



# Sandia corrals four R&D 100 Awards



**Winners in photovoltaics, water purification, grid energy, and RF communications**

By Neal Singer

Sandia researchers — competing in an international pool of universities, corporations, and government labs — captured three prestigious R&D 100 Awards in this year's contest, and were co-winners of a fourth.

*R&D Magazine* presents the awards each year to researchers whom its editors and independent judging panel determine have developed the year's 100 most outstanding advances in applied technologies.

The awards, with their focus on practical impact rather than pure research, reward entrants on their products' design, development, testing, and production, and have been called "the Oscars of Invention" by the *Chicago Tribune*.

DOE Secretary Steven Chu said, "The Department of Energy's national laboratories and other sites are at the forefront of innovation, and it is gratifying to see their work recognized once again. Their cutting-edge research and development is helping meet our energy challenges, strengthen our national security and enhance our economic competitiveness. I congratulate our R&D 100 award winners."

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# Sandia LabNews

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## LM Voice employee survey results . . .

# Largely positive with a few areas of concern

### Senior management will develop specific actions to address biggest concerns

By Bill Murphy

The numbers from the 2011 LM Voice employee survey conducted at Sandia during April have been tallied and analyzed, and the results are mostly positive.

#### For more information

For more information about the LM Voice employee survey results, see these related links on Sandia's TechWeb:

**Paul's videostream discussing results**

<http://tiny.sandia.gov/hesz5>

**Change at Sandia website**

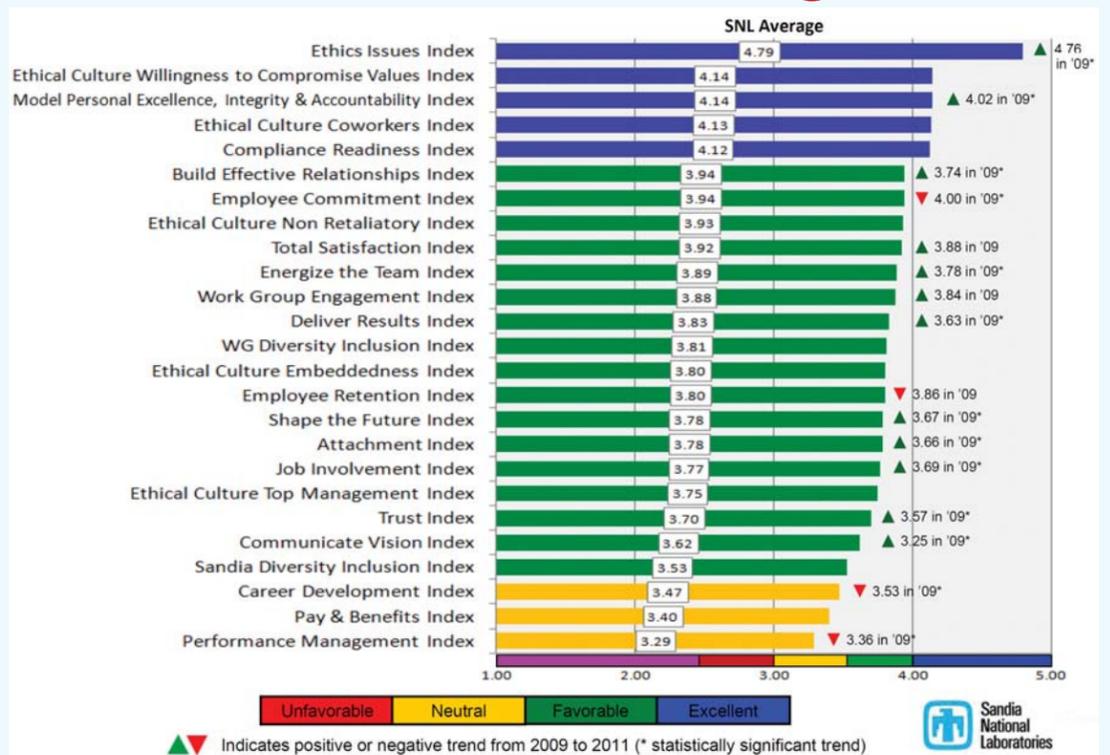
[http://info.sandia.gov/Change\\_Sandia/](http://info.sandia.gov/Change_Sandia/)

As will be the case with just about any survey, some numbers — a few, not many — stand out to Sandia's senior management.

In remarks videostreamed to all Sandians this week, Labs Director Paul Hommert noted that the survey results have been posted on the Change at Sandia website on Sandia's internal TechWeb.

(Continued on page 4)

## 2011 Sandia index ratings



## That's that

The Sandia results of LM Voice, Lockheed Martin's employee survey, are in and are largely good news. The responses from employees on the vast majority of questions are quite positive, and with almost half the Labs' population participating, those positive results are statistically significant. Sure, the survey reflected frustrations, too; issues regarding pay and benefits and the performance management process didn't fare as well as other aspects of the survey, but even there, the results weren't that bad. On a 1-to-5 scale, those issues scored in the 3 to 3.5 range, which is considered "neutral." In remarks videostreamed to employees this week, Labs Director Paul Hommert acknowledged that the pay/performance management issues are a concern and vowed that his team will address them in a way consistent with the Labs' values.

Now, I don't know how much latitude our management has to address pay and benefits (my hunch is probably not as much as they – or we employees – would like), but they can tweak the performance management process and I bet they will. I don't think I'm breaking any new ground in observing that the current process isn't liked and hasn't been for a long time. And it's not growing in affection as time goes by. In fact, the responses to questions about these issues are trending downward. The survey results this year reinforced the notion that a lot of employees don't think the process is fair or equitable. With these results, a lot of employees are saying, "There's gotta be a better way."

Again, I ought to emphasize that the survey scores about those issues weren't bad, but they are trending downward – a direction you don't want to go – and in comparison to the answers on most of the 80-plus questions, the so-so scores on the pay and performance management issues are conspicuous outliers.

\* \* \*

For senior management, in particular, the results of the survey, taken as a whole, are surely welcome. In a year of pay freezes, of changes to the pension formula and health insurance plans, and of the general feeling of unsettledness that goes along with fundamental change, I would guess that our leadership was braced for the worst. The survey would give employees a chance to vent their frustrations right across the board. But that didn't happen. And I think I know why. One question in the survey asked respondents to rate the extent to which they agreed with the statement: "I am proud to work at Sandia National Laboratories." And the vast majority of respondents agreed enthusiastically with that statement.

At the end of the day, that Sandia pride counts for a lot, trumps a lot of other frustrations. And that pride is well-founded. When the nation needs us, we're there. *Deepwater Horizon*? We were there. The Fukushima reactor crisis, which could have ultimately had an impact on the US in a variety of ways? We were there. Guaranteeing the viability of the nation's ultimate strategic deterrent? We're there every day. Developing answers to the nation's long-term energy needs? There. Supporting the military, including especially the men and women in harm's way? Yep. Providing solutions to emerging threats to the nation's homeland? That's us. Wherever there's a technical dimension to a national challenge we're there, with all our brainpower and all our creativity.

\* \* \*

I suspect I sound like a company cheerleader. If that's the case, so be it. But I'll tell you this: I can hardly count the number of times over the past 16 years that I've felt a swell of pride when, in the midst of some urgent crisis, I tell my parents, my siblings, my friends, "Oh, yeah; we're helping out on that." Want an immediate example? My brother sent out an email the other day noting that he and his wife are headed to Kauai for a vacation. I replied casually, "Cool; we've got a facility out there supporting the missile defense program." Ho hum. Just another day at Sandia.

I don't do any of the great technical work here, but I am as proud as I can be to be part of the mission, even by association. So when I take surveys like LM Voice, I may use the opportunity to red-flag issues that concern me, but always through the lens of my underlying foundation of pride in who we are, where we come from, what we do, and who we work for.

See you next time.

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

## Eugene Ruff-Wagner receives ISM Volunteer of the Year Award

Eugene Ruff-Wagner (10244) recently received the Volunteer Person of the Year Award at the Institute for Supply Management (ISM) 96th Annual International Supply Management Conference and Education Exhibit at Orlando, Fla.

Founded in 1915, the Institute for Supply Management is the largest supply management association in the world. Its mission is to lead the supply management profession through its standards of excellence, research, promotional activities, and education. ISM is a not-for-profit association that provides opportunities for promotion of the profession and the expansion of professional skills and knowledge.



EUGENE RUFF-WAGNER

Eugene is the immediate past president of the National Association of Purchasing Management – New Mexico (NAPM-NM), the local ISM affiliate. Through his participation on the board of directors of NAPM-NM Eugene has been instrumental in presenting creative organizational outreach events for NAPM.

Recently he introduced a new event, a Lunch and Learn for new hires at Sandia. "This new event provided attendees with information about ISM, including membership, seminars, and educational meetings," says Nora Armijo (10221), a fellow NAPM board member.

Eugene participates in almost every aspect of the affiliate's activities, supporting board members. At a recent Southwest Supply Chain Forum held in Albuquerque, Eugene brought his modern country band to provide entertainment. As a volunteer, his message is consistent: "We must focus on the mission of ISM and strive to produce beyond expectations."

"His unassuming style sometimes is deceiving," says Nora. "NAPM-NM is strengthened and encouraged through Eugene's visibility leadership, talent, passion, humility, devotion, humor, and wisdom in professional development, which have boosted NAPM-NM's success over the years. Eugene has figured out how to balance his family, work, extracurricular interests, and support professional development because of his passion for all."

Eugene was nominated for this award by NAPM-NM for his dedication to ISM. — Iris Aboytes



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## Attention Sandia retirees: Annual Retiree Social scheduled for Aug. 19



MORE THAN 1,125 Sandia retirees and their guests attended the annual Retiree Social/Picnic in 2009 at the Rio Grande Botanic Garden in Albuquerque. The 2011 event will be held at the Embassy Suites Hotel in downtown Albuquerque. (Photo by Lloyd Wilson)

The 2011 Retiree Social will be held Aug. 19, 12:30-3:30 p.m. at the Embassy Suites Hotel Conference Center. There will be plenty of room for gathering of friends, good food, reminiscing, and catching up on each others' lives. Sandia will also provide a park-and-ride service from Hoffmantown Church. An invitation with event details will be sent to retirees via mail in late July.

Sandia report . . .

## Exploring the intersection of biofuels and electric vehicles

By Patti Koning

Biofuels and electric vehicles don't appear to have much in common, other than both being alternative transportation technologies. They don't have the synergy of biofuels and combustion engines, for example — biofuels won't power an electric vehicle — and could even be considered competing technologies.

Last October, a Sandia-led workshop, Transitioning the Transportation Sector, held in Crystal City, Va., examined the intersection of the two technologies and the evolving opportunities and challenges found there. Organized by Sandia, the workshop brought together leaders from industry, government, nonprofit organizations, and the R&D community and explored technical, economic, and environmental considerations that provide context for the development of these alternative transportation technologies in tandem.

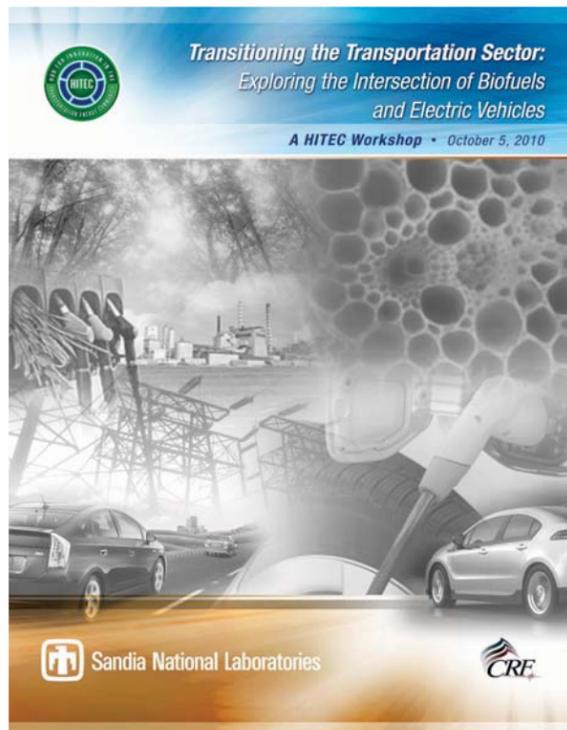
"Many reports highlight the need for a portfolio of technologies to address our national goals for clean, secure, and sustainable transportation. These reports tend to examine the challenges associated with each technology independently, without considering how they will intersect as they evolve. The goal of this workshop was to probe this intersection of seemingly parallel technologies," says Dawn Manley (8114), one of the workshop's organizers.

The 36 workshop participants spanned the automotive, fuel, and electric power industries; federal and regional government agencies; academia; investor and legal communities; biofuels research and development; and climate and environmental organizations. The discussion was framed by two questions:

- What is the outlook for biofuels and electric vehicles given technology, resource, and carbon challenges and opportunities?
- How will regional issues and consumer preferences influence the evolution of biofuels and electric vehicles?

As biofuels and electric vehicles each come with their own set of policy and technology issues, the community has tended to address issues directly related to one technology separately from the other. The workshop group also struggled to discuss the evolution of the two different technologies. But the group did acknowledge the importance of having integrative conversations to consider the broader context of co-evolution of multiple technology options needed to reach the nation's energy objectives.

They also found that a broader systems approach with better analytical assessments — given the diversity of energy options — is needed to consider technologies in the context of one another and in the context of their entire production pathways. Longer-term budget cycles for research, development, and



market stability will be needed to allow biofuels and electric vehicles to transition through early generations to mature market successes.

### A diverse set of development paths

Workshop participants also agreed that it is too early to pick winners and losers. Narrowing the field prematurely might result in the loss of potentially successful and innovative technologies. Instead, the country should continue on a diverse set of technological development paths to develop the multiple options needed for success. Intermediate solutions, like hybrids and cellulosic ethanol, can serve as pathfinders for the next-generation technologies that have yet to be developed. Furthermore, stretching petroleum supply by moderating demand through more efficient technologies, like boosted engines, can provide more time for the transition to new technologies.

The group explored the concept of regional testbeds and pilots, such as electric vehicle charging infrastructure and large-scale demonstration projects for biorefineries. Consensus was reached that such activities should take place within the US, rather than in areas in which vehicle infrastructure is less entrenched, such as India or China, to maintain the country's long-term economic prosperity and national security.

Investing in demand was another recommenda-

**Sandia** California News

tion from the workshop. The group found that it is not enough to invest in technology development for electric vehicles and biofuels, that demand may also be fueled by lowering the cost of clean fuels, setting a price for higher carbon options, or creating other sources of value for these options. This was highlighted in the luncheon address by Dave McCurdy of the Alliance of Automobile Manufacturers, *A US and International View of the Evolution of the Automobile: How, Where, and When Will Biofuels and Electricity Substitute for Oil?*

Another recommendation was to consider global solutions. The global marketplace is large, with the US and China combined accounting for about half of new vehicle sales, and specialized markets may exist for some technologies, such as microelectric vehicles for densely populated metropolitan markets. Many in the workshop emphasized that the broader portfolio of vehicles will need to be adopted around the world since the large automakers will not tailor to numerous, diverse niche markets.

A separate issue is the potential for biofuels and electric vehicles to create marketplace fragmentation, which does not exist with a single, nationally deployed fuel. For example, electric vehicles may be more desirable in moderate climates because of temperature constraints imposed by battery performance. Regional biomass availability and powerful agricultural interests may make biofuel use more likely in the Midwest and possibly the southeastern US.

Joe White, automotive editor for the *Wall Street Journal*, gave the concluding remarks. He addressed the challenges facing both electric vehicles and biofuels in competing with cheap gasoline, which he described as the enemy of all alternatives. He pointed out the mutual self-interest that has evolved between fuel companies and automakers.

"Shifts toward biofuels and electric vehicles will require new relationships with potentially unfamiliar partners," said White. He also cautioned that automakers are risk-averse and will be reluctant to experiment with untested technologies given the tremendous investments needed.

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Read the full report at: <http://www.sandia.gov/news/publications/white-papers/BiofuelsEvTransportationWorkshopFinalReport.pdf>.

## DHS Undersecretary for Science and Technology Tara O'Toole spends two days at Sandia learning about Labs' capabilities



The significant contributions that Sandia regularly makes to the homeland security mission was a consistent theme running through presentations staged during a two-day visit by Tara O'Toole, undersecretary for science and technology at the Department of Homeland Security.

Hosted by Div. 6000 VP Jill Hruby's International, Homeland, and Nuclear Security Strategic Management Unit, the visit provided O'Toole a deep dive into multiple SMU programs that address such wide-ranging issues as biodefense and catastrophic incident management as well as securing the US border, critical infrastructure, cyberspace, and the aviation security system.

The undersecretary's visit included a stop at Sandia's Explosive Field Test facility, where explosives expert Kevin Fleming (5434-1), left, shows O'Toole, second from left, and others hypergolic reactions, in which common household chemicals initiate explosives by igniting spontaneously when mixed.

During her visit to the facility, O'Toole learned about the aviation security research that Sandia is conducting in partnership with Lawrence Livermore and Los Alamos national laboratories. (Photo by Randy Montoya)

## LM Voice

(Continued from page 1)

"I encourage you to read them and draw your own conclusions about what you told us about what we do well and what we may need to work on," Paul said. He noted that center-specific results have also been made available to all centers, adding that discussions are now beginning at that level.

In broad terms, the highest scores were in response to questions related to Sandia's ethical culture and a category called modeling personal excellence. The weaker points came in the areas of rewards and recognitions, inclusion, engagement and retention, career development, and connection to the organization's vision.

"Your feedback clearly reflected some areas of concern," Paul said. "As an example, the overall competitive position of our compensation and benefits is certainly an issue. Given what we've had to work through over the past year, this is understandable.

"The challenges you identified in this and other areas are further motivation for the work we plan to do under our Laboratory objectives, committing to a learning, inclusive, and engaging environment for all our people. We will fold specific actions addressing your concerns into the goals and milestones that will further our work toward this objective. You'll be hearing more on all of that as the summer progresses."

The LM Voice employee survey is conducted across the Lockheed Martin Corp. to ascertain the overall health of the company. The survey takes the pulse of employees in four general workplace-related areas: Employee experience; leadership excellence; diversity and inclusion; and ethics and integrity. For tracking purposes, the questions asked in the 2011 survey are mostly identical to those asked in 2009.

### 'We will use what we have learned'

In 2011, 46 percent of Sandia employees completed the survey, the same percentage that completed the survey in 2009, the last time it was conducted. Kim Sawyer, deputy director and executive vice president for mission support, commented, "I am pleased that nearly half of all Sandians responded to the LM Voice employee survey. I thank everyone who took the time to share their perspectives. We will use what we have learned to help make Sandia an even more engaging and inclusive environment."

*"I am pleased that nearly half of all Sandians responded to the LM Voice employee survey. I thank everyone who took the time to share their perspectives. We will use what we have learned to help make Sandia an even more engaging and inclusive environment."*

— Deputy Labs Director and Executive VP for Mission Support Kim Sawyer

Of the 88 questions posed in the survey that could be answered on a 1-to-5 scale (with 5 representing the most positive response), all but 10 showed either an upward trend toward the positive over the past two years or remained statistically neutral.

In the analysis, a score of 4 to 5 is considered excellent; a score of 3.5 to 3.99 is considered favorable; a score of 3.0 to 3.49 is considered neutral (an area for improvement), and a score of less than 3.0 is considered unfavorable, an issue requiring immediate attention.

In the 2011 survey, the responses came overwhelmingly in the "excellent" or "favorable" range. A handful of questions — mostly those regarding issues of performance management/rewards and career development — elicited scores in the "neutral" range.

While at the macro level, ethics-related issues scored highest in the survey and pay/performance management issues scored lowest, at a deeper level, responses to specific questions provided useful insights about the state of mind of Labs employees.

### Kudos to first-line managers

For example, first-line managers fared very well in the survey. In almost every question related to first-line managers, the answers came in the high favorable range or in the excellent range. Perhaps more signifi-



*"The challenges you identified in this and other areas are further motivation for the work we plan to do under our Laboratory objectives, committing to a learning, inclusive, and engaging environment for all our people. We will fold specific actions addressing your concerns into the goals and milestones that will further our work toward this objective. You'll be hearing more on all of that as the summer progresses."*

—Labs Director Paul Hommert in a streaming video address to the Sandia workforce regarding the results of the LM Voice survey



cantly, most of the answers in this category reflected statistically significant upward trends. Paul singled out these trends for praise in his videostreamed remarks.

"I am delighted with your comments regarding your direct managers," he said. "You overwhelmingly felt your manager establishes a clear vision for the future, creates an environment that allows you to perform at your best, and ensures solutions are developed to meet the customer's evolving needs."

A few sample questions (and the scores) related to direct managers:

- My manager will keep his/her promises (4.05)
- My manager treats employees fairly (4.04)
- My manager sets a good example of ethical business conduct (4.24)
- My manager makes sound business decisions (3.95)
- My manager establishes a clear vision for the future (3.62)

All these responses — and several more in the same subject area — trend upward since the last survey.

### Sandia's culture of innovation

One area to carefully watch, and it's a significant one, was highlighted by the question: "In my workgroup, we are encouraged to be flexible to come up with innovative solutions." The score on the question was 3.96, very near the "excellent" range. However, the score represents a downward trend in an area that is at the very heart of the Sandia culture; the 2009 score was 4.06. The downward trend on the subject of innovation also showed up in the response to another question: "I believe in the ability of my work group to develop innovative work products and ideas." That response scored a 4.05, still in the excellent range, but down a statistically significant .09 points from its 2009 score of 4.14.

The survey addressed an area referred to as "attachment," which it defined as "the degree to which an employee feels the company is an important part of his/her life." In four questions related to attachment,

three showed a statistically significant upward trend. The questions: Sandia has a great deal of personal meaning to me (3.88 in 2011 vs. 3.74 in 2009); I fit in well with the Sandia culture (3.80 vs. 3.72); and, the values and culture of Sandia reflect my own values and personality (3.88 vs. 3.68).

While Sandians express a solid attachment to the Labs, a response to one question raises concerns for recruiting and retention efforts. The question, "I would recommend Sandia as a great place to work," scored 3.72, down from 3.83 in 2009. On the other hand, the question, "I hope to continue working at Sandia for another five years or more (not considering retirement)" earned a score of 4.01, which is in the "excellent" range.

### Performance management and rewards

If there was a sore point revealed in the survey it is not a new one: Sandians are largely ambivalent about issues related to performance management and rewards. In several pointed questions related to the issue, most responses fell within the "neutral" range, meaning they garnered scores of 3.0 to 3.49.

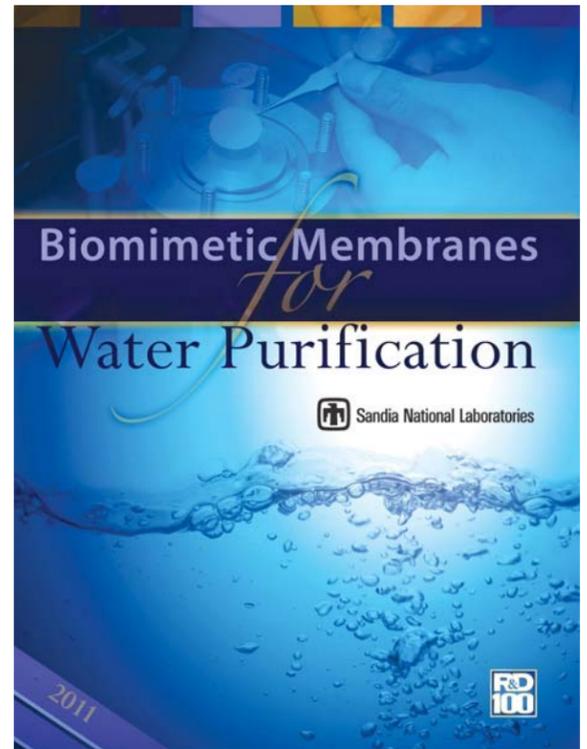
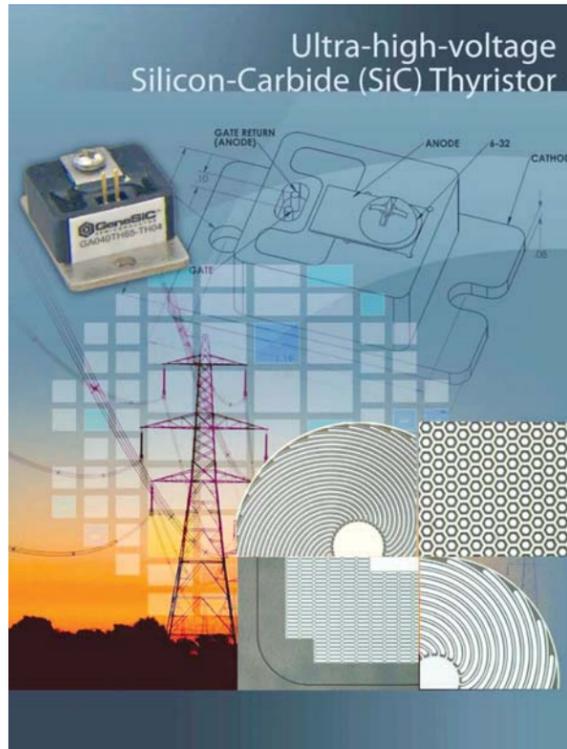
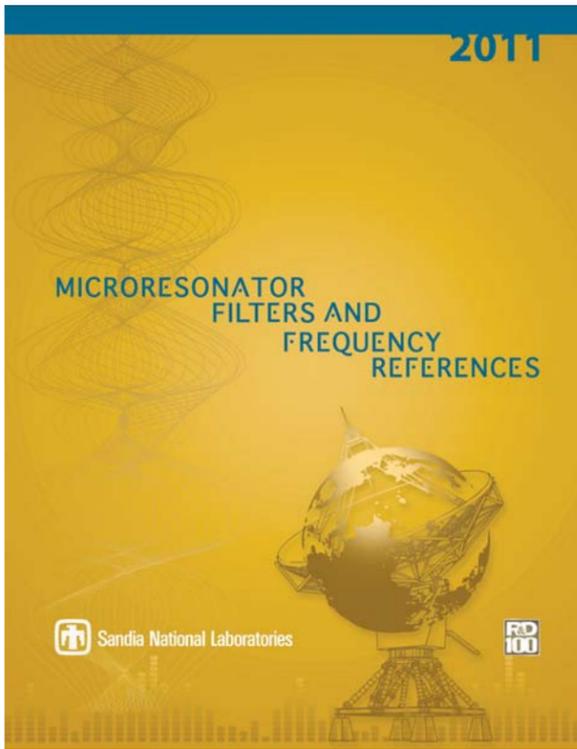
Those scores place the issue solidly in the "areas for improvement" category. Identifying a challenge, the trend was downward on responses to several questions in this subject area, specifically to questions related to the perceived fairness of the performance management and rewards distribution process.

Some other conclusions to draw from the survey:

- The perceptions regarding diversity and inclusion at Sandia were uniformly favorable
- Perceptions about trust were mixed; first-line managers and co-workers earned solid levels of trust. However, the question: I trust Sandia to treat me fairly earned a 3.42 score, putting it in the neutral range.
- As observed above, issues related to ethics and Sandia's ethical culture scored extremely well, mostly in the excellent range; senior management fared well here, showing upward trends in areas related to setting good examples of ethical business conduct.
- Sandians to a very large extent consider their co-workers to be ethical in their business conduct.
- Perceptions about the quality of work/life balance at the Labs are trending upward, 3.92 in 2011 — nearly in the excellent range — vs. 3.86 in 2009.

One question in the survey perhaps encompassed all the other questions in a nutshell. It garnered a score of 4.16, indicating that respondents "strongly agreed." The question: "I am proud to work for Sandia National Laboratories."

# Sandians snag four R&D 100 awards



(Continued from page 1)

Researchers at DOE facilities received 36 awards. Sandia's sister defense labs in NNSA — Los Alamos and Lawrence Livermore national laboratories — won three and two awards, respectively.

## Sandia's four winning entries are:

**Microresonator Filters and Frequency References**, submitted by Sandia researcher Roy Olsson III (1749). "The next generation of mobile computing devices will require advanced radio frequency (RF) filter and oscillator banks covering multiple RF bands," says Roy. "Our miniature acoustic resonators fill this need."

Microresonators are small acoustic resonators that have highly precise sound and are manufactured using the same technologies that mass-produce integrated circuits (IC).

*"The next generation of mobile computing devices will require advanced radio frequency (RF) filter and oscillator banks covering multiple RF bands. Our miniature acoustic resonators fill this need."*

— Researcher Roy Olsson III

Microresonator technology allows hundreds of filters and oscillators operating over a wide (32kHz – 10 GHz) frequency range to be realized on a single IC chip and monolithically integrated with radio frequency (RF) transistor circuits. They will perform RF filtering and frequency synthesis functions in next-generation wireless handsets, cell phones, and other wireless devices, offering higher performance and frequency diversity in a smaller package and at a lower price than current technologies.

Assisting on the project were Ken Wojciechowski (1731); Melanie Tuck (retired), James Stevens, Peggy Clews, Jeff Stevens (all 1746); Chris Nordquist (1742), Tracy Peterson (1732); Janet Nguyen, Bongsang Kim, Maryam Ziaei-Moayyed (all 1749); and Darren Branch (1714).

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**Ultra-high-voltage Silicon Carbide (SiC) Thyristor**, submitted by Sandia researcher Stan Atcitty (6113). This DOE Energy Storage Systems project, managed by Sandia in partnership with GeneSiC Semiconductor Inc. and the U.S. Army Armament Research, Development and Engineering Center (ARDEC), has developed an ultra-high-voltage silicon carbide thyristor. The semiconductor device allows next-generation "smart grid" power electronics system to be built up to 10 times smaller and lighter than current silicon-based technologies. These



STAN ATCITTY

Semiconductor Inc. on the project.

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**Biomimetic Membranes for Water Purification**, submitted by Sandia project lead Susan Rempe (8635), jointly with Sandia Fellow and University of New Mexico professor Jeff Brinker (1002) and Jing-Bing Jiang of UNM's Earth and Planetary Sciences department. The new biomimetic membranes purify water through reverse osmosis (RO) technology.

"We made a synthetic membrane that mimics the nanoscale design features of natural water purification channels," says Susan. "By doing so, our initial membranes achieved a 10-fold improvement in water purification efficiency compared with state-of-the-art RO membranes."

The selective, high-flux desalination membranes are formed of self-assembled nanopores tuned (with atomic layer deposition) to mimic key structural features found in cell membranes. Advances in theoretical modeling were essential for deciphering how biological pore structures selectively remove ions, thereby guiding pore design for efficient new membranes.

*"These membranes will improve access to clean water, which may be the most important issue facing people worldwide because of its critical role in public health and agriculture as well as energy production."*



SUSAN REMPE

Novel synthetic strategies were instrumental in fabricating highly ordered nanoporous membranes with tailor-made pore geometries and interior surfaces.

"These membranes will improve access to clean water, which may be the most important issue facing people worldwide because of its critical role in public health and agriculture as well as energy production," says Susan.

Funding was provided initially by Sandia's Advanced Concepts Group, and then by Sandia's Laboratory Directed Research and Development program, DOE Basic Energy Sciences programs in materials science and catalysis, and the National Institutes of Health's Roadmap for Nanomedicine. Other group members include Shaorong Yang (Central New Mexico Community College), Kevin Leung (1114), David Rogers (1835), and Sameer Varma (Illinois Institute of Technology).

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**The Demand Response Inverter**. Sandia researcher Ward Bower (6111) jointly submitted this invention with lead researcher Mahesh Gandhi of Princeton Power Systems Inc. The inverter is designed to reduce the levelized cost of energy (LCOE) of photovoltaic (PV) power by being more efficient, more reliable, and more cost-effective than currently available inverters in the market. Furthermore, the DRI will provide valuable grid-support functionality that encourages high penetration of PV power systems into the electrical grid and also provide "added value" for the system owner and local utility. The process reached its commercialization stage with aid from DOE's and Sandia's Solar Energy Grid Integration Systems (SEGIS) solicitation. Aiding in development of the device were Scott Kuszmaul (5946), Sigifredo Gonzales (6112), and Abbas Akhil (6113).

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An awards banquet will be held Oct. 13 in Orlando, Fla.



## Active shooter exercise prepares Labs for worst-case scenario

One year after the tragic shooting incident at the EMCORE facility at Sandia Science & Technology Park that claimed two lives, Sandia's Emergency Management organization conducted an exercise to test the Labs' ability to respond to an active shooter incident. The exercise engaged all aspects of the Labs' emergency response capability, from first response by security and medical personnel, to field coordination, interface with other jurisdictions, and public and media interactions. In an effort to make the scenario as realistic as possible, the exercise featured employee/actors playing the roles of the shooter and victims. Security personnel engaged as they would in a real-world situation, responding with bright red non-operable exercise "firearms."

*Photos by Randy Montoya*



## Mileposts

New Mexico photos  
by Michelle Fleming  
California photos  
by Randy Wong



Alan Kerstein  
35 8351



Ken Lee  
35 8222



Stephen Margolis  
35 8954

## Recent Retirees



Richard DiPrima  
47 2701



David Jones  
30 2664



Russ Miller  
35 8200



Bernice Mills  
35 8223



Dave Stimmel  
35 8133



Kevin Carbiener  
30 8238



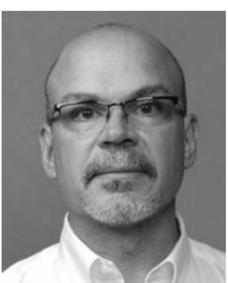
David Fordham  
30 243



Doug Gehmlich  
30 8226



Debra Stephens  
30 2995



David Goy  
25 2712



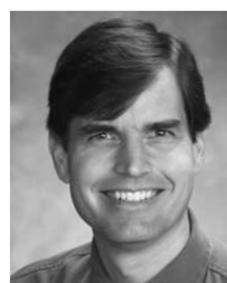
Jeffrey West  
25 9537



Art Hale  
20 9600



Natalie Barnett  
15 5961



Nathan Hilton  
15 8131



Carol Marable  
15 10503



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

## MISCELLANEOUS

DINING ROOM SET, antique, oak, table w/2 leaves, buffet, 6 upholstered chairs, manufactured 1920-1940. Rogers, 256-0066.

FURNITURE, like new: living room, bed room, dining room, office, solid wood bar & stools, yard tools, etc. Behar, 831-5621 or 980-8002.

Z-COIL SHOES, Freedom, white w/blue, size W 5.0, worn ~5 hrs., originally \$199.95, asking \$50; electric piano, Yamaha 2001 CLP93, \$500 OBO. Malczynski, 255-1794.

LADDERS, 2: Little Giant system, 17-ft., type 1, model 17 w/work platform, worth \$300, asking \$90; Werner aluminum, 8-ft., A-frame type, \$35; both like new, Sivinski, 296-0301.

WASHER & ELECTRIC DRYER, Whirlpool, 7 yrs. old, white, work great, \$225. Bonaguidi, 505-306-4571.

TWIN BED, w/head & foot boards, Amish, solid cherry, \$750. Mohagheghi, 271-0724.

TRAILER, 5' x 8', w/lights, 5,000-lb.-capacity, 5,000-lb. jack, 15-in. wheels w/spare, 4-in. frame, \$500. Dixon, 321-9017.

WASHER & DRYER, Roper (Kenmore), used, great for student, \$150. Collins, 980-8979.

SPEAKERS, Magnapan SMG, great sound, home theater or stereo applications, audiophile quality on a budget, \$200. Mitchell, 897-9835.

AIR HOCKEY TABLE, arcade quality, digital scoreboard, like new, barely used, you haul, paid \$550, asking \$300. Levy, 505-803-4040.

COMPUTER DESK, built-in power strip, \$45 OBO. Doser, 323-2786.

GOLF TOURNAMENT, benefits Legacy Academy, Friday, Aug. 5, UNM Champion Golf Course, 4-person scramble, 8 a.m. shotgun start. Redman, 923-3659.

ELLIPTICAL TRAINER, Vision Fitness, X6100, like new, nice machine, \$800. Passell, 505-550-5752.

GARAGE SALE, benefits youth soccer team, Friday, July 1-Saturday, July 2, 6:30 a.m.-2 p.m., Tramway/Montgomery area. Macias, 298-2060.

DRUM SET, '80s Tama Swingstar, 5-pc., w/hardware, white, great condition, \$350 OBO. Gunther, 440-9341.

GOLF CLUB SET; ceiling fans; solar shades; lamps; cross-country skis; chandelier; make offer. Robles, 294-6904.

VACATION CONDO, Kona, Hawaii, available for Ironman week, October 2-9, 2-bdr., sleeps 6, full amenities, convenient, \$1,199. Barnard, 771-4620.

CAR SEAT, Graco, green plaid, \$22; Baby Trend stroller, black, accommodates car seat, \$17. Blickem, 323-6832.

BABY GRAND PIANO, Kimball, single owner, well-maintained, excellent condition, \$7,000. Shepard, 505-858-1364.

BELLEEK SHAMROCK VASES, pair, cream tree trunks w/green shamrocks, probably date between 1965-1981, \$40. Bickel, 822-0951.

LIFT CHAIR, brown/black tweed, Pride Mobility products, used 1 wk., cost \$950, asking \$800. Sheldon, 888-5971.

CELL PHONES, 2, Blackberry Bold, Verizon, like new, good for international travel, \$150 ea. or \$275/both. Garcia, 280-5815.

LAWNMOWERS, 2, not sure if working, have fixed or for parts, manual & electric; men's Landrider, 21-auto shift gears, hardly used, paid \$500 asking \$250. Willis, 304-5034.

WOOD DOOR, solid core, 36" x 80", \$25; full-size bed frame, \$5. Mozley, 884-3453.

TIMESHARE, 1 wk., top-quality resorts, you pick the place & wk., use by November 30, \$850. Hatfield, 681-2363.

COFFEE TABLE, cherry, w/glass top & drawers, \$100 OBO; '08 Tacoma 16-in. wheels, \$120 OBO. Hennessey, 915-241-8634.

eREADERS, 2-in-1, Barnes & Noble + Kindle, 7-in. modified Tablet, dual apps system, w/case, \$95. Hale, 298-1545.

TURKEY FRYER, & outdoor cooking set, Eastman Outdoors, cooks up to 18-lb. turkey, \$80. Monson, 298-1924.

SAFE, home-type, 100-lbs., \$65; box safe, \$30; record albums, 100, \$25; Indian floor rug, large, \$60. Aragon, 888-3473.

WINDOW AIR CONDITIONER, GE, 5200-Btus, good condition, works well for 1 rm., \$25. Drayer, 401-7872.

APPLIANCES: gas stove, \$50; white dishwasher, \$50; refrigerator w/icemaker, \$80; refrigerator, w/o icemaker, \$60 (all Kenmore); shampooer, \$100. Gonzales, 296-8006.

DOG CRATES, folding, wire, extra large, Great Dane size, (\$35), large, German Shepherd size, (\$25). Wilson, 275-8384, between 5-9 p.m.

POND FILTRATION SYSTEM, GCTec, used 4 yrs., worked perfectly when last used in '08, tinyurl.com/3g3mnu, \$750. Evans, 265-5229.

PLANTERS, flower/tree, 2; ornamental wrought iron security windows, 3; mirrors, 3; winch puller; band saw; misc. handicapped equipment; AC & heating duct; call for prices. Herrera, 833-5035, leave message.

CAR CD PLAYER, Sony XR-CA350X, XM ready, \$10; headboard, full size, medium stain hardwood, early American, \$25. Roesch, 505-281-9751.

**How to submit classified ads**  
**DEADLINE: Friday noon before week of publication unless changed by holiday. Submit by one of these methods:**  
 • EMAIL: Michelle Fleming (classads@sandia.gov)  
 • FAX: 844-0645  
 • MAIL: MS 0165 (Dept. 3651)  
 • DELIVER: Bldg. 811 Lobby  
 • INTERNAL WEB: On internal web homepage, click on News Center, then on Lab News link, and then on the very top of Lab News homepage "Submit a Classified Ad." If you have questions, call Michelle at 844-4902. Because of space constraints, ads will be printed on a first-come basis.

### Ad rules

1. Limit 18 words, including last name and home phone (If you include a web or e-mail address, it will count as two or three words, depending on length of the address.)
2. Include organization and full name with the ad submission.
3. Submit ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. One ad per issue.
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active Sandia members of the workforce, retired Sandians, and DOE employees.
10. Housing listed for sale is available without regard to race, creed, color, or national origin.
11. Work Wanted ads limited to student-aged children of employees.
12. We reserve the right not to publish any ad that may be considered offensive or in bad taste.

ELECTRIC SHRUB TRIMMER, \$15; Craftsman gas blower, \$40; gas weed eater string trimmer, \$30; electric garden cultivator, \$40; wheelbarrow, \$40; women's Trek 800 bike, \$80. Gluvna, 884-5251.

POOL FILTER & PUMP, large, works fine, \$65. Burchard, 884-5424.

CAR SEAT, Britax Frontier, still-in-box, brand new, \$150 OBO. Jakaboski, 459-3832.

BIKE TRAILER, seats 2, \$45; small Disney bike, \$10; wireless baby monitor, \$15; car seat stroller, \$15. Lifke, 822-8741.

LIVING ROOM SET, couch & more, \$300/all; living room set, couch & more, \$100; bedroom set, birch, \$900; bedroom set, maple, \$285; washer & dryer, \$25 ea.; exercise bike, \$30. Demo, 856-2943.

## TRANSPORTATION

'06 BMW 330i, premium sports pkg., AT, w/Steptronic, white, brown leather, >40K miles, \$25,000. Iverson, 660-2046.

'05 BUICK RAINIER, all power, 1-owner, only 29K miles, beautiful car, \$13,500. Hill, 505-205-1496.

'06 BMW 330i, arctic blue, manual transmission, sport, navigation, premium w/leather, 38K miles, \$22,000 OBO. Hoekstra, 228-4161.

'00 TOYOTA TUNDRA SR5, access cab, V8, PW, PS, 94K miles, <NADA blue book, \$8,500. Pullen, 858-1500.

'96 CORVETTE LT1, 4-spd. AT, 300-hp, Polo green, removable top panel, 6-speaker Bose sound system, \$9,995. Marchi 821-2759.

'98 TOYOTA TACOMA PICKUP, AT, w/camper shell, 200K miles, \$3,000 OBO. Anderson, 232-2167.

'07 TOYOTA PRIUS, averages 50+mpg, 28K miles, great condition, \$14,500. Stroud, 205-4051.

'03 TOYOTA XLE, AT, new tires/brakes, red, garage-kept, no accidents, family-owned, 78K miles, \$9,400 OBO. Proctor, 443-310-0771.

'02 LEXUS ES300, gray, leather, navigation, Mark Levinson, clean & reliable, 95K miles, www.2002lexus.com, \$11,000. Atcity, 453-8780.

## RECREATIONAL

'10 HARLEY-DAVIDSON SOFTTAIL ROCKER CUSTOM, cobalt blue, alarm, 680 miles, excellent condition, \$19,980 OBO. Reyes, 505-459-6393.

TANDEM BICYCLE, Diamondback Wildwood, 24-spd., like new, \$400. McConnell, 350-8978.

DURACRAFT JOHNBOAT, 12-ft., w/trailer, 3.5 gas motor, 30-lb. trolling motor, marine battery, USCG equipment, \$1,500. Bertsch, 505-873-0925.

## REAL ESTATE

3.5 ACRE HOME SITE, Sandia Park, ready to build, well, electric, beautiful views, Craigslist ad 2376185835, \$175,000 terms. Mihalik, 281-1306.

4/5-BDR. HOME, 3-1/4 baths, 3-car garage, dual-zone AC, covered patio, near Unser, north of I 40, \$239,900. Mortensen, 818-7751.

3-BDR. HOME, 2,148-sq. ft., 1 acre, East Mountains, 20 mins. to Eubank gate, MLS# 708163, \$239,900. Draper, 710-0578.

3/4-BDR. HOME, 2 baths, 1,950-sq. ft., 2-car garage, Willow Wood, 935 Los Padres, \$279,000. Arrington, 379-2698.

3-BDR. HOME, 2 baths, newly painted, beautifully landscaped, covered patio, well-maintained, Juan Tabo/Eubank, must see, \$229,900. Polito, 505-977-1493.

3-BDR. HOME, 1-3/4 baths, 1,530-sq. ft., near Juan Tabo & Spain, \$215,000. Krapcha, 307-4956.

3-BDR. HOME, 1-3/4 baths, 1,400-sq. ft., beautifully updated/landscaped, great starter home or rental property, \$190,000. Daniels, 505-440-1381.

5-BDR. HOME, 2+baths, 3,149-sq. ft., updated kitchen/landscaping, Four Hills, close to Sandia, MLS# 704146, \$339,500. Shoemaker, 514-2269.

2-BDR. HOME, 1-3/4 baths, big yard, close to KAFB, 200 Serenity Ct. SE, \$204,000. Blinn, 610-6723 or 828-1000, ask for Donna.

3-BDR. HOME, 1,760-sq. ft., energy efficient, Artistic, no HOA, eco-friendly, MLS# 711119, \$174,500. Roody, 994-4111.

5-BDR. HOME, 3,100-sq. ft., in-law suite, horse property, fenced, fruit trees, sheds, workshop, MLS#709824. Talandis, 505-250-9431.

LAND FOR SALE, Edgewood, horse property, utilities on land, ready-to-build, 1.79 acres \$47,000 OBO, 2.5 acres, \$57,000 OBO. Sanchez, 505-832-6260.

2/3-BDR. HOME, 2 baths, 1,263-sq. ft., 2-car garage, refrigerated AC, appliances, North Valley, MLS# 712968, \$182,000. Garcia, 505-301-8902, ask for Linda.

4-BDR. HOME, 3-1/2 baths, 4,500-sq. ft., need to sell now, sold as is, MLS#697902, \$309,900. Banks, 710-0021, ask for Pamela.

## WANTED

STUDENT, high school sophomore/junior, w/impeccable personal references, for paid summer job, general software savvy desired. Hunter, 294-2877, days only.

WANTED TO BUY, US coins, coin collections, silver, gold. Borders, 271-8107, ask for Rex.

GOOD HOME, abandoned cat, black, long hair, green eyes, very sweet, loves people, indoor/outdoor, cannot keep because of allergies. Maze, 298-0617.

FOUR-CYL. CAR, nice condition, similar to 4-dr. Hyundai Accent, \$5,000-\$6,000. Aranda, 697-1833.

KEYBOARDIST OR GUITARIST, for collaboration on original compositions, East Mountain performance space. Stafford, 620-8843.

HOUSE SITTER, long-term, house located in SW Albuquerque, Sandia/DOE employee with clearance preferred, call for more detail. Ewen, 836-3563.

GOOD HOME, 2 cats, 4 & 5 yrs. old, black & white long hair, orange tabby. Jimenez, 363-2885.

# Author Jeff Young finds inspiration in nature

By Iris Aboytes

Sandian Jeff Young (10265) is handing out cigars as his new baby has just been born. His new baby is his first book, *Faith of an Outdoorsman*. It took more than 10 months to write but a lifetime to experience.

The book is a 365-day devotional for outdoorsmen.

"Its pages contain a collection of stories, thoughts, and reflections based on my 40 years as an outdoorsman," says Jeff.

"The idea to write the book came to me after I realized we had great experiences, but no mechanism for remembering the moments," says Jeff. "We had pictures and they are worth a thousand words, but the stories themselves were priceless, so I started putting some of them on paper. I had hoped that this book, in some small way, would be a part of the defining legacy I could leave behind.

"I also believed this was a way that I could use my three favorite passions: the Lord, the outdoors, and my family, to encourage and inspire others. Even if the book fails to sell a copy, I believe it was worth the effort. My kids and grandkids will have lasting memories through the stories and thoughts that fill the pages of this book. I am totally stoked about the book and hope everyone enjoys and is inspired by it."

Twenty-five percent of his profits will go to: Fathers in the Field, whose mission is to rekindle and establish the spirit of boys who have been abandoned by their fathers; World Vision, a domestic Christian relief, development, and advocacy organization dedicated to working with children, families, and communities to overcome poverty



JEFF YOUNG takes a moment to reflect on nature during one of his many outings in the high country near Red River, N.M.

and injustice; the New Mexico Wildlife Federation, dedicated to protecting wildlife, the natural environment, and the sportsman's outdoor way of life; and the New Mexico Council of Trout Unlimited, dedicated to preserving, protecting, and restoring North America's coldwater fisheries and their watersheds.

"Of all of my outdoor passions," Jeff says, "fly fishing is my favorite, and is the subject of many of the stories in the book. My family and I enjoy a variety of outdoor activities, including trail running, hunting, backpacking, mountain biking, and skiing. The book also includes a couple of stories on my feeble attempts at rock climbing and a few about my

time on the farm building corrals and irrigating cotton."

Here are a couple of excerpts from Jeff's book:  
*Spring turns to summer, and the meadows are filled with wildflowers. The water has slowed. I cast to the quiet place, my fly in perfect harmony with nature and water. A splash occurs, breaking the surface. My fly disappears and my rod bends. I work the trout across the flow toward the bank. I look down and see the wonder of nature as the trout struggles to free itself. It's not large, but it doesn't matter. I release the fish and watch as it hurries to distance itself from our world. I feel satisfied knowing that I connect with nature for a short while.*

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*When irrigating cotton, I vividly recall driving the truck down to the irrigation pump to get it started in the morning. Once the old engine cranked up, you could hear and feel the rush of water eventually making its way into the ditch. It was a minor miracle. That clean, fresh, cold water could come out of the ground and spread its wealth throughout. . . . Although it may have seemed like work to some, I can think of no other time in my life that I enjoyed so much. Being connected with the land, the water, and the outdoors, and the freedom and independence of the farming lifestyle, what a joy indeed!*

Jeff's book is available through the *Faith of an Outdoorsman* e-store at <https://www.createspace.com/3590561>. It will also be available at bookstores everywhere including, Charlie's Sporting Goods in Albuquerque where Jeff will have his first book signing on Friday, July 22, from 11 a.m. - 2 p.m. His book will also be featured in a story in the New Mexico Wildlife Federation's *Outdoor Reporter*. For more information, contact Jeff at 281-3496 or [canyoung5@juno.com](mailto:canyoung5@juno.com).

# Shots Fired: EMCORE one year later



ONE YEAR AGO THIS MONTH, flags at the gateway to Sandia Science & Technology park were flying at half-staff in memory of two EMCORE employees killed in a workplace shooting. (Photo by Randy Montoya)

## Story by Iris Aboytes

On July 12, 2010, a lone gunman arrived at the EMCORE facility in Sandia Science & Technology Park. Minutes later, three people lay dead and four people were injured.

"My friend and EMCORE employee Sharon Cunningham was a bystander," recalls Terry Jordan-Culler (5422). "Sharon was walking from one building to the next, just in the normal course of her job, when the angry shooter started shooting at anybody he saw. Sharon was fatally injured. She may have known the shooter because he worked there previously, and it's a small company.

"Sharon was energetic, friendly and welcoming, helpful, and loved to be with her family," Terry says. "She was an awesome mother to her (then) 6-year-old daughter, Caitlin, who went to preschool with my daughter. Caitlin has a lot of food allergies, and Sharon spent a lot of time researching the foods that would work the best for Caitlin. She was always sure to bring along a homemade cupcake for Caitlin to birthday parties. Caitlin can't eat the usual cake and ice cream. She always made sure there were fun activities to do (crafts, water play, dress-up, backyard fun) when kids came over to parties at Caitlin's house."

Paramedics Bob Grothe and Kevin O'Brien (both 3331) responded to the shooting. When they arrived they did not know the shooter was dead. They tended to a male EMCORE employee who had been shot in the chest.

"For 15 years I was on the University of New Mexico Hospital helicopter that brings injured people for treatment," says Bob. "I am used to seeing people hurt. I advise people to tell those they care about they love them each time they leave. One never knows what will happen next."

Marcie Jordan (10667) does not think about that day too often. "Dangers still exist," says Marcie. "Dangers and dangerous people will always exist as long as people who are hurting, disillusioned, unhappy, or vengeful think they can change their plight, or feel justified, using violence.

"The only thing I would have done differently last year is call my husband a lot sooner to let him know I was safe."

*"Among the many heroes that day were members of the Albuquerque Police Department, whose quick response might have saved additional lives. The amazing police presence was phenomenal. They did exactly what they needed to do."*

— Sandia paramedic Kevin O'Brien

Retiree Connie Vanderburg can't shake the memory of that day. "I still get goose bumps when I think about it," she says. "I have replayed that scenario over and over in my mind. It was a tragic day that I will never forget. My heart still goes out to everyone at EMCORE. I was able to talk to one of the EMCORE employees who had been hurt with flying glass. The look of terror in her eyes was unforgettable."

Connie was one of the last two people to leave IPOC after everyone had been evacuated.

Badge office employee Jake Trujillo (4233) was on his way to the credit union when he heard shots. He looked down the street, but saw nothing so he continued. On his way in he saw two women from the day-care center as they were getting ready to take some little

Sandia's Emergency Management group in mid-June conducted its annual exercise to test its capability to respond to an emergency situation. This year, the exercise was based on an "active shooter" scenario. For photos and more about the exercise, see [page 6](#).

children for a walk.

"I think of that day every time I walk to the credit union," says Jake. "I feel very happy that I told the day-care workers not to take the kids out for a walk."

Jake says one of the paramedics who responded to the scene told him a story about one of the women who was shot. When she was taken to the ambulance, she asked to borrow a cell phone to call her husband. She was not supposed to be at work that day. She was on vacation and her daughter and husband were at home packing. She had planned on being at the office for only 30 minutes. She died before she was able to use a phone.

"The shooting is still very real for me," says Cheryl Garcia, Community Involvement Dept. 3652. "I am very proud of how our department came together and helped the rest of IPOC. One of the IPOC residents came to our group and told us there were EMCORE residents in our conference room and wondered if we had any food. Our department usually keeps bottled water and snacks for children in our outreach programs. We happily gave him what we had."

Cheryl notes that a recent exception from Control Site Access allows visitors to enter IPOC for Sandia-related business without a badge, as long as the visitors remain under escort by a badged individual for the duration of entire visit. "As a result, Cheryl says, "I have become very sensitive to visitors in our building."

"Among the many heroes that day were members of the Albuquerque Police Department, whose quick response might have saved additional lives," adds Kevin. "The amazing police presence was phenomenal. They did exactly what they needed to do."

The day of the EMCORE shooting, Terry was at work. "I hadn't seen Sharon in a while, but wrote her an email, saying that I heard there was a shooting there, and that I hoped that she and her co-workers were safe," says Terry. "I wasn't surprised that I didn't get a reply, because from the reports, there was obviously a lot of chaos at EMCORE. I didn't learn that it was Sharon who'd been the first one who was shot until late the next day when a friend called to tell me.

"I think of Sharon every time I go out the Eubank gate and notice the EMCORE buildings, and every time I see Caitlin at a party that her mother would have loved to attend."