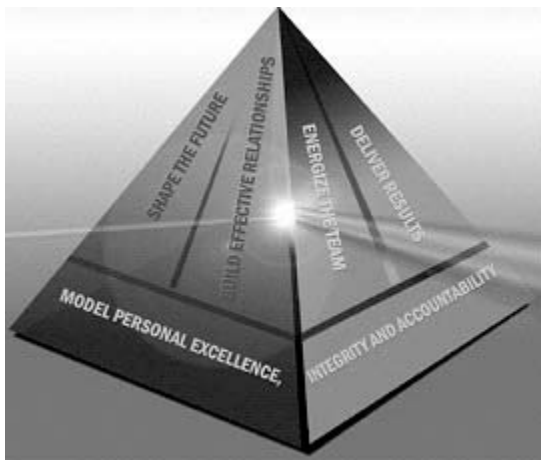
• **Deliver results:** Delivering customer value and exercising business acumen.

• **Energize the team:** Entails building organizational talent, communicating with positive impact, and creating an inclusive work environment.

• **Model personal excellence, integrity, and accountability:** Leading with integrity, demonstrating a learning orientation, and being accountable.

According to Karen, the goal is for the five imperatives and the 17 competencies that support them to become the "language of leadership" at Sandia, something employees and managers alike become fluent in and incorporate into their daily work.

"Employees should be aware of the imperatives and exhibit leadership characteristics and behaviors whether or not they want a formal management role," says Karen.



Implementation in Div. 2000

Steve Rottler was first exposed to Full Spectrum Leadership in 2005 when he was promoted to vice president, which was about the same time Sandia began rolling it out. In more than two decades at the Labs Steve says he had seen a lot of leadership models come through the door. But this time was different. "It's rare that I see something that when I look at it I say, 'Man, that fits Sandia to a tee,'" he says. "When I looked at Full Spectrum Leadership . . . I thought 'Wow, that defines what we want as a leader at Sandia National Laboratories.'"

Steve implemented Full Spectrum Leadership in Div. 2000 at the director level, requiring them to incorporate its nomenclature in their performance management goals. The following year the same was done with senior managers. Steve says that one immediate outcome was a noticeable improvement in the quality and integrity of the discussions in the performance review process.

"I felt for the first time we'd really had a rich dialogue about the strengths and weaknesses of our senior managers in the context of something that really matters, which is the kind of leaders we want them to be and where they need further development," he says.

But for Full Spectrum Leadership to really be successful, it has to go much further, he says. It should become an integral part of Sandia's culture and "serve as a reminder to every employee about what we want employees to focus on in terms of each of them seeking to be a leader."

Full Spectrum Leadership also needs to be integrated into the entire performance review process, not just the evaluation, Steve says. In addition, he says he would like to see Full Spectrum Leadership incorporated into Sandia's recruiting process by actively advertising that these are the kinds of characteristics the Labs is looking for in the people it hires.

"I think of this as something that should apply across the entire life cycle, if you will, of how we manage human resources — how we select, develop, and manage human resources at the Laboratory," he says. "We want to focus on the formative part, which is getting these kinds of people into the Laboratory and helping people once they're here to continually develop against those characteristics because that's how you change an institution."

Integrating FSL more broadly

While much work remains to be done, Joan Luciano, Leadership, Learning & Development (3502) manager, says that a number of steps have been made toward integrating Full Spectrum Leadership more broadly throughout Sandia. For example, all of Sandia's leadership development classes now support the Full Spectrum Leadership imperatives. In addition, a class has been developed specifically for managers serving on interview panels on how to integrate Full Spectrum Leadership behavioral interviewing into job selection for manager positions. By Sept. 1, this interview method will be used for management positions.

In September a Full Spectrum Leadership "360 multirater assessment" will begin at the director level. In these assessments, 10 to 12 people will evaluate each director's performance according to Full Spectrum Leadership imperatives. Once the director assessments are completed, "360s" will be done with senior managers and then first-level managers, Joan says.

For more information on Full Spectrum Leadership visit http://fsl.sandia.gov.

High school students address homeland security challenges

By Rachel Kolb

Being a leader involves more than just giving orders. It requires confidence, character, and critical thinking skills. These qualities can be challenging enough for adults, but on June 14-19, students and teachers from five high schools in California, Colorado, and New Mexico gathered to try their hand at leadership during the third annual High School Homeland Security Workshop at the New Mexico Military Institute (NMMI) in Roswell. By all accounts, they were extraordinarily successful.

The workshop focused on developing leadership and critical thinking skills using homeland security and national security as content elements, according to program manager John Taylor (303). It followed an in-school activity previously taught at the different high schools with students attending the workshop.

During the course of the week, John says, the students participated in several exercises: a high-level ropes course, a leadership reaction course that required them to surmount obstacles and solve physical problems as a team, and several tabletop exercises designed to hone complex thinking and teamwork skills. These exercises included a disaster recovery exercise, an international relations exercise, and a real-world disaster response exercise involving a simulated chlorine gas release.

Tim Shepodd (8223) accompanied 14 California-based students to the workshop and taught two exercises on resource management and negotiation. He says the workshop "brought the students together in a series of physical and intellectual exercises that challenged the students with various 'wicked' problems — complex problems with multiple answers and no clear 'right' answer."

The challenging exercises tested students physically as well as mentally. According to Tim, the results were impressive. "I saw the students really blossom," he says. "Even the quietest kids participated. They learned their natural skills and weaknesses and how to use them. They learned the advantages and disadvantages of different leadership styles."

Anita Romero (3651), Sandia's Emergency Public Information program manager, and Stephanie Holinka (also 3651) led an activity about interacting with the media while disseminating emergency public information.

STUDENT PARTICIPANTS in the third annual High School Homeland Security Workshop are briefed during a real-world disaster response exercise. Students in the program came from five high schools in California, New Mexico, and Colorado for the week-long event. (Photo courtesy of John Taylor)

After learning about the purposes and methods of releasing information during an emergency, students had the chance to play the role of a spokesperson in an exercise in which they got "grilled" by "reporters."

"I think the kids have learned a great deal about how to represent an agency and how to speak with media, as well as how to conduct press conferences," says Anita.

Denise Dixson, a teacher at Southwest Secondary Learning Center, a technology-based charter school in Albuquerque, brought 10 middle school and high school students to this year's workshop. "It was an invaluable experience for all the students involved," she says. "They learn and practice leadership and critical thinking skills that have real-world applications."

Dixson says students need not be pursuing a career in homeland security to apply the knowledge they gained from the workshop. "I absolutely think this workshop is valuable to all students regardless of future plans," she says. "It fosters skills that are useful in all areas of life."

But perhaps the most telling feedback on the workshop's success comes from the students themselves. Mariah Rhutasel, an upcoming senior at Southwest Secondary Learning Center, praises the workshop as an invaluable opportunity to learn about leadership, communication, and job experience, among other topics.

"I think this is an awesome camp that should be better advertised because of how impactful it was on me in just a short amount of time," she says.

Sandia's cyber strategic thrust

Preparing for cyber future means 'taking an honest look at where we're strong and where we're not'

By Stephanie Holinka

Ann Campbell, director of Sandia's Cyber Strategic Thrust, thinks a lot about the Internet.

She thinks about its original purpose, about how it has enveloped and linked some of the nation's most critical systems, and what the nation must now do to secure the interrelated cyber systems that are vulnerable to threat. She is charged with helping prepare the Labs for a larger, more robust role in supporting the nation's cyber missions.

ANN CAMPBELL

"Americans have come to depend very heavily on the network for many aspects of our daily lives," Ann says. "We chat/text/Twitter with our friends, create Facebook profiles, play games, shop, do our banking, and pay our bills and taxes online."

Ann says business and government are similarly conducted largely online and key elements of the national infrastructure — for example, the SCADA systems that control electric power production and distribution — are also online. (SCADA is an acronym for "supervisory control and data acquisition," a computer system for gathering and analyzing real-time data.)

"As a nation," Ann says, "we are waking up to the fact that our information and systems are vulnerable." The news reports about network attacks and intrusions (for example, the recent denial-of-service attacks against South Korea and some US government websites) are becoming more frequent.

The nation is taking a serious look at cyber security. At the national level the Comprehensive National Cyber Initiative (CNCI) was created in early 2008. US Cyber Command was launched in June, the same month the National Cyber Coordinator position was established. The new position will report to the National Security Council and the National Economic Council. The Department of Homeland Security and several other agencies also play a significant role in implementing the CNCI.

Ann's job is a big one; she is halfway into her six-month special assignment to develop and begin execution of plans for realizing the Labs' strategic cyber goals identified by Rob Leland's (9300) Cyber Strategic Issue Team in 2008, identify options and recommended courses of action for Sandia to be prepared to engage more fully in the emerging national cyber missions, and provide coordination among the Labs' cyber activities.

"I am making sure we are aware of all the different areas of the Lab that are engaged in cyber-related activities," Ann says, "and I am looking for ways to bring them together. There are cyber programs in all of the mission SMUs. Sandia has a number of cyber research activities in Division 1000 and across the Laboratories, and we also manage our own enterprise networks. Taken together we have a lot to offer to the nation in terms of cyber expertise."

Ann has already identified an important factor that could hinder Sandia's goals to broaden its cyber security activities. "We know one pinch point is people," Ann says. "The competition for good cyber people is a challenge for us, as it is for other employers.

"I want us to take an honest look at where we're strong and where we're not," Ann says. "In some cases we will want to strengthen our abilities — for example, through research investments and growing our staff. In other cases we will decide to partner with others."

> *"Americans have come to depend very heavily on the network for many aspects of our daily lives. We chat/text/Twitter with our friends, create Facebook profiles, play games, shop, do our banking, and pay our bills and taxes online."*
>
> **— Ann Campbell, Director of Sandia's Cyber Security Thrust**

Ann observes that the nation's cyber policies are still being formed; she and her team are identifying opportunities for Sandia to engage in the national debate around cyber that is just beginning.

"It's a new area," Ann says, "and it's complex and messy. It's important for Sandia to be engaged to help the policy community understand the technology so that they can develop effective cyber policies."

In addition to her role in internally focused activities, Ann also serves as Sandia's cyber ambassador, connecting with outside organizations and groups and identifying potential partnership and collaborative opportunities.

It's unclear what happens at the end of six months.

"It's an interim assignment" Ann says. "It's hard work, and it's work with no clear ending.

"We won't be done," Ann says, speaking about the end of her tenure a mere three months away, "but we are hoping to lay the groundwork for the Labs' future in cyber."

Ann views her post as a great opportunity to serve Sandia. "It's important to the Labs," Ann says, "and for the country."

Smaller, faster, greater, higher

Sandia wins five R&D 100 awards, plays role in sixth

Story by Neal Singer

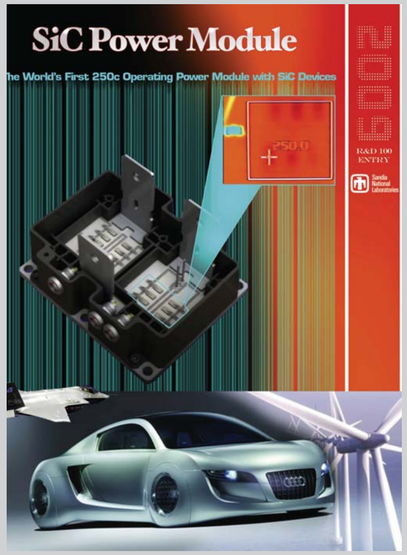
Sandia researchers received five R&D 100 Awards this year and played a role in a sixth. Sometimes referred to as "the Nobel Prizes of technology," the R&D 100 awards presented annually by *R&D Magazine* were first presented in 1963 as the I-R 100s, in keeping with the original name of the magazine, *Industrial Research*.

The sole criterion for winning, according to a description released by the magazine, is "demonstrable technological significance compared with competing products and technologies." Properties noted by judges include smaller size, faster speed, greater efficiency, and higher environmental consciousness.

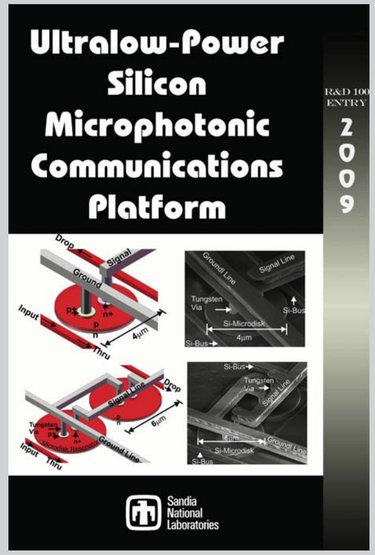
Many entries in the years since 1963 became household names, including Polacolor film (1963), the flashcube (1965), the automated teller machine (1973), the halogen lamp (1974), the fax machine (1975), the liquid crystal display (1980), the printer (1986), the Kodak Photo CD (1991), the Nicoderm antismoking patch (1992), Taxol anticancer drug (1993), lab on a chip (1996), and HDTV (1998).

"The Department of Energy's national laboratories are incubators of innovation, and I'm proud they are being recognized once again for their remarkable work," said Energy Secretary Steven Chu. "The cutting-edge research and development being done in our national labs is vital to maintaining America's competitive edge, increasing our nation's energy security, and protecting our environment. I want to thank this year's winners for their work and congratulate them on this award."

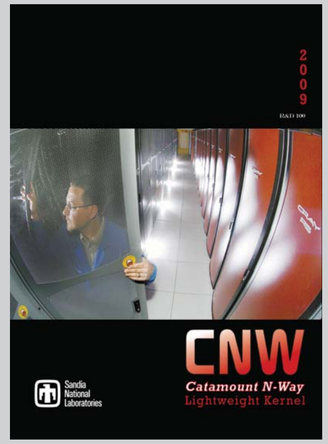
Team members will receive their awards at *R&D Magazine's* formal awards banquet Nov. 12 at the Renaissance Orlando Hotel at SeaWorld in Florida.



The high-temperature silicon carbide power module more efficiently converts electrical energy from one form to another. This invention reduces the size and volume of power electronic systems by an order of magnitude over present state-of-the-art silicon-based solutions while simultaneously reducing energy loss by more than 50 percent, offering the potential for users to save hundreds of millions of dollars. Applications are in hybrid and electric vehicles, renewable energy interfaces, and aircraft. The work was submitted by project lead Stan Atcitty (6336) jointly with Alex Lostetter at Arkansas Power Electronics International Inc., Alan Mantooth at the University of Arkansas; Takukazu Otsuka at Japan-based Rohm Co. Ltd.; and Imre Gyuk at DOE's Energy Storage Program.



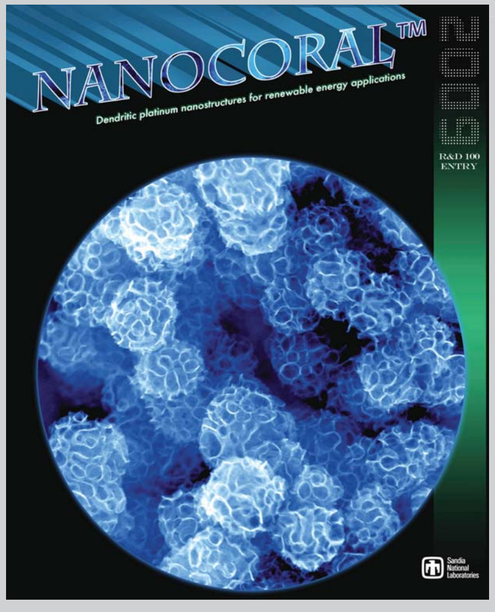
The ultra-low-power silicon microphotonic communications platform enables wavelength division multiplexed communications within high-performance computers. The ultrasmall components establish a platform of elements capable of addressing the bandwidth and power consumption problems of high-performance computer and data communications networks. Silicon-resonant modulators demonstrate for the first time 100 microwatts/gigabit/second optical data transmission on a silicon CMOS-compatible platform. Together with the first high-speed silicon bandpass switches, the platform enables optical data transmission and routing on a silicon platform at nanosecond switching speeds with up to 100 times less power consumption and 100 times the bandwidth density compared to traditional electronic approaches. The work was led and submitted by Michael Watts (1727), with Douglas Trotter (1748), Ralph Young (1748), Anthony Lentine (1727), and David Luck (1749).

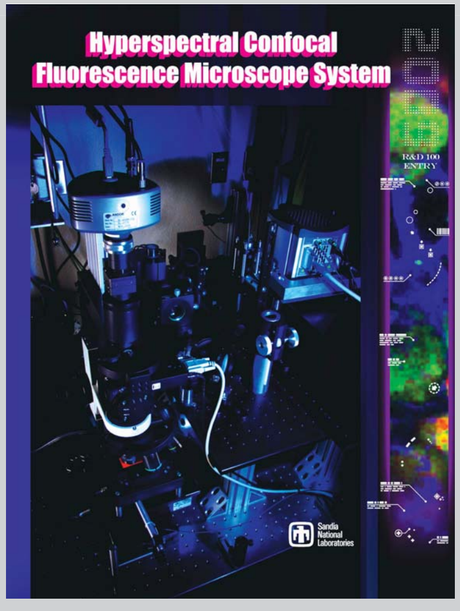


The Catamount N-Way (CNW) lightweight kernel leverages hardware capabilities of multicore processors to deliver significant improvements in data access performance for today's parallel computing applications. CNW provides enhanced data access capabilities beyond other equivalent operating systems by employing a new technique that targets memory bandwidth, arguably the most important area of performance in scientific parallel computing. The CNW software is licensed to Cray, Inc., and is the operating system for the Sandia/Cray Red Storm supercomputer at Sandia. The work was submitted by lead researcher Ron Brightwell (1423) as a joint entry with Trammel Hudson of Washington, D.C.-based Operating Systems Research, with Sandians Kurt Ferreira, James Laros, Suzanne Kelly, Kevin Pedretti, John Van Dyke (all 1423), and James Tomkins (retired).

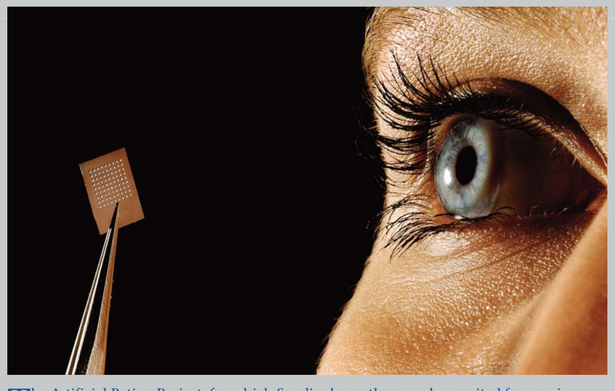
R&D 100

NanoCoral™: Dendritic platinum nanostructures. This innovative nanotechnology for producing metal nanostructures offers unique control over their shape, size, porosity, composition, stability, and other functional properties compared with those achieved by existing methods. Novel catalysts and electrocatalysts produced by the Sandia approach are expected to significantly reduce platinum metal usage and thus the cost of platinum catalysts in fuel cells, solar cells, and other applications in the renewable energy sector. Ten patents have been licensed to Compass Metals, two patents have been issued, and eight more applied for. Principal developer and submitter John Shelnutt (1815) worked with Bob Comstock and Roland Degenkolbe of Compass Metals, Inc., Yujiang Song, James E. Miller, (both 1815), Frank van Swol (1814), and Sivakumar Challa and Craig Medforth of the University of New Mexico.





The hyperspectral confocal fluorescence microscope system rapidly acquires images with diffraction limited spatial resolution of 250 nanometers (nm) in lateral directions and 600 nm in the axial direction. When combined with Sandia's proprietary multivariate analysis algorithms the system enables the identification of all emitting fluorescence species contained in an image, and the production of relative concentration maps for each species — all without the need for any a priori information about the emitters. Leading this Sandia effort are David Haaland (retired), Michael Sinclair (1816), Howland Jones (8622), David Melgaard (5535), Christopher Stork (1825), Jerilyn Timlin (8622),, Ryan Davis (8625), and Mark Van Benthem (1822).



The Artificial Retina Project, for which Sandia shares the award, was cited for moving research forward to enable the blind to see. The technology employs a small video camera on a patient's glasses to send images to a compact image processor on the patient's belt. The processor commands an implant to deliver the desired pulses of current to an electrode array attached to the patient's retinal tissue. This inner-eye array stimulates the retinal tissue nerves, which ultimately connect to nerves leading to the visual cortex of the brain where the patient sees an image. The award was given to a multilab/industry collaboration funded by DOE, initiated by Oak Ridge National Laboratory, and submitted for an award by Lawrence Livermore National Laboratory. Sandia is developing microelectromechanical systems (MEMS) and high-voltage subsystems for advanced artificial retina implant designs. These include microtools, electronics packaging, and application-specific integrated circuits (ASICs). Key Sandia project researchers led by Kurt Wessendorf (1732) are Sean Pearson (1735), Murat Okandan (1749), Adrian Casias (2452), and Dawhey Chu (1715).

(Photo by Randy Montoya)

49 individuals, 74 teams

2009 Employee Recognition Awards program honors teams, individuals for exceptional contributions

More than 300 Sandians — individuals, team representatives, and their guests — gathered July 18 at the Embassy Suites Hotel in Albuquerque for the 2009 Employee Recognition Night, Sandia's annual celebration of exceptional service, leadership, technical accomplishment, and teamwork.

This year, the awards honored 49 individuals and 74 teams for their contributions to Sandia's mission success.

Labs Director Tom Hunter in the awards program wrote, "In you [your colleagues] see strong leaders, dedicated citizens of the Labs, technical pioneers, and outstanding teams. Your contributions are unique. But they are also part of something far larger than the individual outstanding results they represent. Your contributions are part of Sandia's collective, unfaltering effort to provide exceptional service to 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, right. Individual citations are on the internal web.

Not pictured among individual winners: Edward Allen, Brett Bagwell, Jeremy Barney, Susan Brozik, Paul Dodd, Morgan Edwinson, Stephen Eisenbies, Melissa Finley, Steven Gossage, Park Hays, Julia Kaiser, Eric Keiter, Marisa Ruffolo, David Salguero, Daniel Strong, M. Ray Thomas.

Annie Garcia
10611

Molly Glen
5223

Antonio Gonzales
5535

Susan Jensen
10627

Michael Jones
1675

James Klarkowski
5335

Michael Lilly
1132

Joyce Lujan
1131

Individual honorees

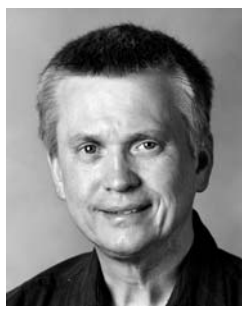
Mateo Aragon
10243

Dianna Blair
6755

Ty Christie
4241

Leonard Connell
245

Bobby Corbell
5736



Mark Cranfill
2111

Diana de la Rosa
4137

Nicholas Durand
4846

David Enos
1825

Stanley Fraley
5900

Team honorees

The 2009 Employee Recognition Awards program, continuing a trend begun several years ago, again this year shows divisions placing a special emphasis on team accomplishments. The teams listed over the next few pages were deemed to have made exceptional contributions to an important program or process. A few representative teams are pictured.

0240/0500 Computer Support Team

For exceptional contributions in support of the Systems Analysis and Systems Integration classified and unclassified computing environment.

Brian Casey Cowart, Michael Flores

12000 Diversity Council Bone Marrow Registry Drive Team

For outstanding service to the community by providing the avenue for Sandians to join the National Registry, giving hope to patients with life-threatening diseases.

Valerie Peyton, Tiffany Aragon, Matthew Brown, Amanda Peña, Steve (Coach) Nickerson, Alicia Cloer, A.O. Bendure, Valerie Salim, Tim Knewitz, Lorina Montoya, Daniel Naru, Chris Gutierrez, Wallace Bow, Karen Tafoya, Michael Spitz, Wanda Bechdel, Tara Renee Camacho-Lopez, Marie Hoagland, Marcey Hoover, Deborah Knewitz, Rochelle Lari, Sharon Lemm, Randy J. Montoya, Cindy Olson, Christopher Padilla, Lori Parrott, Charles Richardson, Lupita Serna, June Smith, Joan Tallant, Lisa Teves, Andrew Walter

1300 Software Quality Assurance Team

This dedicated team, under difficult schedule constraints, developed and implemented a comprehensive software quality assurance program in Center 1300.

David E. Peercy, Molly Minana, Johnny Vaughan, Sherrie Trezza, Don Alsbrooks, Elsa M. Galloway, Martin Crawford, Diana Wrobel, Shawn Pautz, James Dahl, Ann Louise Hodges

2008 SNL/OPEIU Bargaining Team

Labor/Management collaborations result in significant accomplishments with completion of 2008 contract negotiations between Sandia and the OPEIU; new collective bargaining agreement effective through 9/30/2011.

Jann Levin, Victor D. Lovato, Lori Messex, Kelly O'Bryant, Linda Jaramillo-Alfaro, Kelly A. Thoesen, Kelley Burns, Julian P. Sanchez, Barbara Sandoval, Mark Davis, Margaret A. Harvey, Billy Lucero, Marlene Johnson, Susan Kitsch, Mark Biggs, Paul Bohelski, Miquelita Carrion, Amy Cogswell, Samantha Flores, Ellen Gallegos, Donna Kao, Susan Rivas, Mary Romero Hart, Barbara Ropke, Leanne Small

2430 Bldg. 867 Beryllium Decontamination/Demilitarization Team

This team has made an outstanding contribution by decontaminating Building 867 and initiating a demilitarization activity there to destroy and render unclassified sensitive prototype components.

John Zich, Matt Donnelly, David Gill, Steve Myatt, Joe Nekoranec, William Thompson, Mike Chance, Clinton J. Atwood, Michael Baca, Mark Duran, Douglas Abrams, Andrew Brinkley, Manuel L. Chavez, Jr., Joseph Chirieleison, Walter English, Joe Harris, Chad Hjorth, James Lee, Jr., Kathleen Pass, Lawrence Sanchez, Cameron Smith

Advanced High-Speed Drilling Technology Team

For exceptional creativity innovation in demonstrating the world's fastest down-the-hole hammer drill with a 10-fold performance improvement over current conventional practice.

Ronald Dykhuizen, Jeffrey Greving, Patrick Gronewald, Mark Grubelich, Charles Hickox, Jr., David Holcomb, Ronald Jacobson, Steven Knudsen, Yarom Polsky, David Raymond, Elton Wright

Anthrax Investigation Team

Characterization in support of the FBI's Amerithrax Investigation.

Michael Rye, James A. (Tony) Ohlhausen, Bonnie McKenzie, Joe Michael, Paul Kotula, Michael Cieslak, David Tallant

Battery Safety and Abuse Research and Testing Team

This award honors Sandia's battery abuse research and testing team for becoming internationally recognized as the leading research center for evaluating batteries under abusive conditions.

Lorie Davis, Lupe Barraza-Medina, Craig Carmignani, Pete Roth, Chris Orendorff, Michael Russell, Jill L. Langendorf, Mani Nagasubramanian, Dave Johnson, Carla Durant, Michelle Hadady, David Howell, John Lang

Battery Safety and Abuse Research and Testing Team

Biofuels Systems Analysis Team

For an outstanding assessment of the feasibility of large-scale biofuel production, thus solidifying Sandia's strategic partnership with GM and our credibility in the biofuels community.

Todd West, Leonard Klebanoff, Carrie Burchard, Christopher Shaddix, Norman Brinkman, Katherine Dunphy-Guzman, James Ellison, Patricia Hough, Richard Larson, Karen Law, Andreas Lippert, Andrew Lutz, Leonard Malczynski, Christopher Moen, David O'Toole, Ronald Pate, David Reichmuth, Blake Simmons, Robert Stephens, Amy Cha-Tien Sun, Robert Taylor, Vincent Tidwell, Candace Wheeler, Ben Wu

CAD Designer Support of Satellite Programs Team

Recognition for outstanding dedication and perseverance in capturing the design intent of highly complex satellite systems given pressing schedules in an environment of increasing formality.

Jimmy Brown, Ruben Cazares, Tim Chavez, Richard James Chavez-Hatton, Shayne Dilworth, Brian Einfalt, Gordon Grimm, Ken Hernandez, Marcel Hesch, Daniel Kyle Jameson, Deanna Jaramillo, Teddy Johnson, Russell Kappelman, Anthony Keffler, Richard Liedtke, Judy Loving, Patrick Lynch, Wilbur Martin, Florentino Rosetta, Theodore Salas, Michael James Tritt, Douglas Trump

California Foreign Interactions Team

For their tireless and creative efforts to appropriately integrate foreign-national employees and visitors, enabling Sandia's mission success in today's global scientific world.

Patricia Lull, Jessica Matto, Theresa Price, Jennifer Kovacs

Change@Sandia Communications Team

This team of communicators and HR experts developed and implemented a highly complex communications effort — the Change@Sandia campaign informing the workforce of work and benefits changes.

Rod Geer, Pamela Ulibarri, Michael Vittitow, Alfred Romo, John German, Mike Wood, Rogulja Wolf, Lucille Shaw, Mark Olona, Mark Biggs, Christine Burroughs, Melissa Creange, Linda Duffy, Roy Fitzgerald, Julie Hall, Esther Hernandez, Judy Hubbard, Barbara Kishi, Al Lujan, Timothy Madden, Bob McInteer, Michael Montoya, Bill Murphy, Mary Romero Hart, David Wallach

China Radioactive Threat Reduction Working Group 1 Team

WG1 designed and implemented security upgrades for sites using or storing Category I radiological material located near venues of the 2008 Beijing Summer Olympic Games.

Gil Morales, Michelle Chavez, Jim Lloyd, Linda Holle, Ken Fisher, Susan Rhodes, Adam Williams, Janice Leach, Charles Nickerson, Susan Washburn

(Continued on next page)


Christopher McKean
4127


Mark McNellis
4122


Leann Miller
5636


Wei Pan
1123


Jason Podgorski
5355


Alex Quintana
9317


Anita Romero
3651

(Continued from preceding page)

Concentrating Solar Power (CSP) Team

Recognizing superb innovation and technical advances, a world record, prestigious awards, and massive national and international program visibility for Sandia in Concentrating Solar Power Technology.

Mike Edgar, Loula Killian, Chuck Andraka, Cheryl Ghanbari, Greg Kolb, Gerardo Rodriguez, Tom Mancini, Christian Beauchamp, Christine Burroughs, Kye Chisman, Rich Diver, Blaine Emms, Joseph Fuka, Carol Gary, Clifford Ho, John Kelton, Timothy Moss, Juan Ortiz-Moyet, Edward Phillips, John Quintana, Daniel Ray, Nathan Phillip Siegel, Edward Smith, Ernest Trujillo, Michael Usher

Contractor Toolcart Team

The external Contractor Toolcart website was created to provide contractor Facility Security Officers (FSOs) with information necessary to carry out their security responsibilities.

Margret Tibbetts, Charles Montoya, Frances P. Armijo

Countermeasures Production Team

The Countermeasures Production Team successfully transitioned new designs from development to production adhering to an aggressive build schedule in support of an MDA flight.

Kurt Kunzler, Michael Sumulong, Tim Locke, Lloyd Irwin, Troy Satterthwait, Ken Harris, Joe Frisbie, Albert Brown, Grace Gallegos, Matthew D. Sena, Owen Henderson, Thomas A. Sanchez, Eric Capener, Robert M. Graham, Jacob Barrandey, Joseph Perry, David L. Trujillo, Timothy Campbell, Charles W. Graham, Mary L. Harris, David Lidderdale, Elizabeth Montgomery, David Muron, Daniel Jackson Peacock, Venito Vasquez

Electronic Health Record (EHR) Implementation Team

The EHR Implementation Team executed the swift transition of paper medical charts to electronic while fulfilling 10 CFR 851 requirements and improving quality of care.

Cally Maloney, Rob Nelson, Bridget Priddy, Renee Holland, Debra Menke, Deb Grady, Debra Sanchez, Anna Miller, Stephanie Ball, Barbara Finley

Electronic Work Authorization Process for NNSA Funding Team

This electronic approval process is allowing us to meet all work authorization requirements and baseline directives in a timely manner with NNSA.

Carol Ferguson, Rick Calvert, Mari Arnold, Russel Edge, Michael Maurer, Cari Sissel

Enterprise Secure Network (ESN) Team

For technical excellence in designing and deploying the classified Enterprise Secure Network to provide an infrastructure for the deployment of web applications across NNSA.

Joseph Brenkosh, Tim MacAlpine, T.C. Hobson, David Heckart, Douglas Redfield, Phuong Tran, Brian Scott, Laura M. Charles, Tom Cleal, Dennis Tenorio, Doug Brown, Joe Sena, Michael Bencoe, Thomas Feeney, Christopher Nebergall

Facilities Space Team

This team created new methodologies for Sandia space utilization tracking and implemented a lease-reduction pilot project.

Linda Chavez, James Davis, Gwendolyn Drake, Steve Fritz, Tanya Gallegos, Anna Hernandez, Olaf Juveland, Ann Koepp, Theresa Macias, Kim Maxwell, Anna McKee, Wilfred Mitchell, Mary Alice Padilla, Wayne Potter, Camille Reyes, Christine Riddle, Kassandra Sanchez, Lynne Schluter, Bradford Skinner, Raymond Valdez

FIE COMSEC Team

Best Performance as a Supporting Team in COMSEC Operations.

James G. Holmes, Deanna Sevier, Kevin Lederer

First Optical Transceivers for Satellite Applications Team

In recognition of the extraordinary team effort leading to the development, qualification, and delivery of the first optical transceivers for satellite applications.

Rhonda Dukes, Sharon Benson-Lucero, Kathleen E. Lane, Steve Vigil, Scott Frederick, Ron Anderson, Kathy Myers, Christopher E. O'Malley, Gayle Echo Thayer, James J. Mulhall, Mark Grazier, Paul Vianco, Alice Kilgo, Riley Kilgo, Anthony Lentine, Robert Sanks, Larry Bruskas, Mario Delgado, Justin Ford, Benjamin Mar, Michael Neilsen, Jerome Rejent, Patricia Sawyer, Charles Schlosser, Jerry Soden

FTX-03 and FTG-05 Payload Fielding Electrical Team

Payload fielding and launch support of Missile Defense Agency flight tests from the Kodiak Launch Complex — Launch Dates: July 18 and Dec. 5, 2008.

Albert Brown, Greg Shelmidine, Martin Imbert, David Ho, Owen Henderson, Rhett Martin, Joe Burnside, Gary Ashcraft, James Michael Bowen, Timothy Campbell, Wesley Crownover, Shawn Garcia, David Jones, Christian Maestas, Adam Peters, Kevin Smart, Venito Vasquez

FY08 OMB Circular A-123 Test Team

This team helps on an annual basis to assess and validate the effectiveness of Sandia's internal control structure, over Process and Entity spheres of activity.

Christine Mathias Abadie, Carmela Andrade, Cynthia Burns, Brenda Byrd, Teresa Cajete, Ralph Chapman, Bryan Davis, Raquel Enriquez, Melissa Flury, Kathryn Fortune, Christopher Gallegos, Louis Griego, Colin Hallahan, Aaron Lobato, Jason Lobato, Nikki Lobato, Matthew Lopez, Tina Lutheran, Nancy Nesbitt, Jason Padilla, Isaac Carlos Romero, William Vigil, Joseph Wharton, Rachel Wilson, Amy Woolley

Health Insurance Audit and Assurance Team

The Health Insurance Audit and Assurance Team devised, created, and performed audits of Sandia's health insurers resulting in significant dollar savings to the Laboratories.

Nancy Clise, Antoinette Lucero, Tricia Sena, Kimberly N. Hallatt, Del Salazar, Lisa Susanne Heldt

HiFES Early TVAC Team

For outstanding leadership, commitment, and perseverance in executing and completing the HiFES Early TVAC (Plan 2410) testing of the flight TSU and P8 hardware.

Carter Grotbeck, Chris Bourdon, Patrick Barney, Eric Shields, Rich Wickstrom, Scott Strong, Tammy Henson, Vit Babuska, Richard Shagam, David Epp, Ron Akau, Mike Lenz, Tracie Durbin, N. Glenn Rackley, Walt Gill, Mathew Napier, Derrick Brouhard, Andrew Sheh, Joy Barker, Judi Beiriger, Anthony Geller, Roy Hogan, Jr., Chris Lanes, Kurt Lanes, George Trever

HiFES Panel 8 Subsystem Team

For outstanding dedication and technical excellence in the delivery of the Panel 8 Subsystem for the HiFES satellite program.

Wayne McMurtry, Sef Crollett, Ed Brady, Wesley J. Landaker, Pete Karnowski, Tim Dubay, Randy Mayer, John McClendon, Kevin M. Schmidt, Mellisa Heller, Robert Mills, David Arpin, Rod (Woody) Woodstra, Jeffrey McCasland, Randy Rosenthal, Natasha Bridge, Mike S. Anderson, Mike Swanson, Leslie Juarez, Mike Gruchalla, Steven Dropinski, America Fritz, Theodore Kim, William Perea, Paul Werner

HiFES Telescope Sensor Unit (TSU) Dynamic Test Team

For outstanding teaming and technical excellence in planning and executing the HiFES dynamic qualification testing of the flight TSU.

Franklin F. Johnson, Jr., James Freymiller, Dominic V. Martinez, Lawrence Carlson, Jack Heister, Eric Stasiunas, Troy J. Skousen, Terry Hinnerichs, Anthony J. Gomez, Brendan Rogillio, David J. Gurulé, Bob Pahl, Adam Brewer, Thomas Carne, Larry Dorrell, John Franklin, Dennis Gutierrez, David Kelton, Zachary Kreiner, Randall Mayes, Sharlene McLane, Jeffrey Meador, Mikhail Mesh, Harold Radloff, Edward Winrow

HiFES TSU Engineering Sciences Integration Team

The team provided leadership and science-based engineering supporting HiFES TSU payload development, spanning design, analysis, product realization and certification in thermal, mechanical, and contamination control.

Bill Erikson, Lawrence W. Carlson, Jack Heister, Anthony Geller, David J. Gurulé, Vit Babuska, Tracie Durbin, Eric Stasiunas, Roy Hogan, Ron Akau, Ron Maes, Dominic V. Martinez, Troy J. Skousen, Chris Bourdon, Larry Dorrell, Victor Figueroa, Walter Gill, Anthony Gomez, Sylvia Gomez-Vasquez, Terry Hinnerichs, David Kelton, Randall Mayes, Mikhail Mesh, Ronald Thomas

Hunter's Moon — Forensic Recovery of Computer Media Team

The Hunter's Moon forensic media recovery team recently demonstrated a new breakthrough to recover data from a second class of damaged media items.

Charles Sobey, Eleanor Walther, Kenneth Groom, Diane Callow, Michael Kuehl, Wendy Amai, Tim Perkins, Peter Esherick, David Marks, Barry Spletzer, Lisa Marron, Pete Hamilton, Henry Baca, Stephen Buerger, Robert Ewing, Aaron Michael Gibson, Hamilton Link, Douglas Nicholls, Andrew Othling

Integrated Lifecycle Surety (ILS) Team

For impact with identifying and establishing a relative risk comparison methodology for US stockpile surety issues.

Greg Wyss, staff members from Orgs. 200, 12300, 2100, 5600, 6400, 8100

Ion Trap Team

The ion trapping team has established itself as experts in the design, manufacture and testing of micro ion traps for sensing and quantum information.

Matthew Blain, Kevin Fortier, Raymond Haltli, Thomas Hamilton, Kevin Linker, Michael Mangan, Daniel Lynn Stick, Chris Tigges

ISL Header Manufacturing Team

This team developed and qualified a manufacturing process for W76-1 stronglink components. In addition, the team's processes completed a QAS 3.0 audit with no findings.

Barb Yerganian, Bobbie Williams, Frank Paulic III, Scott Reed, Alice Kilgo, Ron Stone, Denise Bencoe, Jamey Bond, George Burns, Danny Carpenter, Ron Casias, Phyllis Chavez, Tom P. Chavez, Christopher DiAntonio, Sergio Gonzalez, Robert William Hemighaus, Jr., Brian Johnson, Lenore Partridge, Michael Plowman, Christine Roth, Glenn Roubik, Rudy Sedillo, Gilbert Theroux

Kachina

The Kachina leadership team has established a new paradigm for working with a strategic sponsor, both technically and programmatically.

Douglas Ghormley, LeAnn Adams Miller, Peter Bakke, Declan Rieb, Vincent Hietala, Della Vieth, John Naegle, John (Zig) Ziegler, Karl Anderson, Jonathan Berry, Ann Campbell, Tan Thai, Vicky Vivian, James Walkup

KSPIF Ground Team

The KSPIF ground team has provided 24/7 support so that Sandia payload teams can collect data necessary to verify and validate the HiFES sensor performance.

Rich Wickstrom, Tim Eriksson, Todd Giles, Michael Grow, Steve (Scooby) Kubica, Andrew Sheh, Judy Beiriger, David Bodette, Jeffrey Brooks, David Adam Cunningham, Todd Patrick Fielder, J. Michael Griesmeyer, Thomas Loughry, David Miller, Jeffrey Romine, David Strong, Robert Warrick, Stephen Young

MC4217 Technical Leadership Team

For responding to challenging new questions about legacy design MC4217 detonator performance and safety, with a creative, innovative, and scientifically rigorous approach.

Everett Hafenrichter, Brent Blankenship, Kathy Alam, Tom Massis, Rachel Carlson, Adam Wadin, Melody Teixeira, Jerry Knorovsky, Kimball Merewether, Edward Bujewski, Daniel Cantu, Juan Elizondo-Decanini, Robert Galloway, Jay Hammond, Frank Horine, David Huskisson, Douglas Loescher, Jose P. Lopez III, Laura Martin, Timothy Mooney, Kenneth Pierce, Michael Taylor

MC4379A Timer Product Realization Team

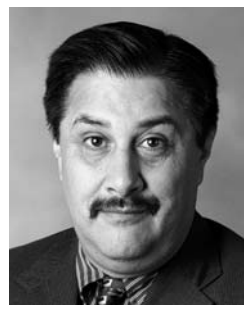
The MC4379A Timer Product Realization Team (PRT) established and qualified in-house manufacturing processes and delivered 170 mark quality units in less than 8 months.

Duane Richardson, Ronald Martinez, James M. Lucero, Pierrette Gorman, John P. Lopez, Muhammad A. El, Moses L. Jones, Rosa Montoya, Greg Neugebauer, Therese Ordonez, Maria Galaviz, Miguel Atencio, Steve Buckles, Scott Gillespie, Sergio Gonzalez, Paul Headley, Adam Jimenez, Sarah Leming, Leanna M.G. Minier, Kenneth Morris, Susan Pollard-Walker, Gary Pressly, Kent Robbins, William Silva, Pamela Walker

Microsoft Site License Acquisition Team

This team conducted a dynamic bidding event for the Microsoft site software licenses that resulted in a $3.5 million cost savings to Sandia.

Doug Otts, Gary Romero, David Bishop, Jim House, Genaro Montoya


Alfred Romo
10248


Patricia Sanchez
11100


Roger Shrouf
4122


Michael Strosinski
6751


Nora Tankersley
10662


Junji Urayama
5444


Rita Webb
10268


Patrick Xavier
6344

Multi-frame Z-Backlighting Development Team

The team developed new 2-frame and 2-color backlighting diagnostics for the Sandia Z facility using the Z-Beamlet laser, enabling new scientific breakthroughs to be made.

Briggs Atherton, Guy Bennett, Eric Wayne Breden, Michael Jones, Matthew Doyle Kernaghan, Thomas Mulville, John Porter, Grafton Robertson, Jonathon Shores, Daniel Sinars, Ian Smith, Christopher Speas, Michael Alex Sullivan, Mark Vargas

Neutron Generator Lean Tester Value Stream Team

The team developed and deployed an open architecture standard for all neutron generator testers that use modular, reusable hardware and software.

Sue Pollard-Walker, Ken Morris, Tran Lai, Stewart R. Halbig, Michael Aragon, Ron Dulaney, Sharon Winings, Jim Kajder, Lee J. Moseley, Robert Hertrich, Teresa Kizziah, Thomas L. Dickman, Sharon Shannon, Mickey Shortencarier, Jennifer Squires-Fasano, John K. Norwalk, Steve Gentz, Patrick Candelaria, Lance Begay, Debra Browitt, Melissa Feldner, Carolynn Ann Papp, Mark Smith, Frank Trowbridge, Kevin Ward

New Mexico Gross Receipts Tax Questionnaire Improvement Team

Improving the usability of the tax questionnaire for both the line and administrators, resulting in significant tax and labor savings for Sandia.

Mary Bobbe, Rebecca Campbell, Heather Christ, Tim Cline, Doris DeSimone, Joanna Frumkin, Paul Graham, Charles Harmon, Jamie Hatcher, Stephen Kranz, Robert Martinson, Christopher Mauro, Richard McLendon, Polly Owens, Robin Reeves, Evelyn Serna, Valeria Trujillo

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Non-Port of Entry Team

For working with the Office of Border Patrol to develop and assess radiation detection concepts and supporting architecture development at the Domestic Nuclear Detection Office.

John Smith, Andrew Vaughn, Stacy Mui, Brandon Lecey, Linda Groves, Steven Orth, Kevin Krenz, Scott Ferko, David Oliver Franco, Donna O'Connell

NQT200 - Preparing For Successful Product Acceptance Team

Team trained 212 people how to prepare for product acceptance resulting in an improvement of defect-free NW product submittals from 12 percent to 67 percent this year.

Dexter Boone, Ruben Muniz, Glenn Roubik, Paula Sanchez, Darlene Serna

NTSB Minnesota Bridge Analysis Review Team

For exemplifying "Exceptional Service in the National Interest" through timely support of the NTSB in the Minnesota Bridge Collapse Investigation.

Gerald Wellman, Kenneth Gwinn, Jim Redmond

Nuclear Power Plant Digital I&C Vulnerability Assessment Team

For outstanding support of the Nuclear Regulatory Commission's new Cyber Security Assessment Program of Digital I&C Operational Platforms at Nuclear Power Plants.

Frank Wyant, Adrian Chavez, Kandy Phan, John Michalski, Michael Berg, Jennifer Depoy, Jeanne Dion

NW Budget Validation Team — Phase II & Phase III

Assembled and presented the documentation required by NNSA to support the FY2009 budget estimates for DSW, ICF and FIRP, receiving glowing reviews from NNSA.

Mary Ann Sweeney, David M. Moran, Paul Graham, Becky March, Teresa Bennett, Jeffrey Kallio, Marlene Keller, Lyle Lininger, Rhonda Maze, Jesus Ontiveros, Brett Remund, Patrick Sena, Ed Tooley

Oracle Explosive Inventory System Implementation Team

The Oracle EIS Team developed a system to ensure explosive safety and accurate tracking by leaning and automating 21 processes to meet an OIG finding.

Debbie Espinosa, Ron O'Hara, Carla Bell, Stephen Vender, Viola Baca, Timothy O'Dea, Rachel Dru Sitges, Dee Dee Griffin, Lenora Baca, Richard Baird, Barbara Clark, Paula Jernigan

Oracle Explosive Inventory System Implementation Team

Performance Measurement Development & Deployment Team

For exemplary teamwork and dedication to development of Laboratory-wide performance measures, training of users and on-time, on-budget deployment of the performance measurement system.

Larry Cox, Mary C. Nation, Mike Patrick, Greg Durfee, Deborah Serna, Brice Fisher, Robert Frost, Bruce Gunckel, Charles Meyers

"Peridynamics as an Atomistics Coarse-Graining" LDRD Team

For establishing the foundations of peridynamics, thereby making it viable as a predictive method for simulating damage, cracking, and failure in materials and structures.

John Aidun, Mark Sears, Richard B. Lehoucq, Stephen M. Foiles, Stewart Silling, Michael L. Parks

Personnel Security Team

For processing/issuing over 52,000 visitor, contractor, colleague, and employee, (including HSPD-12) badges in FY08.

Angela Chavez, Amy LeVan, Emma Johnson, Rubyann Sanchez, Sharon A. Lawson, Maretta King, Dave Evanetich, Melanie Heyborne, Lisa Kaneshiro, Theresa F. Romero, Samantha Flores, Bert Cox, Robin N. Candelaria, Annette E. Chavez, Grace Wells, Sharon Martinez, Ana B. Sandoval, Joanne Trujillo, Delvin Celeste Wood, Renee Wood, Candace Krubsack, Melisa Regina Pacheco, Cynthia Romancito, Jennifer Romero, Carla Sanchez

Project Management Reporting Engine (PMRE) System Development & Implementation Team

Foundational development and implementation of the Project Management Reporting Engine (PMRE) utilizing online analytical processing technology for rapid information delivery on the Advanced Systems program.

Natasha Bridge, Connie Adams, Rosemary Dunivan, Yvonne Petrova, Keith Bauer, Laura Owens, Charlie Harmon, Jericah Dawson, Aaron Hamburger, Brenda Byrd, Kathleen E. Lane, Edwin Phillip Chamberlin, Brice Fisher, Sarah George, Rose Mary Gurulé, Barbara Lagree, Arthur Machtinger, John Moleres, David Pollock, Bayard Roberts, Eric Russell, Victoria Griego Stanley, Michael Staples, Amy Williamson, Thomas Witkowski

Project Newton Team

Project Newton: Teaming across Sandia and the DOE Complex to redefine the basis for aviation security explosives detection technology certification for TSA.

Nathan Peterson, Dennis Roach, Marlin Kipp, Jonathan S. Rath, James Phelan, Diane C. Ross, Marvin Larsen, Kenneth R. Smith, Charles Brusseau, Edward Bystrom, Keith Eugene Frakes, Gilbert Gonzalez, Jeffrey Gruda, Arne Gullerud, Kenneth Gwinn, John Korellis, Wei-Yang Lu, Mark Naro, Kirk Rackow, Phillip Reu, Timothy Shelton, Jerome Stofleth, Weldon Teague, Edward Vieth, Edward Virostko

R&D 100 Awards Support Team for 2007 and 2008

The R&D 100 Team for 2007-2008 provided project management, editorial, graphics, and video support to nominees for the prestigious R&D 100 Awards for technological innovation.

Cindy Barchas, Catherine Dawson, Jerome Gorman, Dale Green, Tracy Hall, Eliot Kohen, Gail Lemen, Margaret Lovell, Bob McInteer, Steve Pope, Dawne Settecerri, Laura Sowko

Radioisotope Power System Launch Safety Team

The RPSLS Team produced the Final Safety Analysis Report for the Mars Science Laboratory and passed the DOE software audit with "no findings of non-compliance."

Charles Morrow, Cecily Glissman, John Kelly, Tracy Radel, Michael Lensi, Jeffrey Smith, Ron Lipinski, Tim Bartel, Jane Hillman, Doretha A. Smith, Nate Bixler, Dave Robinson, Greg Bessette, Michael Adams, Alex Brown, Robert Cole, Christopher Clutz, Nelson Deane, Sinisa Djordjevic, John Holland, Darryl Hoover, Hamilton Link, Vernon Nicolette, Donald Potter, Janis Trone

Realize Product Sub-System (RPSS) Team

The team developed or improved the system to manage the requirements, procedures, tools, training and communication, and governance used to realize nuclear weapon products.

Karen Current, Karen O. Smith, Mark Dickinson, Karen Higgins, Todd Sterk, Allison J. Kane, Dexter Boone, Kathleen McCaughey, Richard Sarfaty, Carol Baxter, Susan Y. Pickering, Tracy Peterson, Dale Boehme, Myra Chavez, Michael Daily, Jeanne Evans, Douglas Gehmlich, Cara Johnson, Meghan Moore, Ruben Muniz, Luis Paz, Debra Post, Patricia M. Sanchez, Rick Sherwood, Randall Van Cleave

Russian Nuclear Warhead Protection Team (RNWPT)

RNWPT designed and installed security upgrades at the Russian Federation 12th Main Directorate National Nuclear Warhead Stockpile sites, reducing the risk of nuclear warheads proliferation.

Brian Abeyta, Michael Benson, Dale Michael Bradley, Michelle Chavez, Ian Cheng, Alfrazier Davis, Janine Donnelly, Gail Finley, Robert Follis, John Franklin, Tommy Goolsby, B. Lee Hall, John Hudenko, Steven Iveson, Janice Leach, James Lloyd, Timothy Malone, Dominic R. Martinez, Monique Melendez, Charles Nickerson, Todd Owen, Tasha Perea, Ginette Prudhomme, Susan Washburn, Nicholas Winowich

Sandia/California Complex Transformation Future Studies Team

For outstanding support of nuclear weapons consolidation and IDA studies of Sandia/California's future, resulting in NNSA's record of decision to maintain operations "as is."

Devon Powers, Timothy Shepodd, David Rabb, Kevin Davidson, Shirley Johnson, Donald Charlesworth, Richard Conaway, Edward Cull, Jr., William Even, Jr., John R. Garcia, Jeffrey Gebel, James Handrock, Linda Houston, Mylinda Hutchings, Dennis Inman, Davina Kwon, Lyle Lininger, Diana Pereira, Noel Richmond, Howard Royer, Larry Sedlacek, Patricia N. Smith, Paul Spence, Peter Van Blarigan, Steve Zevanove

Sandia National Laboratories' Cycle 13 Annual Assessment of the Nuclear Weapon Stockpile Team

The Sandia team implemented a robust, high-quality process, exceeded expectations, and made significant improvements to the technical basis and Annual Assessment Process.

Ramon Pacheco, Gary Nordyke, Scott Klenke, Daryl McCollister, Bill Moffatt, Mark Cranfill, Dennis Helmich, Corey Cruz, John Arfman, Jr., Daniel Cantu, Kevin Carbiener, John Clauss, Michael DeVay, Jennifer Gilbride, Phil Hoover, Ming Lau, Benjamin Markel, Robert Paulsen, Howard Royer, Ronald Sauls, Robert Waters

Sandia Pulsed Reactor Facility Critical Experiments (SPRF/CX) Team

For outstanding teamwork and performance in the preparation and restart of a unique Critical Experiment capability for the NNSA.

Anthony Baca, Allison Delo Barber, Matthew Burger, Nancy Collins, Cheryl Desjardins, R. Sidney Domingues, John Ford, Emily Fuller, Richard Gomez, Kevin Gray, Michael Greutman, Gary Harms, Paul Helmick, Nancy Hetrick, Autumn Higgins, Mary Horvath, Ron Knief, Lonnie Martin, Ken Mulder, Kenneth Reil, David Samuel, Darren Talley, Michael Torneby, Thomas Vanderbeek

Sandia's Joint BioEnergy Institute Operations Team

For outstanding performance on behalf of Sandia in the planning, safety, staffing, procurement, project management, and operation of the $135 million DOE-funded Joint BioEnergy Institute.

Catherine Dawson, Jessica Matto, Carol Crown, Jamie Hughes, David Brekke, Wendy Dolstra, Grant Heffelfinger, Aden Jackson, Lorin Kiefer, Marta Leon, Margeri Martinez, Sheila Pounds, Margaret Quinn, Patricia N. Smith

SANDMAN Fuze Phase III Sled Test Team

For excellence in the design, development and safe execution of two SANDMAN Fuze System Level Sled Tests conducted at the Holloman High Speed Test Track.

Mary Chapel, Kenneth Chavez, Sherrie Crawford, Douglas Dederman, William Engleman, Eric Klamerus, Marc Kniskern, Edward Mader, Jr., Melinda Marks, Clarence Marquez, Carolyn Marvin, R. Scott McEntire, Dannie McNeill, Mark Miszkiel, Mark Montavon, Hae-Jung Murphy, Douglas Pastor, Mark Pilcher, Gary Polansky, Rashad Raynor, W. Gary Rivera, Peter Smolenski, Robert Vargas, David Wackerbarth, Larry Young

SIERRA Mechanics Agile Software Development Teams

For successful implementation of Agile Software Development Process into the SIERRA Mechanics code development teams.

Nathan Crane, Kendall Pierson, Alfred Lorber, Sam Subia, Jesse Thomas, Joel D. Miller, Tolu Okusanya, Kathy Aragon, David Glaze, Jason Hales, Mike Glass, Alan Williams, Benjamin Spencer, Erik Illescas, Elijah Newren, Chris Riley Wilson, Mark E. Hamilton, Steve Bova, Becky Arnold, Thomas M. Smith, Manoj K. Bhardwaj, Amalia Black, Ryan Bond, Nicole Breivik, Richard Drake, Nicholas Francis, Martin Heinstein, Chi Lo, Randall Lober, Vernon Nicolette, Rekha Rao, Garth Reese, D. Gregory Tipton

Sled Track Accident Emergency Response Team

Quick, efficient actions and decision making saved an individual with a life-threatening injury at the TA-III Sled Track on October 9, 2008.

Victor J. Marquez, Andrew Aragon, William L. Wolf, Margaret E. Miera, Robert F. Burger, Christopher T. Mullaney, Manuel M. Valenzuela, James A. Romero, Jefferson Jay Buller, Ruben Collado, James Cook, Wendy Cooper-Snow, Mark Demarinella, Julie Hall, Daniel Harbour, Frank Mata, Rowen Meredith, Michael Robert Mueller, Michael J. Padilla, Anthony Ramirez, Lloyd Rantanen, Philip Sanchez, John Sensi, Frank Soto, Joseph Zamora

SLOAN

For providing (from concept inception to system implementation) the nation with a significant new MASINT capability for the warfighter and tactical military and intelligence communities.

Terry Calloway, Paul Eichel, Ireena A. Erteza , Neall Doren, Charles Jakowatz, Michael Denton

Sandia Diablo Bravo 08 Scenario Development and Planning Team

This multidisciplinary team developed a unique technical scenario, created representative surrogate hardware, developed a video simulation of the incident, and generated preparatory training venues.

Virgil J. Anderson, Brandon Ahrens, Thomas Heine, Alex Horvath, Karmen Lappo, Richard B. Stump, John Hoffman, Caesar Echeverria, Mike Krawczyk, Paul Gabaldon, M. Brad Parks, Teri Hall, Michael Strosinski, Jerry Crowder, Martin J. Valdez, Matthew G. Heine, Denise Bleakly, Gary Kishi, David Minster, Mark Olona, Brent Peterson, John Saylor, Gregory Scharrer, Harry Season, Angelic Sveum, Peter Andrew Terrill

Starfish

For outstanding technical achievement in delivering a suite of tools that enable unique hardware analyses.

Matthew Areno, William Atkins, Chris Hoff, Brent Kucera, Jason Gale, Michael Berg, John Bartholomew, Jonathan Margulies, Perry Robertson

State-of-the-Art Reactor Consequence Analyses Team

This multidisciplinary, interagency team of experts advanced and then applied state-of-the-art analyses generating new knowledge regarding realistic outcomes of severe accidents at nuclear power plants.

Nathan Bixler, Jeffrey Brewer, Terry Brock, Shawn Burns, Virginia Cleary, Dorothy Collins, Randall Gauntt, Joseph Jones, Donald Kalinich, Mark Leonard, Gerardo Martinez-Guridi, Patrick McClure, Jocelyn Mitchell, Vinod Mubayi, Carlos Navarro, Andrew Nosek, Robert Prato, John Reynolds, Kyle Ross, Jason Schaperow, Frank Schelling, Jr., Randy Sullivan, Charles Tinkler, Kenneth Wagner, Fotini Walton

TA-III Classified Waste Landfill (TA-III CWL) Planning and Cost Estimate Core Team

This team met the challenge of developing a viable strategy and appropriate cost estimate for one of Sandia's largest remediation tasks under a tight deadline.

Dwight J. Stockham, Nancy D. Aldridge, Mike Norte, June Rogers, Andy Rogulich, Anna Trujillo, Benjamin Huff, Jake Trujillo, John Long, Jennifer L. Byers, Tracy Woolever, Rick Balthaser, Butch Becknell, David Castillo, John Gould, Max Lopez, Robert Matavosian, Michael Nagy, Jody Pugh, Dave Rast, Stephanie Salinas, Donald Schofield, Nathan Sommer, Steven Sweet, Toby Velasquez

Tri-Lab Linux Capacity Cluster (TLCC) Team

The Sandia TLCC Team, in collaboration with Lawrence Livermore and Los Alamos, partnered with Appro to develop and deploy highly successful Linux capacity clusters.

Jesse Livesay, Sophia Corwell, Jeff Ogden, Steve Monk, Ryan Braithwaite, James Steward, Kevin M. Kelsey, Marcus Epperson, Jerry Smith, James Ang, Douglas Doerfler, Jerrold Friesen, Catherine Houf, Chris Maestas, John Noe, Constantine Pavlakos, Don Rudish, Randy Scott, Steve Simonds, Adam Supinger, John Zepper

Tri-Lab Linux Capacity Cluster (TLCC) Team

Unneeded Materials and Chemicals (UMC) Team

Practicing good teamwork with the workforce and using innovative and environmentally conscious disposition methods, the UMC project met performance targets and saved Sandia over $440,000.

Corey Campbell, Randolph Castillo, Shawn Colborg, Chris Dean, Nathan Elliott, Darcy Fischer, Christina Gilbert, Diana Goold, Scott Jordan, Bonnie Little, Margie Marley, Lewis Marlman, Michael Mitchell, Jack Mizner, Darren Pendley, Thomas Reecer, Phillip Rivera, Robert Preston Rivera, Donald Schofield, Lorenz Spangler, Ken Tetreault, Pascale Waffelaert, Doni Watenpaugh, Ralph Wrons

W76-1 System Engineering Team

For successful qualification of the W76-1 LEP Reentry Body.

Everett Hafenrichter, Pat Garberson, Randy J. Harrison, Steven Thornberg, Danny Thomas, Scott Slezak, Brent A. Blankenship, Cathy Gamblin, Brad Boswell, Emily Sers, Brian White, Mary Ann Cordova, Larry Andrews, Bruce Bainbridge, Steve Barnhart, Scott Brumbaugh, Jeffrey Christensen, E. Daniel Cordova, Gerald A. Garcia, Gerald A. Gurulé, Richard Kreutzfeld, Douglas Miller, John Saylor, Keri Sobolik, Sean Stieper, Michael R. Taylor

Yucca Mountain Project IT SharePoint and License Support Team

The Yucca Mountain IT SharePoint and License Support Team is commended for their dedication and hard work in support of the Yucca Mountain Project Mission.

Walter Walkow, Jean Ann Plummer, Cindy Huber, Brian Sims, Barbara Lucero, Ed Saucier, Phillip Cox

W87/JTA4 Product Realization Team

For delivering to the NNSA the first JTA4 production unit on schedule and successfully launched onboard a Minuteman III intercontinental ballistic missile.

CA team members: Curtis Specht, Quenton Mckinnis, Kiet Tieu, Mark McConkie, Joel Groskopf, Catherine Schmitz, Robert Brandt, Dale Walker, Jerrod Peterson, Brian Oden, Derek Baptist, Marco Alvares, Kurt Berger, Seung Choi, E. Thomas Clark, Jr., Mark Claudnic, Gary Kirchner, Kevin Lam, Hoi Sze Judy Lau, James Lauffer, Paul Lowe, Benjamin Markel, Paul Mendes, Thomas Prast **NM team members:** Julia Hammond, Carol Michaels, Dennis A. Mowry, Joe Chiu, Tom Brewer, Barb Yerganian, David Cain, Scott Anderson, William Beenau, Peter Michael Biggs, Jeffrey Christensen, Steven Grieco, Gordon Grimm, Bruce Hamilton, Micah Lillrose, Mark Martin, Ernest Lee McNabb, Douglas Miller, Michael Plowman, Danny Rey, Jeffrey Robinson, Ellis Sykes, George Vernon, Randy Williams

Z-Pinch Current Measurements Team

For development of a method to measure, for the first time, the current directly at a Z-pinch load using VISAR.

Daniel Sinars, Jean-Paul Davis, Robert Stamm, Ray Lemke, Tim Wagoner, T.J. Rogers, Kyle Peterson, Devon Dalton, Marcus Knudson, Charlie Meyer, John Henry Niederhaus, Jason Podsednik, Anthony Romero, William Stygar, Jerry Taylor

Sandia team tests SAR at Moriarty airport

Tests are special occasion for town

In what turned out to be a special occasion for the town of Moriarty, N.M., a Sandia team recently tested a state-of-the-art synthetic aperture radar (SAR) at the town's municipal airport.

Scott Nance (5342), project lead, says the team opted to test the SAR in Moriarty because of too much electromagnetic interference at Kirtland Air Force Base, where the experiments are typically done.

SAR is a form of radar that provides high-resolution imagery without having to worry about inclement weather or time of day. Signals are transmitted at several thousand megahertz. The radar precisely records the frequency and timing of echoes that bounce back from the surface of the Earth; this data is then processed with specialized algorithms to form photograph-like images.

"We looked at different places in the Albuquerque area and determined that the best location was the Moriarty airport," Scott says. "There are no weather radars and transmitting towers to interfere with beacon signals."

This was important, as a fundamental part of the experiment was for the Sandia team to test a new "beacon mode" for the radar. A beacon is a radar transponder that receives and transmits data. A person on the ground holds the beacon. The radar on the plane sends down a signal, which the beacon receives and responds to. With clever signal processing, the radar can pinpoint the precise geolocation of the beacon.

Scott says the team spent four weeks in Moriarty, concluding with a demonstration for the customer. Members of the team include Mike Taylor (5342), Grant Sander (5342), Dale Lipke (5342), Dale Dubbert (5345), George Sloan (5345), April Sweet (5348), Silpan Patel (5354), Nikki Angus (10653), and Kurt Sorensen (6774), program manager.

Story by Chris Burroughs
Photos by Randy Montoya

In the photo above Scott Nance looks at the radome — which contains the antenna/gimbal assembly — on the belly of a DeHavilland Twin Otter aircraft. In the photos below, Mike Taylor adjusts the beacon transponder prior to a test and communicates by radio with colleagues in the Twin Otter. To the right is a synthetic aperture radar image of the Moriarty airport.

Mileposts

New Mexico photos by Michelle Fleming

Ivory Alexander
35 6432

John Hohimer
35 11500

Vance Behr
30 5930

Recent Retirees

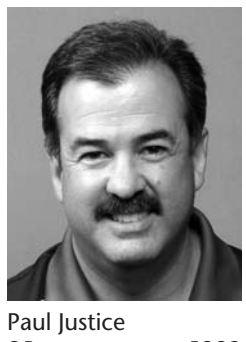
Steve Roehrig
33 6000

John Wronosky
30 5339

Richard Beauheim
25 6712

Barry Boughton
25 2611

Richard Diver
25 6337



Paul Justice
25 5923

Lewis Marlman
20 10264

Carol Kyle
15 3002

Dale Shamblin
25 1534

Ruth Bitsui
20 10662

Gregory Hebner
20 1128

Deanna Jaramillo
20 1655

Anne Moats
20 5713

Steve Plimpton
20 1416

Edward Sanchez
20 2138

John Campisi
15 12870

Kenneth Keahbone
15 9342

Ganesan Nagasubramanian
15 2546

Mark Rodriguez
15 1822

Ricardo Sarfaty
15 414

Cathy Sleeter
15 3523

Labs austerity success story . . .

Using web conferencing to cut costs

Travel costs money. Sometimes a lot of money. In an environment where Labs organizations are looking closely at every single dollar they spend, travel stands out as a major expense. Organizations could save money by simply eliminating travel, but that's not always desirable — or even possible. Sandians travel a lot on official business not because they love to travel, but because that's been the only way to get work done.

Today, with the proliferation of web-based meeting and interaction tools, many Labs organizations are finding viable mission-friendly alternatives to travel.

Recently, for example, members of Corporate & Strategic Purchasing Dept. 10248 decided to use web conferencing as a way to cut costs. Web conferencing is a way of conducting live meetings from individual computers.

Fabian Aragon (10248), Procurement Card program manager, decided to use Microsoft Office Live Meeting to cut travel costs for cardholder training.

"We started to do P-card applicant training for Sandia/California by flying out and conducting the training. Now we just use Live Meeting and save on the travel time, airfare, lodging, rental car, and meals. We also use it for other remote customers who would otherwise have travel to Albuquerque for training."

Fabian and the students talk via the telephone and all parties can see the presentation being controlled on Fabian's computer. At one point during the training, Fabian hands over control and instructs the students on how to reconcile P-card transactions in Oracle.

Students are able to get the same hands-on training that occurs during in-class training sessions in Albuquerque.

"Video conferencing for remote students became a very complicated option when we decided to do hands-on training as part of the class. Live Meeting has become our best option to save everyone time and money and allows us to be more focused while doing our in-class training in Albuquerque."

Judy Jojola (10248) uses Live Meeting, or one of the other available commercial Internet-based meeting packages, to train in the JIT area.

"I use it when I need to train suppliers or when they have a quick question. I can see what they're looking at and offer a solution in minutes rather than having to drive to the suppliers' sites."

Members of the department even use the tool to quickly train people located at Sandia/New Mexico on various Oracle and Ariba applications.

What Fabian, Judith, and others in Dept. 10248 have discovered is that, while web-based meetings don't substitute for the relationship-building value of face-to-face meetings, they offer a quick, free, or low-cost way to immediately connect with customers.

Feedback

Q: *Benefits changes — It seems logical to think that Sandia purchases the annuity that pays retirement benefits at the time of the employee's retirement, and probably pays it in a lump sum.Taking large sums out of one's investments when the market is down is a sure way to deflate future values of the investment. Making benefits changes that result in large numbers of retirements seems like a sure way to levy a heavy hit on the retirement fund. And with the market down, it seems that we would make efforts to postpone retirements to protect the fund. Are these assumptions correct, and are we making efforts to avoid large numbers of retirements while the market is down?*

A: Sandia does not purchase annuities from an insurance company when an employee retires. Instead, the pension benefit is essentially self insured by the Sandia Pension Trust and monthly payments are made to the retiree from the Trust by Prudential Financial, which is our paying agent. Consequently, while the level of monthly pension payments may increase if a large number of employees retire over a short period of time, the pension fund does not incur an immediate "heavy hit" from withdrawing lump sums to purchase annuities.

— Jeffrey Kallio, (10500)

* * *

Q: *I noticed in the* Lab News *that retiring employees cannot request all nonbase compensation anymore. This practice has been going on for many decades, and it seems like the ultimate win-win situation. The retiree gets a small boost to his pension, and the folks remaining behind get a small boost to their base pay, which is better over the long term than the equivalent amount of nonbase. Why was this changed? Is there a chance of changing it back?*

A: Thank you for your question. As you know, the measure of any compensation system is the ability to provide an equitable and consistent method of making salary decisions across the organization. In reviewing our compensation practices, it was determined that changes were necessary in the way we treat retirees in order to ensure all employees are being paid for performance. As a result, all employees, retirees included, will receive their normal base and nonbase distribution based on performance. For pension purposes, the employee's nonbase award will be included in pension calculations (to the extent that the employee completes a full calendar month in which the rate is in effect) and the base increase will be included in the high-three calculation as appropriate. At this time there are no discussions to change this policy.

— Melissa Creange, (3002); Mark Biggs, (10520)

Earth, Wind and Sun

Photos by Randy Montoya

MORE THAN 1,500 people visited 60 booths that were part of the July 21-22 Earth, Wind and Sun conference sponsored by Sandia and Kirtland Air Force Base. Exhibits ranged from alternative energy to green homes. One of the most popular stops was a dunk tank where, at right, Christopher Evans (4846) gets a soaking. At left, David White (9516) rides his Optibike, a high-performance electric bicycle. (Several of the bikes were also on display). Above, SPO II Terry Keim (4211) sits behind the wheel of a Smart Car.

Sandia LabNews

Sandia National Laboratories

Sandia News Briefs

Custodial Services was audited June 23-24 and received a score of 97 percent, which equals the highest audit score received since the Operating System 1 (OS1) program began in 2000. The auditors asked almost 300 questions and evaluated 30 factors, covering areas such as safety, management, training, and equipment, to determine the effectiveness of Sandia's cleaning program. The auditors' report commended Sandia's employees, organization of bulk storage, process documentation, and environmental management, among other areas.

* * *

Sandia hosted the first meeting in the new administration of the Homeland Security Advisory Council (HSAC) and the Southwest Border Task Force on June 4. The HSAC provides advice and recommendations to the Secretary of Homeland Security. Center 8100 showcased Sandia's border-related work with tours of the Robotics Vehicle Range (RVR) and the International Programs Building (IPB). The tours provided information on Sandia's physical security programs and technologies, international border security systems, and robotics systems, among other topics.

* * *

Chuck Mueller (8362) and four colleagues from Caterpillar have received the prestigious Harry L. Horning Memorial Award given annually by the Society of Automotive Engineers. The Horning award recognizes the best technical contribution to the field of engine and fuel utilization R&D. The researchers' work, on the topic of liquid-fuel films within engine combustion chambers, provides critical understanding for developing combustion strategies for clean, high-efficiency engines. The award will be presented at a SAE meeting in San Antonio this November.

VP Lenny Martinez leaves Sandia to continue to work on life goals

By Iris Aboytes

Lenny Martinez, VP of Sandia's Regional Technology (100) is leaving Sandia after more than 14 years. "It is time that I devote my time to work on some of my other lifetime goals," says Lenny.

LENNY MARTINEZ

Lenny came to Sandia as director of Production Integration, a center created to integrate the Labs' culture, manufacturing culture, and some private sector initiatives in support of the new manufacturing mission assigned to Sandia. This included work on the Manufacturing Requirements Planning system, production policies, and continuous improvement initiatives.

Lenny was named VP of Defense Products and Service Div. 14000 in 1998. The division included the responsibility for producing neutron generators as well as producing or purchasing components in specific technologies required to support the nuclear weapons complex.

Lenny was on assignment to the state of New Mexico the last two years as the Rural Economic Development Policy Advisor to Gov. Bill Richardson. He led the state's effort to develop biofuels, codeveloped the Integrated New Mexico Broadband Strategy, and led the business development activities for the state's supercomputer, Encanto.

Before coming to Sandia Lenny was president and general manager of Digital Equipment de Mexico SA de CV. He worked for Digital for 19 years.

"I have been privileged to work with very talented and giving people at Sandia," says Lenny. "One of the finest characteristics a person can have is to be technically capable, with the ability to use one's heart — he/she can bridge the gap the other way — always discovering, improving, making things better. I found this characteristic to be present at Sandia."

Lenny and Kindy, his wife of 35 years, have three adopted children: Palmira, Estrella, and José. "My family scorecard is not about me, but about them," says Lenny. "Their individual stories have had a great influence on my life."

Lenny and Kindy have been very involved in Healing the Children and have fostered several children. Healing the Children (HTC) is a nonprofit, volunteer organization dedicated to healing children around the world. HTC brings to the US children who need medical attention, finds medical professionals who donate their services, and assigns each child to a volunteer host family to provide room, board, and support for the duration of the child's stay.

Lenny was cochampion, along with Executive VP Al Romig, for Sandia's Employee Caring Plan (ECP), raising $20 million.

Lenny says his greatest influence has been his father Amadeo. Amadeo believes it is visibly easy to see the people at the top. The downtrodden — they are not quite so easy to see. For Amadeo, these are lifetime commitments, not moments in time.

"When I came to Sandia, I told myself I would evaluate progress toward my life goals every five years," says Lenny. "Sandia helped me to meet some of these goals and I am grateful. It is time for Kindy and I to address some of our other life goals. Our work outside Sandia has been about children and health, so we expect this next phase to be in health care, especially for those in need.

"Life is not just about money but a sense of purpose," he adds pensively. "In our case, we need time so perhaps we can give something back."