

Sandia prepares for federally directed shutdown

Paul Hommert briefs Labs staff at all-hands on plan for orderly transition to 'warm standby' status

By Bill Murphy

Note: At press time, there still appeared to be a strong possibility that the budget impasse in Washington would not be resolved before Sandia was obliged to comply with a government-directed shutdown to take effect at close of business on Oct. 21.

In an unprecedented development in its 64-year history, the Labs at press time was preparing for the orderly shutdown of virtually all operations effective at the end of the workday on Monday, Oct. 21. The shutdown order came from Secretary of Energy Ernest Moniz and NNSA Acting Administrator Bruce Held. It was prompted by the impasse in Congress over matters related to the federal budget and the nation's debt ceiling.

In an all-hands meeting discussing the situation, Sandia President and Labs Director Paul Hommert said, "First of all, I hope we don't have to do any of this; that is my fervent, fervent hope. But we need a plan and we need to communicate it to you."

He said he wanted to use the occasion of the all-hands to walk Sandia staff through the rationale of the plan developed by the Labs leadership team, a plan that he said he believes is sound given the circumstances.

Paul set the stage by noting that, because Congress has not passed an FY14 budget or a continuing resolution to fund the government in the absence of a budget, the Labs is operating on carryover funds from the previous fiscal year. Those funds are limited, however, he said, stating that since the beginning of the fiscal year on Sept. 21, "we have been running on fumes."

Paul said the leadership's intent has been to use the carryover funds to keep the entire Labs operational.

"What I don't want," Paul said, is for the Labs to send



LABS DIRECTOR Paul Hommert addresses a possible shutdown during a recent all-hands meeting. (Photo by Randy Montoya)

some people home while others continue to work, depending on the specific amount of carryover funds in their particular projects. "We're trying to keep the enterprise as whole as possible for as long as possible; we're all in this together."

Should the shutdown occur, beginning Oct. 22, non-represented employees will take directed vacation for the remainder of the workweek. Management has proposed this same approach with our represented labor leaders under the Collective Bargaining Agreements. In cases where an employee is on a preapproved leave, they would continue to charge the appropriate time away from work TRC for the remainder of the Oct. 18 workweek.

Given the nature of the discussion in Washington, there is no clear sense of when a shutdown might end; that would depend on the outcome of the ongoing debate in Congress. Paul has told our congressional delegation that 10,000 people on

unpaid leave will have an enormous impact on the economy of this city and this state. "We understand that. And they understand it."

If the Labs goes into shutdown, Paul said, "We will go into what will look like our holiday shutdown status; we'll move some of our facilities to what we call 'warm standby,' which is essentially the minimum safe and secure posture for the Labs and its facilities."

The baseline, he said, is that there will be no programmatic work after Oct. 21; there will be some very few exceptions to that rule, he noted, in sensitive work related to national security. Additionally, Paul said, a small number of staff, termed minimum essential personnel, needed to maintain the "warm standby" mode will continue to work through any shutdown.

Paul emphasized several points:

- Employees cannot and must not work from home, per federal labor law. All will be asked to leave any Labs-owned work tools (laptops, iPhones, Blackberrys, iPads, etc.) secured in their offices at work.

- Employees should not base any planning on an assumption that there will be retroactive pay for days not worked.

- Sandia's intention is to continue to cover employee medical benefits during any furlough period lasting about a month.

Paul said that the Labs shutdown plan is based on an assumption that Congress votes to extend the nation's debt ceiling.

"If the debt ceiling is not extended, we don't yet understand what the implications would be. The department doesn't know exactly; there's no specific guidance from Treasury on that at this time. Everything I've talked about here presumes they've extended the debt ceiling but need more time to negotiate the CR."

Before taking questions from the audience [see FAQs on page 4] Paul said, "You have to have faith in our country ultimately sorting its way through this. In our history we've sorted through some pretty tough challenges."

Keeping informed during a shutdown

In the event of a shutdown, members of the workforce should monitor the operational status of the Labs via alert banners found on Sandia's external homepage (www.sandia.gov), the Sandia alert line (dial 1-866-401-2143 or 845-6789 in New Mexico; 925-294-3333 in California), and news coverage through local television and radio stations. A reopening of Sandia following the resolution of a shutdown will also be communicated to the media by news release (https://share.sandia.gov/news/resources/news_releases/).

Labs brings home a record five regional tech transfer awards



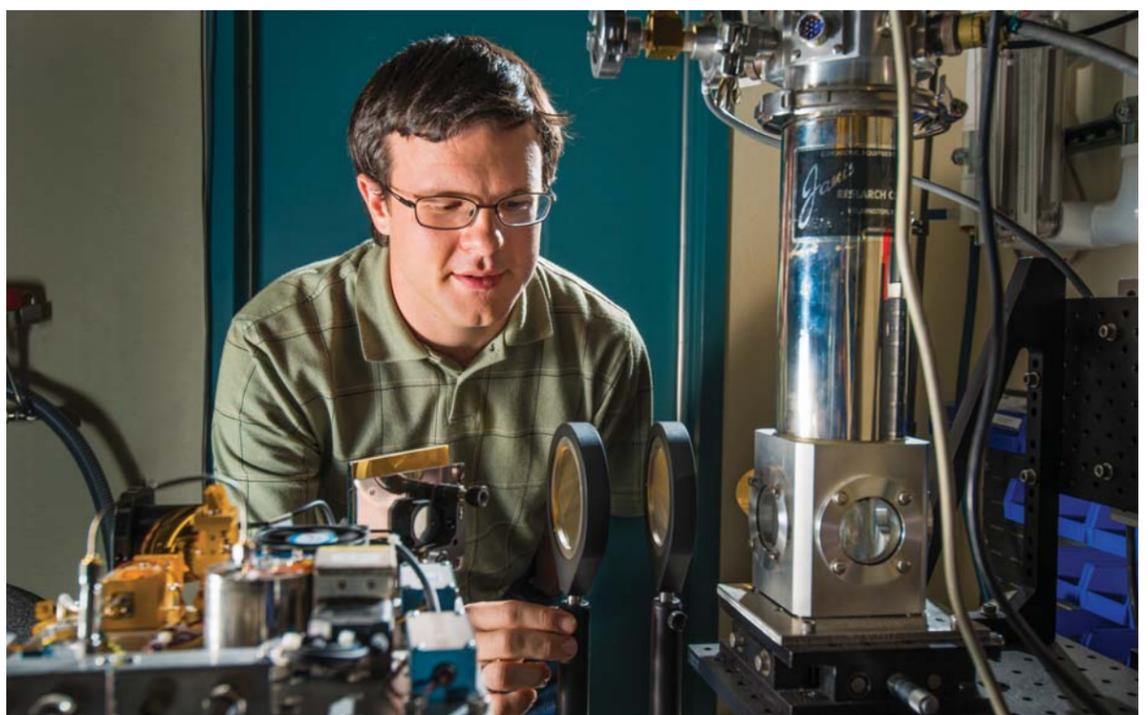
By Nancy Salem

Sandia won five regional awards from the Federal Laboratory Consortium (FLC) for its work to develop and commercialize innovative technologies. It was the most FLC regional awards Sandia has won at one time.

The FLC's Far West/Mid-Continent regions recognized the Labs' SpinDX, Sandia Cooler, and Self-Assembled Multifunctional Optical Coatings (SAMOC) with Outstanding and Notable Technology Development awards. Outstanding Regional Partnership awards were

(Continued on page 5)

Plasmonic crystal alters to match light source



GREG DYER (1118) is co-principal investigator of a Sandia-led team that has created a plasmonic, or plasma-containing, crystal that is tunable by adjusting the voltage applied to it. The technology potentially could increase the bandwidth of high-speed communication networks. Read the story on page 5. (Photo by Randy Montoya)



ECP campaign extended to Nov. 8

In uncertain times, the need is greater than ever. For more information on this year's campaign, see page 12.

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That's that

As I write this, we've been informed the Labs should be prepared to shut down almost all operations on Oct. 21 if the current budget impasse in Washington isn't resolved. No one knows what will transpire over the next few days but I'm operating on the premise that, come the 21st, I'll be somewhere besides this office. It's at times like this you realize that, for all your grouching and grumbling (which are, after all, fundamental rights granted to American workers in the Constitution), you'd really rather come to work than not. When you finally hang it up, you want it to be on your own terms.

I'm frustrated and admit to being a bit unsettled about this. Who wants to lose a paycheck or two (or more)? Who can afford it? None of us. On the other hand, we will see an end to this stalemate and return to work, hopefully sooner rather than later. It could be a lot worse – for us, I mean. Think about the folks we help out through our ECP contributions, folks who don't have a home to return to, let alone a job. I suspect I sound like a goody two-shoes; if so, then so be it, but I do feel that I'm a lucky man to work at Sandia. And I'll be glad to report back to work at the earliest possible date. In the meantime, preoccupied as we may be with our own situations, let's not forget about our neighbors; the annual ECP campaign drive has been extended to Nov. 8 and there are plenty of people – too many – who need our help.

* * *

Events like this looming furlough, unsettling as they are, do often end up inspiring a sort of ironic, gallows humor. I've seen it many times over the years. In the situation at hand, not long after we got the word that we might be going home on the 21st, I overheard a conversation around the watercooler. Nearing the end of a long and demanding day – our team has been in the thick of things dealing with the complex communication issues related to the shutdown – a colleague looked at his watch and said, "How long till I go home?" Quick as a flash, another colleague looked at his own watch and said "About a week." Wise guy.

* * *

Hey! Have you used the new voice-to-text feature in our upgraded phone system? It's a neat concept: If someone leaves you a voicemail, the system uses voice recognition software to convert the spoken message into text that it then forwards to your email inbox. The benefits are obvious: You get all your messages in one place.

The interesting feature about the new system is that it was apparently implemented by a team of Sandia cryptographers: The voice messages come through as text, all right, but text written in an almost impenetrable code. The clever and devious – even brilliant – thing is that some of the words are perfectly familiar and recognizable, but they're interspersed with near-gibberish obviously intended to confuse unauthorized eavesdroppers.

In trying to get under the hood of the new system, *Lab News* photographer Randy Montoya did a little experiment. He left a one-word message on my voicemail, with the aim of seeing how the voice message code system would handle it. The word: "supercalifragilisticexpialidocious" (spelled exactly as it sounds). The voicemail encryption algorithm translated the message as "Super callup fragile estate XP outlook delicious." As I say, brilliant!

Okay, I've gotten my cheap laugh, such as it is, so let me say that, while the system isn't perfect, it usually gives you enough information to get the gist of a message without having to listen to it. And you can turn off the feature if you don't like it. I've kept mine active because, for all its limitations it's helpful. And the voicemail team that's introducing these new capabilities is to be thanked for introducing tools to make us more effective and productive in our work. One day – and my bet would be that day isn't too far off – the bugs will be worked out of this system and we'll wonder how we ever got along without it. We may be laughing now, but the voicemail team will have the last laugh, and deservedly so.

See you next time (whenever that may be)

– Bill Murphy (505-845-0845, MS0148, wtmurph@sandia.gov)

Retirees: Pension payments from Prudential to continue as usual

Retirees: You may be wondering how a furlough would affect your monthly pension benefit. Your pension benefit paid by Prudential will be paid as usual.

Due to the US government's funding uncertainties, Sandia Corporation has been directed by DOE to reduce operations to a "safe and secure status" by Oct. 21, 2013. If the impasse in Washington is not resolved, Sandia will enter into a mission essential mode and furlough the vast majority of its workforce at that time.

Sandia does not anticipate an interruption in its pension payments from Prudential during any furlough period. However, in the event of a retiree or beneficiary death, Sandia may not be able to process an adjustment to the benefit payment until a normal work schedule is resumed.

Direct questions to Sandia HBE at (505) 844-4237.

Lyle Pickett named Fellow of Society of Automotive Engineers

Lyle Pickett (8362) has been named a Fellow of the Society of Automotive Engineers (SAE). Established in 1975, the Fellow grade honors and recognizes important engineering, scientific, and leadership achievements to enhance the status of SAE's contributions to the profession and to society.

Lyle was selected based on his pioneering research on direct-injection engine fuel sprays and the international leadership he has brought to the field. He and the other newly elected Fellows will be honored during the SAE 2014 World Congress and Exhibition in Detroit the week of April 6. Sandia has five additional SAE fellows: John Dec (8300), Dennis Siebers (8362), and Pete Witze (retired), all named in 1998; Paul Miles (8362), named in 2006; and Chuck Mueller (8362), named in 2011.

Lyle won the 2011 SAE John Johnson Award for Outstanding Research in Diesel Engines for his paper: "Relationship Between Diesel Fuel Spray Vapor Penetration/Dispersion and Local Fuel Mixture Fraction." He has won other awards from SAE as well as from Institute for Liquid Atomization and Spray Systems, DOE Advanced Engine Combustion, and the American Society of Mechanical Engineers.

Lyle is a technical staff member at the Combustion Research Facility. He received a PhD from the University of Wisconsin-Madison and MS and BS degrees from Brigham Young University, all in mechanical engineering. He is a founder and leader of the Engine Combustion Network collaboration (www.sandia.gov/ECN). He has given 15 invited or keynote presentations, 12 additional invited seminars, and three invited book chapters, among other accomplishments. — Patti Koning



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Weapon pioneer Harold Agnew dies at age 92



HAROLD AGNEW, a pioneer in the US nuclear weapons enterprise who flew as a scientific observer on the Hiroshima bombing mission and filmed the mushroom cloud that became an iconic image of the age, passed away on Sept. 29 at age 92 at his home in Solano Beach, Calif. Agnew, the last surviving major figure present at the birth of the atomic age, was the third director of Los Alamos National Laboratory. He presented a classified talk a year ago at a Sandia Technology Symposium (when this photo was taken) on the topic "In the Beginning: The Manhattan Project." (Photo by Randy Montoya)

Summer interns research commercialization avenues for RapTOR

By Patti Koning

In terms of commercialization, the individual components of RapTOR (Rapid Threat Organism Recognition) may be more valuable than the device as a whole — and one of the best applications for RapTOR down the road may be in aquaculture testing. Those were two of the recommendations made by students from the University of Oklahoma's Center for the Creation of Economic Wealth (CCEW).

Three CCEW students — Susan Moring, Sam Parrill, and Carl Szmuto — spent the summer at Sandia studying commercial markets and commercialization strategies for RapTOR. They were guided by Todd Lane (8623), Ken Patel (8125), Bianca Thayer (8539), and Victoria VanderNoot (8621) and mentored by CCEW Advisor Robert Free.

In their 8-week stay at Sandia, the students' work was driven by three questions: what strategy should Sandia adopt to get the RapTOR system commercially produced and made available for homeland security use in the near future; what future commercial potential exists for the RapTOR system; and what next steps should Sandia take to act on these recommendations?

"Our first approach of considering the RapTOR system as a whole really didn't work," says Sam. "We couldn't find any viable near-term commercial markets for the composite system. But when we considered the different components, we found specific value for individual markets and were able to identify potential commercial partners."

The three essential components are the DMF (digital microfluidics) Hub, which automates and integrates microfluidic devices into systems; RzPCR — rotary zone polymerase chain reaction (PCR) — which provides rapid, fieldable PCR thermocycling for small throughput assays; and Multi-HAC, which non-destructively purifies genetic material for sequencing. In their report, the students said that the unique characteristics of the RapTOR components drove the need for individualized commercialization approaches.

The students researched companies to partner with for each component, looking at the markets served by each company, ability to manufacture, potential use cases, history with Sandia, and level of interest. For each component, they identified the most promising potential partners.

Susan, Sam, and Carl also looked into other end-user applications that will require further research. Of the 30 applications they found, five rose to the top: aquaculture testing, agriculture testing, municipal water test-



BUSINESS DEVELOPMENT SPECIALIST Bianca Thayer (8539) and Oklahoma students, from left, Susan Moring, Sam Parrill, and Carl Szmuto found that the digital microfluidics hub held by Bianca and Sam has commercial potential. The hub is a component of the RapTOR, Rapid Threat Organism Recognition, system.

(Photo by Jeff MacMillan)

ing, field forensics, and diagnostic screening. Aquaculture testing scored the highest on the students' three main criteria: potential for impact, potential to disrupt market, and technology readiness level.

"Aquaculture is a \$200 billion dollar market worldwide and it's growing rapidly," says Sam. "Farmed fish represent about 45 percent of the fish for human consumption right now, and it's expected farmed fish will be over 50 percent by 2015."

"This is a big market and the health of the fish is a huge issue. Fish farmers lose about 10 percent of their stock each year to disease," Sam says. "It's very hard to diagnose these diseases early, and by the time you realize something is wrong, it's usually too late. Epidemics are not uncommon and entire species have been wiped out in a single country."

The CCEW students proposed developing an automated water sampler to passively detect pathogens in aquaculture. Some diseases, Sam says, are temperature-sensitive, so in those cases an infection can be halted by changing the water temperature. Temperature-sensitive diseases are common in shrimp. There is also value in giving farmers the ability to prove that their ponds are healthy.

While commercial assays are available for the most prevalent aquaculture diseases, creating an automated water sampler from RapTOR will require further research and partnership. The food security aspect of such a project could fall within Sandia's national secu-

rity mission.

"The CCEW students did a great job in capturing the heart of the RapTOR technology and our objectives in such a short time," says Ken. "The conclusions and findings the team summarized are quite insightful, and it will benefit our commercialization efforts. The CCEW students bring a fresh perspective and a unique dimension to Sandia's internship program."

During their time at Sandia, the students also found time to experience much of the San Francisco Bay Area. They toured the headquarters of Google and Facebook, went sailing on the bay, and hiked Muir Woods.

The students created several tools to help move the commercialization process forward: a formal project report, tech briefs on RapTOR components, write-ups of each considered market, a spreadsheet of potential component partner companies, and a list of applicable aquaculture grants.

The relationship with CCEW originated with i-GATE, or the Innovation for Green Advanced Transportation Excellence. The city of Livermore is the coordinator of i-GATE and Sandia is the program lead; other partners include Lawrence Livermore National Laboratory, two University of California campuses (Davis and Berkeley), Cal State East Bay, Las Positas College, the Livermore Chamber of Commerce, and the cities of Pleasanton, Dublin, San Ramon, and Tracy.

This is the third year that a team from CCEW has partnered with i-GATE and one of the Livermore national laboratories on a project. In 2011, CCEW students worked on a research project about how to expand i-GATE's influence in the Tri-Valley. In 2012, CCEW students spent five weeks researching the potential commercialization of an LLNL clean combustion engine technology.

"This was the longest internship period — at eight weeks — and the most ambitious so far," says Bianca. "I plan to use the results of the CCEW students' analysis to guide commercialization of the RapTOR components next year."

Sandia California News

Memorial Plaque dedication

Div. 8000 VP Steve Rottler (photo at top right) recently dedicated a new memorial plaque honoring Sandians who died during active employment at the California site. The plaque was moved into the General Access Area in the Livermore Valley Open Campus to allow greater access by members of the workforce and the families and friends of those honored on the plaque. The dedication was an emotional event for many in attendance. In the photo at lower right, Jim Lund (8130), Carole Le Gall (8005), David Chandler (8300), and Sarah Allendorf (8650) pay their respects to the memories of deceased coworkers and friends.

(Photos by Dino Vournas)



Shutdown FAQs

Q: Because of the Congressional impasse, is Sandia at risk of shutting down and will the workforce be furloughed?

A: Yes. NNSA has asked Sandia National Laboratories to prepare for a safe, secure and orderly shutdown by close of business Oct. 21.

This date coincides with federal financial consequences that would require a shift in Sandia's operational level by necessity. If there is a need for a shutdown, programmatic work will not be conducted. Those functions that NNSA directs us to continue will be extremely limited. Programmatic organization or Lab managers will notify those employees and subcontractors who will be working during shutdown.

It is conceivable that the congressional impasse will be resolved in the coming days. If it is not, beginning Oct. 22, all non-represented employees not designated minimum essential will take and record directed vacation through the remainder of the workweek (use TRC 241). Do not complete your timesheet for the pay period beginning Oct. 25. Instead, Sandia Payroll will enter observed holiday pay so that the pay period includes a total of 72 hours of paid time for the Nov. 7 pay date.

Benefits-Related

Q: Will I still have medical, prescription, dental, and vision care under a Sandia shutdown?

A: Yes, however, some claims determination and payment may be delayed until after normal operations resume. Sandia's intention is to continue to cover employee medical benefits during any government directed shutdown period lasting about a month.

Benefits websites and contact info can be found on the HBE.sandia.gov and hbeupdate.custhelp.com websites.

Q: Will employees have to make up premium payments for missed payroll deductions?

A: Yes. Once normal operations resume, employees will have to make-up premium share deductions from subsequent paychecks.

Q: What if I have a qualifying event and need to enroll myself or an eligible dependent in the Sandia health plans?

A: You are not able to enroll yourself or an eligible dependent during a Sandia shutdown. Sandia will permit enrollment when you are authorized to report to work, with the effective date of the qualifying event (marriage, birth, adoption).

Q: What will happen to my 401k during the Sandia shutdown?

A: During the Sandia shutdown there will not be any contributions or matching contributions to the 401k.

Q: Can I withdraw funds from my 401k?

A: There are specific rules regarding early withdrawal of 401k savings. Visit www.fidelity.com for additional information.

Q: Will I still have life insurance during a Sandia shutdown?

A: Employer-paid life insurance premiums are currently paid through Nov. 30. Supplemental life insurance through MetLife will continue through Nov. 30 as well. Payroll deductions will be caught up upon returning to normal operations.

Q: Can we use COBRA benefits to continue health coverage?

A: Because employees will continue to maintain eligibility for Sandia's plans, COBRA benefits are not required.

Q: Would an unpaid leave impact or change my retirement calculation?

A: It is unknown at this time. As soon as we have more information, we will communicate it to employees.

Q: I am eligible for retirement. Can I retire on the day of a Sandia shutdown or during the shutdown?

A: Yes, but Sandia might not be able to process your retirement until normal operations resume. The effective date could be during the shutdown.

Q: During a Sandia shutdown, can time-away-from-work codes, like personal time, vacation and flex-time, be used?

A: No. Employees cannot use paid vacation, or other codes, during a Sandia shutdown unless specifically

directed otherwise by management. Any authorized paid leave, like vacation, sickness absence, etc., will be limited to 72 hours.

Q: Will I be paid for time not worked because of a Sandia shutdown?

A: If placed on unpaid leave, there is no guarantee that pay will be restored retroactively. Employees should consider this situation when making their personal plans. However, it is Sandia's intent to request back pay for all employees affected by the government-directed shutdown.

Staff augmentation and performance contractors should check with their employers about pay and returning to work matters.

Q: Will employees stop accruing vacation during a shutdown?

A: Non-represented employees will accrue vacation during a payroll cycle in which they work and receive a paycheck. Non-represented employees will not accrue vacation if they are on unpaid furlough and do not work at all during a payroll cycle. Pursuant to Collective Bargaining Agreements, represented employees will continue to accrue vacation.

Q: How will flex spending accounts be affected by a shutdown? Are employees responsible for making the payment during a furlough?

A: No. Once normal operations resume, make-up payroll deductions will be required if the employee portion is not collected during a shutdown.

Employees can still access the healthcare spending account. The daycare spending account will not increase during the shutdown.

Benefits websites and contact info can be found on the HBE.sandia.gov and hbeupdate.custhelp.com websites.

Q: I'm supposed to be going on maternity leave in the next week, two weeks at the latest. What will happen with this? Do I lose my maternity leave? What happens with insurance payments?

A: Any authorized paid leave, like vacation, sickness absence, etc., will be limited to 72 hours. Any additional time will be unpaid.

Yes, coverage will continue, however some claims determination and payment may be delayed until after normal operations resume. Sandia's intention is to continue to cover employee medical benefits during any government directed shutdown period lasting about a month.

Benefits websites and contact info can be found on the HBE.sandia.gov and hbeupdate.custhelp.com websites.

Q: A bill is before Congress approving back pay for furloughed federal government workers. Will Sandians receive back pay as a result?

A: Members of the House unanimously passed a bill approving back pay for furloughed government workers. The bill would need Senate and Presidential approval. Because Sandians are not considered government workers, this bill would not apply to our workforce. However, it is Sandia's intent to seek recovery of back pay for all employees placed on furlough.

Staff augmentation and performance contractors should check with their employers about pay and returning to work matters.

Q: Will I be entitled to unemployment compensation while on unpaid leave?

A: Possibly. Eligibility for unemployment compensation benefits vary by state. Employees are free to pursue

Q: How can I submit questions that aren't on this list?

A: Submit questions to questions@sandia.gov. Your questions are important and will be reviewed as soon as possible, but please don't expect an individual or immediate response.

Note: We have received a large volume of submissions to questions@sandia.gov and we are currently working to read and appropriately respond to these requests. For those questions that hold the most relevance to the broader Labs population, answers will be reviewed and approved, and posted and dated on this site as soon as possible. Some, but not all, questions are receiving specific responses from subject matter experts.

Retirees: Pension payments from Prudential to continue as usual. See item on page 2.

unemployment benefits in the state where they work. The Department of Labor's website provides links to individual state offices at

<http://www.servicelocator.org/OWSLinks.asp>.

Q: Should I check my Sandia email to keep up with the status of the shutdown?

A: No. Do not check your Sandia email during the shutdown. Be sure to update your contact information on HR Self Service. Also, be sure your manager has your personal email and phone numbers.

Check www.sandia.gov or watch local news broadcasts to get updated information.

'Working' during a shutdown

Q: Even if I am on unpaid leave, can I work on "my own time" for Sandia?

A: No. If you are on leave during this period, do not report to work or conduct Sandia-related work from home or anywhere else. Volunteering to work unpaid in this circumstance is a violation of the Fair Labor Standards Act.

Unless directed by your manager, employees should not access any Sandia systems during a shutdown.

Q: What if I have research in progress?

A: Your manager will inform you which projects, if any, can be continued during a partial or full shutdown. If you are not authorized to work, please do not work.

Q: Will Sandia owned phones and laptops need to be surrendered or deactivated in the event of a furlough?

A: Unless directed otherwise by your manager, you should leave all Sandia-issued equipment like cell phones, iPads and laptops secured in your office during a shutdown.

Q: Will corporate cards remain active during shutdown?

A: P-cards have already been frozen. Corporate travel cards will remain open at this time.

Q: Is WFO work impacted by shutdown? What about programs that are fully funded?

A: Because of the directive from NNSA to shutdown, WFO programs and fully funded work also will need to cease, unless directed by your manager. Not all support resources will be available during a shutdown.

Q: Can I take another job while I am on unpaid leave?

A: Yes. However, the duration of the Sandia shutdown is unknown and you will be expected to return to work when notified. Also, employees may be asked to update a personal conflict of interest statement when you are authorized to return to work.

Q: What about those on Sandia travel?

A: Employees on Sandia travel should make arrangements to return by Oct. 21. Contact your manager for additional guidance.

Q: Can I attend a conference on my own funding during this time?

A: No, for a variety of reasons it would not be appropriate for Sandians to continue to attend conferences tied to their Sandia work in any way, even if they are paying the bills themselves.

Q: How would a return to work play out? Could we go on personal international/long distance travel or do we need to stand by for short notice opening?

A: Once the Labs reopen and you are authorized to return to work, you will be expected to return unless you have made arrangements with your manager to take vacation.

Safety

Q: What is in place to ensure that the Labs are secure?

A: Sandia Labs' safety and security experts have extensively planned and prepared for every foreseen contingency. Sandia's facilities are always properly protected even during unforeseen events such as a snow day. Security and facilities personnel will protect and ensure the safety of critical facilities.

Q: Is there any possibility that something that could affect public safety is not being watched or handled, or secured under a shutdown?

A: No. Before being furloughed, Sandia employees will have ensured that their materials, laboratories, and work sites were secure.

Miscellaneous

Q: How will employees in special degree programs be impacted by the furlough?

A: Employees in special degree programs will not receive their stipend during a furlough, but should continue to attend classes.



FROM LEFT, Bob Martinson (10520) and representatives of Sandia Laboratory Federal Credit Union, Fidelity, and Financial Engines answered questions at a forum Wednesday to help Sandia employees understand the benefits and financial services available to them in the event of a Labs shutdown. (Photo by Randy Montoya)

Plasmonic crystal alters to match light source

Device created by Sandia-led team is like a photonic crystal, but smaller and tunable

By Neal Singer

Crystals are noted for the beauty of the light that passes through them. But the atomic arrangements of gems permanently fix the frequencies that are permitted passage.

Now a Sandia-led team has created a plasmonic, or plasma-containing, crystal that is tunable by adjusting the voltage applied to it. Because the crystal is agile in transmitting terahertz light at varying frequencies, it potentially could increase the bandwidth of high-speed communication networks.

"Our experiment is more than a curiosity precisely because our plasma resonances are widely tunable," says Greg Dyer (1118), co-primary investigator of the paper published online Sept. 29 by *Nature Photonics* and expected in print in November. "Usually, electromagnetically induced transparencies in more widely known systems like photonic crystals and metamaterials require tuning a laser's frequencies to match a physical system. Here, we tune our system to match the radiation source. It's inverting the problem, in a sense."

Photonic crystals are artificially constructed crystals built to allow transmission of particular wavelengths. Metamaterials require micron- or nano-sized bumps to tailor interactions between manmade structures and light. The plasmonic crystal,

with its ability to direct light like a photonic crystal, along with its sub-wavelength, metamaterial-like size, in effect hybridizes the two concepts. Its methods could be used to shrink the size of photonic crystals and to develop tunable metamaterials.

The crystal's electronic plasma forms naturally at the interface of semiconductors with different band gaps. It sloshes between their atomically smooth boundaries that, properly aligned, form a crystal. Patterned metal electrodes allow its properties to be reconfigured, altering its light transmission range. In addition, defects intentionally mixed into the electron fluid allow light to be transmitted where the crystal is normally opaque.

However, this crystal won't be sold to beauty lovers any time soon. First, its transmitted light is in the terahertz range, unobservable by human vision. And its output frequencies are electronically varied by precisely tweaking a two-dimensional electron gas, a capability not required by most casual crystal buyers.

The paper is titled "Induced transparency by coupling of Tamm and defect states in tunable terahertz plasmonic crystals."

Other paper authors are Sandians co-p.i. Eric Shaner, Albert D. Grine, Don Bethke (all 1118), and John L. Reno (1131); Gregory R. Aizin of the City University of New York, and S. James Allen of the Institute for Terahertz Science and Technology, UC Santa Barbara.

The work was supported by the DOE Office of Basic Energy Sciences and performed in part at the Center for Integrated Nanotechnologies, a user facility of DOE BES.

FLC awards

(Continued from page 1)

given to Sandia and the University of New Mexico Health Sciences Center (UNM HSC) for their work on protocell research; and SPAWAR Systems Center Pacific (SSC Pacific), Department of Homeland Security (DHS), and Sandia for the development of cargo container security technologies.

"It's quite an honor to receive recognition for our technology development and technology transfer work," says Jackie Kerby Moore, manager of Technology and Economic Development Dept. 7933 and Sandia's representative to the FLC. "It's especially gratifying when we are recognized alongside our partners."

SpinDX: Time is money

SpinDX is a lab-on-a-disk, medical diagnostic tool that can determine a patient's white blood cell count, analyze important protein markers, and process up to 64 assays from a single sample, all in a matter of minutes.



MATT PICCINI (8621), left, Chung-Yan Koh (8621) and Anup Singh (8620) lead the SpinDX team. SpinDX is a diagnostic tool with medical and non-medical applications.

(Photo by Jeff McMillan)

"In a doctor's office, time is money," says Anup Singh, senior manager of Biological Science and Technology Dept. 8620. "Patients have become accustomed to an initial visit, some tests, samples that are sent off to a far-away lab, a wait of a week or more for results, more tests, and charges every step of the way. With SpinDX, you can see results before you even leave the office."

SpinDX has both medical and non-medical applications, ranging from detection of markers of infectious diseases to food and water safety testing. It can quickly complete a variety of lab screening tests and be used by people with minimal scientific training, in a lab, or in the field.

The first license for SpinDX technology was signed in December 2012, the second in March 2013, and three more are being negotiated. Chung-Yan Koh (8621) and Matthew Piccini (8621) also worked on the technology.

Sandia Cooler: Cutting power consumption

The Sandia Cooler reduces the energy needed to cool processor chips in data centers and large-scale computing environments, says Sandia researcher Jeff Koplow

(8366). The technology has the potential to decrease overall electrical power consumption in the US by more than 7 percent.

The Sandia Cooler takes heat from a conventional CPU cooler and efficiently transfers it across a narrow air gap from a stationary base to a rotating structure. The normally stagnant boundary layer of air enveloping the cooling fins is subjected to a powerful centrifugal pumping effect, causing the boundary layer thickness to be reduced to 10 times thinner than normal.

The cooler offers benefits in other applications where thermal management and energy efficiency are important, particularly heating, ventilation, and air-conditioning. It won an R&D 100 Award in 2012. One license has been issued and about a dozen companies are interested in the technology. Prototypes are being developed for the interested parties.

SAMOC: Efficient coatings

SAMOC inexpensively forms filmlike coatings already widely used in consumer electronics, semiconductor devices, and high-performance glass and ceramics. But rather than requiring high temperatures and/or the considerable vacuum of current commercial operations to deposit films, the Sandia method disperses commercially available polymers by inserting them in common solvents under ambient conditions and then uses simple spin, dip, or spray techniques to coat surfaces.

Evaporation of the solvents induces the polymers to self-assemble into multifunctional nanoparticles, as well as films with tailored optical properties and a nanostructured surface. Because the process is compatible with conventional spray processing, it can be applied directly to the coating of large or complex parts, which current commercial methods are less able to do.

The work, which won an R&D 100 award in 2010, was led by Hongyou Fan (1815) and his group. Also participating were researchers from UNM. The technology has been awarded three patents.

Protocell: Breakthrough drug delivery

Protocell research is a joint effort of Sandia and UNM HSC, which includes the UNM School of Medicine, the UNM Cancer Research and Treatment Center, the College of Pharmacy, the Center for Infectious Disease and Immunity, and various UNM hospitals. A protocell is a novel nanoparticle delivery vehicle that can dramatically improve the efficiency of chemotherapy

drugs, antibiotics, and vaccines while reducing side effects. Protocells have been shown in *in vitro* models to improve upon existing nanoparticle-based drug delivery by a million-fold.

Development of the protocell combined the knowledge of UNM in biomedical, cancer, engineering, and infectious disease research with Sandia's expertise in

materials science and nanotechnology. Sandia and UNM have been working together to promote technology transfer since their first joint technology was licensed in 1993.

Research on the protocell is part of Sandia's University Partnerships Program, which nurtures talent, collaborative research, and national advocacy. The Sandia-UNM collaboration, led from Sandia by Jeff Brinker (1000), Carlee Ashley (8622), and Eric Carnes (8635), has worked the past six years to develop the protocell technology and test its efficacy in *in vitro* and *in vivo* cancer models, including leukemia and cancers of the ovary and liver.

The Sandia-UNM team is extending protocell technology to prevention and treatment of infectious disease, addressing Sandia's national security mission.

Cargo security

In cargo research, Sandia has partnered with SSC Pacific and the Department of Homeland Security (DHS) to develop, test, evaluate, and transition new security technologies to meet specific DHS and Department of Navy needs. Since 2001, DHS

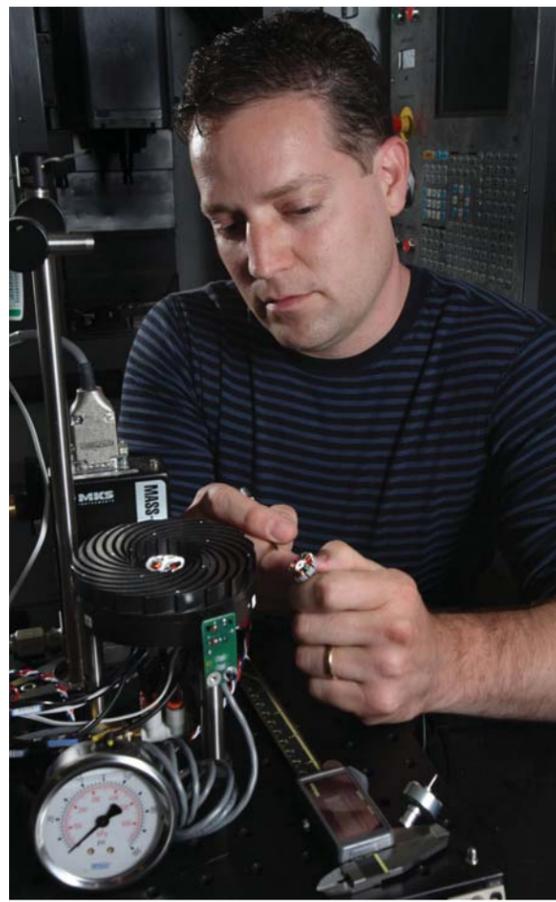
has been required to secure the storage and transportation of cargo entering and traveling through the United States against terror attack, introduction of contraband cargo, and pilferage. And the Navy must ensure the security of high-value cargo that it transports around the world on a 24-hour basis.

John Dillinger (5628) and Steve Morrison (6531) worked on the project for Sandia.

"We are thrilled to have won these two partnership awards," Jackie says. "Partnerships with academia, government, and industry are crucial to Sandia's efforts to deploy technology for the public good."

The FLC is a nationwide network of more than 300 members that provides the forum to develop strategies and opportunities for linking laboratory mission technologies and expertise with the marketplace.

The FLC Awards Program annually recognizes federal laboratories and their industry partners for outstanding technology transfer efforts. Since its establishment in 1984 the FLC has presented awards to nearly 200 federal laboratories, becoming one of the most prestigious honors in technology transfer.



JEFF KOPLOW (8366) adjusts a prototype of the Air Bearing Heat Exchanger, also known as the Sandia Cooler. The technology significantly reduces the energy needed to cool the processor chips in data centers and large-scale computing environments.

(Photo by Dino Vournas)



STUDENTS FROM TIERRA AMARILLA Charter School perform a traditional flamenco dance.

Sandia celebrates Hispanic culture at annual diversity event

Setting a record for attendance, nearly 700 people came out to celebrate at this year's Hispanic Heritage Month diversity event at Hardin Field on Sept. 26. The event featured keynote speaker New Mexico Lt. Gov. John Sanchez, as well as live entertainment and traditional Hispanic foods.

The festivities kicked off with judging for the annual Hispanic Foods contest, with entrants in five categories. This year's dishes featured a notably New Mexican influence, says contest volunteer Kenneth Armijo (6112).

While attendees sampled the contest cuisine and enjoyed lunch from Garcia's Kitchen, Hispanic Leadership Outreach Committee (HLOC) Chair Pat Sena (2110) welcomed the crowd and introduced the speakers and events.

Pam Hansen Hargan, VP of Human Resources and Communications Div. 3000 and HLOC executive sponsor, introduced Sanchez, noting that this year's Hispanic Heritage Month theme, "Hispanics: Leading and Serving Our Nation with Pride and Honor," ties in well with Sandia's motto, "Exceptional Service in the



*Story by Tim Deshler
Photos by Norman Johnson*

National Interest."

"Our state is one in which the past and the present are blended in our everyday lives," Sanchez said, "reminding us of the rich cultural diversity that we are blessed to be part of here in the Land of Enchantment." Sanchez encouraged attendees to join him in resolving to protect the values and qualities that make Hispanic

heritage so unique, to preserve the vibrancy and beauty of the culture, and to inspire future generations.

Following his speech, the lieutenant governor presented certificates to the winners of the annual New Mexico Youth Art Contest, whose artwork was on display during the event. He also received a commemorative coin from Emilee Reinholz (2545), who designed the winning crest for the U.S.S. *New Mexico* last year.

Entertainment during the event included flamenco performances by the students from Tierra Amarilla Charter School, live music from the Abel Lucero Band, and a salsa dance fitness demonstration by the HBE fitness team.

"It was more than just Hispanic diversity," says event organizer Valerie Salim-Meza (160). Valerie and co-leads Rebecca Lopez (4826) and Tito Irizarry (10625) attributed the success of the event to the contributions of all the individuals and groups involved. "All of the cultural organizations, Facilities, HBE, the Zero Waste team, KAFB, everyone worked together to make the event a huge success," Valerie says. "The event was about partnering and togetherness. It showed true Labs diversity."



LT. GOVERNOR JOHN SANCHEZ presents his keynote speech.



FIRST PLACE WINNER of the New Mexico Youth Art Contest (grades 9-12 category), poses with her artwork.



A STUDENT from Tierra Amarilla Charter School plays the guitar during a flamenco performance.



NEW MEXICO YOUTH ART CONTEST winner swings at a piñata.



THE ABEL LUCERO Band performs.



WINNERS of the annual New Mexico Youth Art Contest pose with Lt. Gov. Sanchez.



JOSHUA MARK CHRISTIAN works with a falling particle receiver, which more efficiently converts the sun's energy to electricity in large-scale, concentrating solar power plants.

(Photo by Randy Montoya)

Harnessing the sun's energy with tiny particles

By Stephanie Hobby

Sandia researchers, along with partner institutions Georgia Tech, Bucknell University, King Saud University, and the German Aerospace Center (DLR), are using a falling particle receiver to more efficiently convert the sun's energy to electricity in large-scale, concentrating solar power plants.

Falling particle receiver technology is attractive because it can cost-effectively capture and store heat at higher temperatures without breaking down, which is an issue for conventional molten salts. The falling particle receiver developed at Sandia drops sand-like ceramic particles through a beam of concentrated sunlight, and captures and stores the heated particles in an insulated container below. The technique enables operating temperatures of nearly 1,000 degrees Celsius. Such high temperatures translate into greater availability of energy and cheaper storage costs because at higher temperatures, less heat-transfer material is needed.

Central receiver systems use mirrors to concentrate sunlight on a target, typically a fluid, to generate heat, which powers a turbine and generator to produce electricity. Currently, such systems offer about 40 percent thermal-to-electric efficiency. The falling particle receiver enables higher temperatures and can work with higher-temperature power cycles that can achieve efficiencies of 50 percent or more.

"Our goal is to develop a prototype falling particle receiver to demonstrate the potential for greater than 90 percent thermal efficiency, achieve particle temperatures of at least 700 degrees Celsius, and be cost competitive," says principal investigator Cliff Ho (6123). "The combination of these factors would dramatically improve the system performance and lower the cost of energy storage for large-scale electricity production."

The project is funded up to \$4 million by DOE's SunShot Initiative, which aims to drive down solar energy production costs and pave the way to widespread use of concentrating solar power and photovoltaics.

Falling particle receiver technology was originally studied in the 1980s, and Sandia researchers are working to address challenges that hindered greater acceptance of the concept. Among the issues are mitigating particle loss, maintaining the stability of falling particles, increasing the residence time of the particles in the concentrated beam and reducing heat losses within the receiver cavity.

Cliff and his colleagues at Sandia have been working to address these issues by studying the effect of an added air curtain, created by a series of blower nozzles, to help particles fall in a stable pattern and reduce convective losses. Adjusting the particle size and how sand is dropped has also helped, ensuring more of the sand gets heated in a pass and makes it to the collection bin at the bottom. Researchers are also investigating the benefits of using an elevator to recirculate particles through the aperture a second time to increase their temperature.

"Given our unique facilities at the National Solar Thermal Test Facility, we have the capability of developing prototype hardware and testing the concepts we've simulated, which include innovations such as air recirculation and particle recirculation.

Advanced computing lets us do complex simulations of the falling particle receiver to understand the critical processes and behavior," Cliff says. "We're very encouraged by our progress and look forward to further developing this enabling technology."

Falling particle receiver technology could lead to power-tower systems capable of generating up to 100 megawatts of electricity. The project is in its first of three years, and a test-ready design is expected in 2015.



IN A FALLING PARTICLE RECEIVER, sand-like ceramic particles like those here drop through a beam of concentrated sunlight, capturing and storing solar energy in the form of heat.

(Photo by Randy Montoya)

Connecting kids with the world . . .

One computer at a time



A STUDENT AT MUKULAT Secondary School in Tanzania helps assemble one of the computers.

By Patti Koning

Computers and internet connectivity are something we take for granted. Between work and home, many of us have more computers than we can count on one hand and we've come to expect internet access to be as reliable as electricity. But in developing countries, computers and Internet access remain elusive.

Rene Bierbaum (8225) and her husband Neal are working to change that, one school at a time, through their nonprofit organization Reneal International Education Outreach, appropriately named by combining their first names. Rene will retire in early November to dedicate herself fully to Reneal work — traveling to developing countries to install robust computer labs and train teachers on using computer resources.

The seeds for Reneal were planted back in 2006, when Rene and Neal served as Peace Corps volunteers in the Philippines (see the Aug. 14, 2009, issue of *Sandia Lab News*). They were assigned to Compostela National High School, where they developed a low-cost campus-wide computer infrastructure based on open source software and used computer hardware from the World Computer Exchange.

Open source software

"The experience was so incredibly fun and rewarding, we knew this was something we wanted to continue," says Rene.

She returned to Sandia in 2009 following their Peace Corps service. Neal retired and devoted himself to refining the low-cost computer infrastructure and continuing to work with Compostela National High School. The low-cost computer system is based on a client-server architecture with a server, the powerful computer on which all programs reside, and lower-tech client computers that run off the server. Another key element is Linux-based open source software.

"It's free, legal, and is not affected by viruses," says Rene. "A lot of schools get nice IT labs that would be shut down within a matter of months because the computers became so virus-infested they simply stopped running."

Neal has customized the low-cost computer system for school environments. Features include centralized file storage, personalized teacher accounts, shared teacher space, and student accounts. He's

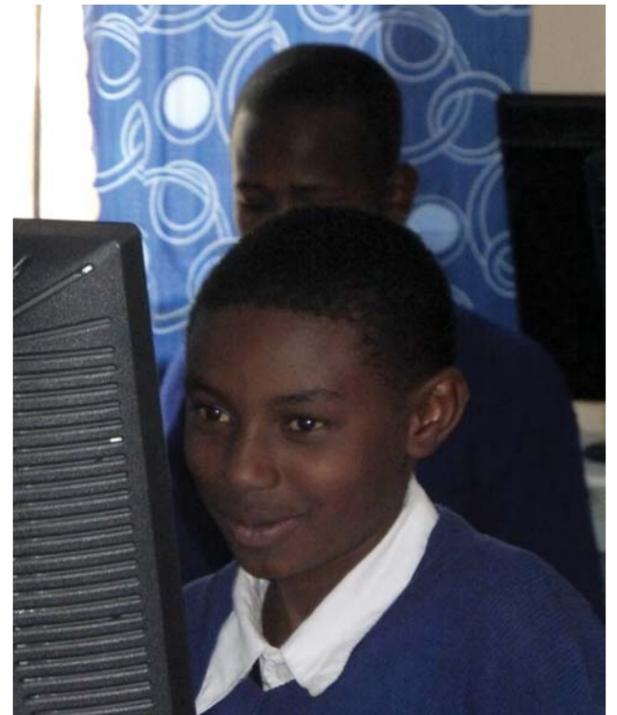
also spent a lot of time developing a simple and accessible user interface.

He loads the server with standard application like picture editing, spreadsheets, and word processing, that can be run on any client computer. For the most recent Tanzania installations, he downloaded more than 4,000 Khan Academy videos, about 400 of which have been translated into Swahili by the Oakland-based nonprofit Asante Africa.

Neal made his first trip to Tanzania in 2010, after connecting with a nonprofit doing similar work in that country. He's since been three more times, most recently in August. Rene joined Neal on that trip, her second to Tanzania. They installed computer labs in three high schools.

"It's pretty exciting. As a result of that trip, 3,100 students and 85 teachers now have access to 51 computers in their schools," says Rene. "Most of the kids have never touched a computer before. Giving them the chance to use a computer prepares them so much for life after high school and for college. Computers and an internet connection open up so many worlds."

She was quite moved at the official turnover ceremony for the computer system at Mukulat Secondary School. "It was thrilling to hear the school board pres-



With a smile on her face, a student at Mukulat Secondary School uses one of the new computers.

One challenge for Reneal is acquiring the computer hardware. The server costs about \$500 with all of the components; other necessary items such as the network switch, Ethernet cable, surge protection, UPS, and server monitor add another \$600. Ideally the client computers are older, donated machines. "Discarded hardware in the United States tends to be really nice and Reneal can transform it into opportunity for kids in developing countries," says Rene.

Nine installations

A Bay Area company recently donated about 50 surplus laptops to Reneal with more expected to come, allowing Rene and Neal to plan nine installations in the Philippines and Tanzania in 2014. Early next year they will take a long trip to the Philippines to do six lab installations, follow up at sites of previous installations, scout potential new sites, and spend time with the friends they made living in the country as Peace Corps volunteers. They plan to travel to Tanzania to do the other three installations late in the year.

Looking to the future, Rene and Neal plan to split their time between traveling abroad to do lab installations and scout potential school sites and, at home, working on strategy and vision at



STUDENTS BEGIN USING DONATED LAPTOPS in the newly installed lab at Paroma Secondary School in Tanzania.

ident speak of the opportunities that computers could offer to the students at Mukulat, which is exactly the reason why Reneal IEO exists," she says. "But then he went on to talk about how amazing it was to have a woman engineer (me) standing before them, something that the girls may not have even known they could aspire to."

Moving Forward

Reneal IEO incorporated in April 2012, becoming a 501(c)(3) tax exempt public charity in August of that year. Along the way, there have been plenty of lessons learned. One is to visit candidate schools to evaluate first-hand if they meet Reneal's requirements: a dedicated computer room with tables and chairs, security, electricity, and an IT teacher and headmaster who will fully support the computer system. On his first trip to Tanzania, Neal went to an orphanage he thought was ready for a lab installation, only to find the site had no electricity.

Reneal. Neal continues to refine a system administrator's manual, written by a Reneal board member, to share his expertise with others.

"We need to think about what we want to do with the nonprofit moving forward," says Rene. "If we can get more hardware, it then becomes a logistical issue of getting hardware from here in the US to the schools. Expansion — if we pursue it, how it would happen — will be an important topic at our board meeting in January."

Rene has mixed emotions about her approaching retirement from Sandia. "I hate to leave Sandia because I really enjoy my work and colleagues. Sandia has been very good to me. But we may not be able to travel like this and work on lab installations forever, so we want to keep at it while we are physically able," she says.

Learn more about Reneal at <http://reneal.org/>. Rene has a blog on the site that details previous lab installation trips and other Reneal mission areas.



2014 Benefits Choices Open Enrollment



Open Enrollment dates

- Open enrollment for active employees: Oct. 28-Nov. 14
- Open enrollment for PreMedicare retirees: Oct. 15-Nov. 15
- Open enrollment for Medicare retirees: Oct. 15-Dec. 7

QUESTIONS? Contact HBE Customer Service at 505-844-HBES (4237).

Open enrollment for employees

Open Enrollment Elections

Your 2014 Open Enrollment elections must be made online. The link will be provided on hbe.sandia.gov beginning Monday, October 28. hbe.sandia.gov is a public website available externally. However, if you wish to make your elections from home, you must log in using your Cryptocard.

During Open Enrollment you may:

- Enroll, disenroll, waive, or make changes to a medical plan.
- Enroll, disenroll, or waive the dental and/or vision plan.
- Enroll or disenroll an eligible dependent in a medical, dental, or vision plan.
- Enroll in the healthcare or daycare flexible spending account.
- Enroll in the Vacation Buy Plan.

Important: Even if you are currently enrolled in the Healthcare FSA, Daycare FSA, and/or Vacation Buy Plan, you must re-enroll to receive these benefits in 2014.

Detailed information on 2014 changes can be found in the 2014 Benefits Choices Open Enrollment Newsletter, which will be available on hbe.sandia.gov beginning Tuesday, October 15.

Retiring in 2013?

If you are retiring in 2013, you do not need to enroll for 2014 benefits through the Sandia HR Self Service application. Please contact Extend Health at 1-888-598-7809 no later than Friday, Nov. 15, to discuss your benefits options for 2014.

Considering retirement in 2013 or 2014? If so, you may want to attend a Retiree Open Enrollment presentation to learn about the medical plans offered to our retirees. For details, see the companion articles below and on the next page titled Open Enrollment for Retirees and Surviving Spouses. For additional retirement information, please review the Retirement Planning Meeting Presentations page on hbe.sandia.gov.

MORE INFORMATION

Open Enrollment website: hbe.sandia.gov
 HBE Customer Service
 505-844-HBES (4237), Option 2
 Hours: Monday - Friday, 8 a.m.-5 p.m. MT

Employee Benefits Fairs

This year, Health, Benefits, and Employee Services (HBE) will host several benefits fairs for employees. During the Open Enrollment Fairs you can meet with

Albuquerque, New Mexico

Sandia Benefits staff and your plan administrators (BCBSNM and UHC) will be available to answer questions about 2014 changes and provide explanations of the Sandia Total Health plan.

Active Open Enrollment Benefit Fairs			
Date	Thursday, October 31 and Monday, Nov. 4	Saturday, November 9	Tuesday, November 12
Location	Steve Schiff Auditorium Building 825	Sandia Laboratory Federal Credit Union at 3707 Juan Tabo	IPOC — 2 nd floor break room and Thunderbird Conference Room
Audience	Employees	Employees and Spouses	Employees
Fair Time	9 a.m.- 2 p.m.	9 a.m.- 2 p.m.	10 a.m.- 2 p.m.

The following representatives will be available during the fair:

- Sandia Health Plans Team
- HBE Preventive Health
- Sandia Retirement Processing Team
- UnitedHealthcare
- Blue Cross Blue Shield of NM
- Delta Dental
- Davis Vision
- Express Scripts
- Workplace Options
- Fidelity (Nov. 4 only)
- ...and more

Livermore, California

This year's Sandia California event will be a combined benefit/open enrollment fair and a health fair. Spouses are welcome, but must register by calling 925-294-2161 or emailing saludca@sandia.gov by Nov. 1.

Active Open Enrollment Benefits & Health Fair, Sandia/California Bldg. 928	
Date	Wednesday, November 6
Location	7011 East Avenue, Bldg. 928, Livermore, CA
Audience	Employees and Spouses
Benefit & Health Fair Time	11 a.m.-1:30 p.m.
Presentations Times	11:30 a.m.-12:30 p.m. Kaiser Permanente, BCBSNM, and UHC

The following representatives will be available during the fair:

- Sandia Health Plans Team
- Blue Cross Blue Shield of New Mexico
- Kaiser Permanente
- UnitedHealthcare
- Delta Dental
- Davis Vision
- Express Scripts
- Workplace Options
- ...and more!

Open Enrollment for Retirees and Surviving Spouses • ALBUQUERQUE

The Sandia Open Enrollment 2014 for Sandia retirees and surviving spouses will be held:

PreMedicare Retirees

Tuesday, Oct. 15-Friday, Nov. 15 (5 p.m. MT/4 p.m. PT)

Medicare Retirees

Tuesday, Oct. 15-Saturday, Dec. 7 (5 p.m. MT/4 p.m. PT)

Extend Health manages Open Enrollment for Sandia's retirees, surviving spouses, and long-term disability termines. Extend Health offers personalized assistance through licensed benefit advisors to help you navigate through your health care options, evaluate, and select the option that is best for you. This service is provided at no cost to you and/or your spouse.

Detailed information on 2014 benefits changes will be published in the 2014 Benefit Choices and Enrollment Guide sent from Extend Health to all participants' home addresses by October 14. Please review your 2014 Benefit Choices and Enrollment Guide for information on your 2014 premium rates and (Medicare) Your Spending Account (YSA) credits. If you have changed your mailing address since last year's Open Enrollment, please contact Extend Health 888-598-7809 to update your address.

More information

For more information regarding Retiree Open Enrollment, contact Extend Health customer service at 888-598-7809 between 7 a.m. and 7 p.m. MT. You may also visit the Sandia HBE website at hbe.sandia.gov

ALBUQUERQUE PreMedicare Open Enrollment Fairs (Livermore info on next page)

Fairs are open to Sandia PreMedicare retirees and their dependents. All fairs will be held at the UNM Continuing Education Conference Center, 1634 University Blvd. NE.

PreMedicare Open Enrollment Benefits Fairs UNM Continuing Education	
Date	Tuesday, October 22
Fair Time	9-11:30 a.m.
Presentation Time	10-11 a.m.
Presenters	Extend Health / Marsh UnitedHealthcare Blue Cross Blue Shield of New Mexico

The following representatives will be available during the entire fair:

- Extend Health/Marsh
- Sandia Health Plans Team
- UnitedHealthcare
- Blue Cross Blue Shield of NM
- Lovelace Health Systems
- ABQ Health Partners
- Express Scripts
- Davis Vision
- Delta Dental

ALBUQUERQUE Medicare Open Enrollment Fairs (Livermore info on next page)

All fairs are open to Sandia Medicare retirees and their dependents and will be held at the UNM Continuing Education Conference Center, 1634 University Blvd. NE.

Medicare Open Enrollment Benefits Fairs UNM Continuing Education	
Date	Tuesday, October 22
Fair Time	1-3:30 p.m.
Presentation Time	1:30-3 p.m.
Presenters	Extend Health/Marsh Presbyterian Lovelace

Retirees are welcome to arrive before the presentations begin or stay after they end to speak with representatives from:

- Extend Health
- Presbyterian
- Lovelace
- Davis Vision
- Delta Dental

Livermore retiree info on next page

Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

MISCELLANEOUS

DINING ROOM TABLE, 6 chairs, asking \$400; China cabinet, asking \$375; get ready for Thanksgiving. Aragon, 265-9109.

2006 iMac DESKTOP, version 10.6, upgraded to 1GB memory, \$150; Voit RM3 rowing machine w/electronics, \$15. Kepler, 296-0402.

ANNUAL RAFFLE, \$20/ticket, benefits Montessori of the Rio Grande Charter School (MRGC). Email if interested. cassietrevi74@yahoo.com. Trevino, 505-274-0760.

LARGE COMPUTER ARMOIRE, 48" w x 24" d x 78" h. \$400 OBO. Hardin, 828-1502.

SOFA & LOVE SEAT, La-Z-Boy, reclining, deep red fabric, \$1350 OBO; Older La-Z-Boy rocker-recliner, light brown fabric, \$125 OBO. ddnoack@q.com; photos available. Noack, 828-1180

SCANDINAVIAN FESTIVAL, 11/2/13, 10am-4pm, Immanuel Presbyterian Church, 114 Carlisle SE. Norwegian/Swedish folk art & food. Free. Richard-Franco, 505-294-5739.

TEMA GIRLS BEDROOM SET \$800; Amish Connection table w/2 chairs, \$500; antique secretary, \$150. Miller 238-4534, ask for David.

REMINGTON 150, forced-air portable heater, \$50; Pro A-class, 9-gear, Ax30 rims, front & back, \$200 each or \$350 for both. Garcia 280-5815.

WOMEN'S BLACK LONDON FOG COAT, size small, mid-length, excellent condition, paid over \$100, sell for \$25. Langwell, 350-1313.

LITTLE GIANT LADDER, type 1A Classic, 22-ft, 300-lb rating with a step platform, asking \$250. Stikar, 505-884-4128.

FREEZER, Kenmore Frostless 16 upright, quick freeze function, perfect for hunting or harvest season, very clean. Canaris, 505-264-5299.

FREE TALK on dental care for your cat, Oct. 27; details at www.fabulousFelines.org. Stubblefield, 298-2991.

HUSKY MANUAL SLIDE HITCH, 16K, 5th wheel, \$150. jon@ashworth-ballooning.com. Ashworth, 505-281-2824.

3/4 ORCHESTRAL BASS, Romanian hand-made, comes with bow and soft case, originally \$3500, asking \$2500. Whitehead, 505-332-6686.

ALUMINUM WALKER with 2 wheels and tote bag, \$10. Lunsford, 286-4850.

BRIDGESTONE DUELER TIRES, four, like new, only 2,000 miles, 265/65/R17, \$80 each. Mann, 269-7302.

COFFEE TABLE \$200; entertainment center \$300, wood, mocha, contemporary design, photos available. Perez 573-3010

BUNKBED FURNITURE SET, Broyhill Fontana, Twin-bunks w/ladders/side boards; dresser/desk/hutches, 2 ea.; Sealy mattresses/decking, 2 ea.; very good condition, \$1000/set OBO. Golden, 823-9656.

KENMORE SEWING MACHINE, with wood cabinet, like new \$150 OBO; Gazelle exercise machine, \$75 OBO; pine wood TV cabinet w/small shelves, good condition \$50 OBO. Ramirez, 480-0960, ask for Eve.

KING MATTRESS, with box springs, Sealy Posturepedic, excellent condition, \$250. Hennessey, 915-241-8634.

KITCHEN APPLIANCES, brand new, black, Whirlpool, electric range \$300; over-range microwave \$100; dishwasher \$200 OBO. Shields, 405-229-4611.

LANE BLACK LEATHER SWIVEL RECLINER, excellent condition, paid \$1,000, sell for \$150; Flowtron electric leaf mulcher, \$85. Mulville, 382-3591.

FRAMES, SEWING/NEEDLEWORK, CRAFT SUPPLIES, Friday & Saturday, October 18 & 19, 9 am - 3 pm, 9642 Elvin, NE. Gibson, 294-6831.

JEWELRY, 50-75% off, designer look, call for details and pictures. Hunter, 363-8822.

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 1468 (Dept. 3651)
 • 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.

POOL TABLE, Brunswick, 4' x 8' full size, excellent condition, w/ accessories, asking \$950. Brown, 884-8581.

GRINDER/BUFFER MOTORS, on pedestals, 2 ea.; lawnmower; handicap walkers, 2 ea.; exercise bike; oxygen/acetylene torch, w/ tanks, gauges, accessories. Call for prices. Herrera, 833-5035.

TRANSPORTATION

'02 MAZDA 626, green, A/T, A/C, P/W,P/L, ~120K miles, runs great, \$2500. Chan, 362-9597.

'13 FORD FUSION, hands free voice activated, 22-34 mpg, 1600 miles, \$22,000 OBO. Rose, 505-918-6469.

'84 VOLVO, 240 GL, 4 door, silver metallic w/blue velvet interior, 112K miles, 4 cyl., new tires, radio, excellent condition, \$3400, negotiable. Garcia, 505-554-2690.

'02 FORD F150 SUPER CREW PICKUP truck, 4.6 V8, A/T, lots of accessories, 154K miles, runs great, \$7,300. Willis, 505-304-5034.

'03 AUDI RS6, excellent condition, 450 HP twin turbo V8, auto, Quattro AWD, loaded, 71,700 miles, rare car, \$22,000. Sedillo, 505-890-2698.

'04 HONDA ODYSSEY, 79K miles, good condition, dark blue, great for hauling, \$7250 OBO. Gurney, 505-280-2581.

'11 TOYOTA 4RUNNER, grey, moonroof, 3rd row, sonars, sat. radio, tow pkg., 33" Nitto Trails with lift kit, 27K miles, full factory warranty, \$32,900 OBO. Solis, 331-8148.

'05 FORD ESCAPE, 46K miles, clean title, \$11,500, well maintained, title in hand. Rose, 505-918-6469.

'08 CAMRY HYBRID, 56K miles, excellent condition, sky blue, cloth seats, sun/moonroof, new tires, \$15,800 OBO. Gurney, 505-280-2581.

RECREATION

HAND CYCLE (pedal with hands instead of feet), 18 speed, brand new, \$400 OBO. Howard, 296-6056.

'01 WINNEBAGO CLASS C MOTORHOME, 31ft., Ford 450, 55K miles, great condition, new carpet and awning, slideout, must see, \$23K Robles, 294 6904.

MOUNTAIN BIKE, Raleigh M-50, two sets of tires (street and trail), excellent condition, upgraded seat. Felix, 505-573-0595.

REAL ESTATE

SANDIA PARK, gorgeous 4 acre homesite, level and square, fenced property, well, electric, phone, ready-to-build, beautiful neighborhood, \$109K, easy terms. Mihalik, 281-1306.

4 BDR. HOME, 2 Masters, 3 bath, tri-level, 2260-sq.ft., LR, DR, FR, 2 car garage, inground pool, new carpet, cabs, SS appl. heights, \$240K. Reaves, 550-8079.

5 ACRES for sale, northwest corner of Belen, Alexander Municipal airport, zoned commercial, great investment, \$39,900. Aragon, 888-3473.

SINGLE FAMILY CUSTOM BRICK HOME, 4 bdrm., 3 baths, 3,867-sq. ft., foothills, pool/spa, MLS#770605. Maestas, 505-239-1054.

4-BDR. HOME, 2 1/2 baths, 2150-sq. ft., renovated, new windows and stucco, MLS#768621, \$269,900. Tapia, 505-250-1111.

WANTED

3 ROOMMATES needed, very nice 6 bedroom, 3600 sq. ft. house, call/text for info/tours. Tran, 801-842-2366.

TEMPORARY FOSTER HOMES for cats, dogs, puppies, kittens, for a local no kill animal rescue group. Williams 856-6798.

VOLUNTEERS for the New Mexico Museum of Natural History and Science, astronomy to paleontology. Moss, 298-2643.



2014
Benefits Choices
ANNUAL
OPEN
ENROLLMENT

2014 Benefits Choices Open Enrollment

- Open enrollment for active employees: Oct. 28-Nov. 14
- Open enrollment for PreMedicare retirees: Oct. 15-Nov. 15
- Open enrollment for Medicare retirees: Oct. 15-Dec. 7

Open Enrollment for Retirees and Surviving Spouses • LIVERMORE, CALIF.

The Sandia Open Enrollment 2014 for Sandia retirees and surviving spouses will be held:

PreMedicare Retirees

Tuesday, Oct. 15-Friday, Nov. 15 (5 p.m. MT/4 p.m. PT)

Medicare Retirees

Tuesday, Oct.15-Saturday, Dec. 7 (5 p.m. MT/4 p.m. PT)

Extend Health manages Open Enrollment for Sandia's retirees, surviving spouses, and long-term disability termines. Extend Health offers personalized assistance through licensed benefit advisors to help you navigate through your health care options, evaluate, and select the option that is best for you. This service is provided at no cost to you and/or your spouse.

Detailed information on 2014 benefits changes will be published in the 2014 Benefit Choices and Enrollment Guide sent from Extend Health to all participants' home addresses by October 14. Please review your 2014 Benefit Choices and Enrollment Guide for information on your 2014 premium rates and (Medicare) Your Spending Account (YSA) credits. If you have changed your mailing address since last year's Open Enrollment, please contact Extend Health 888-598-7809 to update your address.

More information for retirees

For more information regarding Retiree Open Enrollment, contact Extend Health customer service at 888-598-7809 between 7 a.m. and 7 p.m. MT. You may also visit the Sandia HBE website at hbe.sandia.gov

LIVERMORE PreMedicare Open Enrollment Fairs

This fair is open to Sandia PreMedicare retirees and their dependents and will be held at 7011 East Ave. Bldg. 928, Livermore, Calif. Retirees and guests must register by calling 925-294-2161 or emailing saludca@sandia.gov by Nov. 1. Please provide both name and country of citizenship to be added to security gate list.

PreMedicare Open Enrollment Benefits Fairs Sandia/California, Building 928	
Date	Wednesday, November 6
Fair Time	11 a.m.-1:30 p.m.
Presentation Time	9:45-11:15 a.m.
Presenters	Extend Health/Marsh Kaiser Permanente Blue Cross Blue Shield of New Mexico UnitedHealthcare

LIVERMORE Medicare Open Enrollment Fairs

This fair is open to Sandia Medicare retirees and their dependents and will be held at 7011 East Ave. Bldg. 928, Livermore, Calif. Retirees and guests must register by calling 925-294-2161 or emailing saludca@sandia.gov by Nov. 1.

Medicare Open Enrollment Benefits Fairs Sandia/California, Building 928	
Date	Wednesday, November 6
Fair Time	11 a.m.-1:30 p.m.
Presentation Time	8:30-9:30 a.m.
Presenters	Extend Health/Marsh Kaiser Permanente

The following representatives will be available during the entire fair:

- Extend Health/Marsh
- Blue Cross Blue Shield of New Mexico
- UnitedHealthcare
- Kaiser Permanente
- Express Scripts
- Davis Vision
- Delta Dental

Retirees are welcome to arrive before the presentations begin or stay after they end to speak with representatives from:

- Extend Health
- Kaiser Permanente
- Davis Vision
- Delta Dental

KNOWLEDGE
 You and Sandia = Total Health
POWER

A quiet campaign ECP has a low-key, but vital, launch



SANDIA PRESIDENT AND LABORATORIES DIRECTOR PAUL HOMMERT spent time with children and staff at PB&J Family Services in Albuquerque, a United Way-supported agency that helps at-risk children grow and develop to their full potential.

(Photo by Lloyd Wilson)

By Nancy Salem

Sandia's Employee Caring Program (ECP) is underway with fewer supporting events but as strong a philanthropic mission as ever.

"The campaign is still very, very important," says Kelly Westlake, manager of Business Operations Support Dept. 10586 and this year's ECP campaign chair. "We're not going to have the big promotional activities, but it is meaningful as ever and proceeding for success."

With a Sandia shutdown looming due to a federal budget impasse on Capitol Hill, several ECP events were canceled or postponed as the campaign launched on Oct. 7. The deadline for donations was extended from Oct. 25 to Nov. 8 to give employees time to assess their personal situations in the event of a shutdown, Kelly says.

"I recognize the environment we're in and the emotional distress people are facing, but hopefully when the federal government resolves this issue, Sandians will realize now is the time to help those most vulnerable," Kelly says.

VP Pamela Hansen Hargen of Div. 3000 says difficult situations can create greater need. "With all the challenges our nation is facing today, including many of



our own New Mexico residents, a greater number of people will have a need for continued services and may be seeking help from United Way for the first time," she says. "Sandia has a long-standing reputation for giving back to our community. With your generous contributions, either as an ongoing contributor or first-time giver, we can continue that legacy."

At *Lab News* press time, 56 percent of Sandians had pledged more than \$4.2 million to the ECP through recurring donations and the give.sandia.gov website. "Even in a typical year this is what the first week looks like," says Pam Catanach (3651), the Community Involvement specialist who coordinates ECP activities. "I am optimistic we will have the best part of our campaign in the weeks closer to Nov. 8."

Last year Sandia became the first New Mexico company to top the \$5 million mark in a single campaign when employees and retirees gave \$5,508,717, a 17.1 percent boost over 2011.

This year's ECP goals are:

- Donate at least \$5.75 million, a 3 percent increase over last year.
- Raise participation rates in every division from the 2012 baseline.
- Achieve overall Labs participation of greater than 75 percent, up from 73.6 percent last year.
- Continue to engage new employees (<5 years) in Sandia's culture of giving by increasing their participation from 58.6 percent to at least 65 percent.
- Increase contributions to the Community Fund by at least 10 percent, or about \$150,000. Last year 28 percent of Sandia donations went to the Community Fund.

Fundraising book fairs have been held since early October to support the campaign. A final book fair is scheduled for Oct. 22-24 in the IPOC second floor break room from 10 a.m.-2 p.m.

Pam Catanach says ECP center representatives will

reach out to people who do one-time donations instead of recurring, and newer employees who might not have signed up. There is also an active retiree campaign. "Giving is a tradition that doesn't stop when an employee leaves Sandia," she says. Last year, retirees gave \$750,000 to the ECP.

Donations can be directed to any nonprofit worldwide or to the Community Fund, which supports a range of agencies and programs addressing self-sufficiency, health, and education. All United Way of Central New Mexico (UWCNM) administrative expenses are covered by companies that direct their gifts to the Corporate Cornerstone program, so 100 percent of employee donations go to the chosen nonprofits. Employees can make changes to their donation online by Nov. 8 and later in the year using a paper form.

Since the ECP was launched in 1957, Sandia has been the single largest supporter of the UWCNM's annual campaign, donating more than \$76 million.

Kelly says the ECP campaign will forge ahead and reach the ultimate goal helping those most vulnerable once the federal budget issues are resolved. "It's at times like these that Sandians come through," he says. "We really understand the needs in our community and continue to deliver."



EXECUTIVE VP AND DEPUTY LABORATORIES DIRECTOR Kim Sawyer worked with children at the Boys & Girls Clubs of Central New Mexico. The educational program supported by the United Way serves about 1,000 at-risk kids at its Albuquerque and Rio Rancho centers. (Photo by Lloyd Wilson)

Grief center teaches kids — and adults — they aren't alone

By Nancy Salem

Dara Kaufman left behind a husband and three children when she died of cancer in 2007 at age 48.

The family was devastated. As her husband, Sandian Steve Kaufman (241), made funeral arrangements he heard about the Children's Grief Center, a place where kids and adults can share feelings and experiences while grieving a death.

"It was designed for children who had lost a family member, but because they needed someone to get them there, parents' groups formed as well," Steve says. "The real power of the organization is that nobody understands what you've been through except somebody who's been through it themselves."

"I felt this was a good way for me and the kids to do something together."

Steve's children joined peer groups while he was introduced to seven other adults who had lost a spouse. For nine months they got together once a week to talk, guided by trained facilitators.

Steve says the center helped his children, but that he might have gotten more from the program than they did. "I was able to relate to other men who had been through the same thing," he says. "I grew close to two guys who had lost wives to cancer. Our experiences were similar."



Steve Kaufman (241) says the Children's Grief Center helped his family heal following the loss of his wife to cancer. (Photo by Randy Montoya)

The encounters taught Steve and his children they weren't alone. "For my kids, seeing other people in the same situation was helpful to them," he says. "They saw they were not the only kids in the world who had lost a parent."

Steve says he has fond memories of the program and the people. "It's about talking it through. The facilitators are not psychologists. They're not trying to fix you. They provide a safe place where kids and parents can talk to people who know what it's like to lose a family member. And there's an awful lot of power in that. It certainly helped us."

The Children's Grief Center is a nonprofit organization supported in part by the United Way of Central New Mexico. Its peer support groups, started in 2001, are offered free of charge to grieving children, teens, and adults for as long as needed.

The center, which receives no state or federal funding, has two locations, one in Albuquerque's North Valley and the other in Rio Rancho. It served 429 people last year.

The program operates on four principles:

- Grief is a natural reaction to loss of a loved one for children and teens as well as adults.
- Within each individual is the natural capacity to heal oneself.
- The duration and intensity of grief are different for each individual.
- Caring and acceptance assist in the healing process.

"For the children, we do physical activities, board games, and crafts to help remember the person who is gone. We make memory boxes, memory candles, and stepping stones to help them talk," says Kelly Geib-Eckenroth, senior program coordinator. "Our goal is to get children to express their feelings."

More information is available on the group's website, www.childrensgrief.org.

I give because . . .



TIFFANY LONG

"The Employee Caring Program provides a quick and easy way for me to support organizations that are making an impact in my community, my family, and my life."

— Tiffany Long (851)



RACHEL HURD

"I give to ECP because it makes me feel good that I am able to help people and animals who are in need. Everyone deserves to have a helping hand when they need it and with ECP I am able to provide that for them."

— Rachel Hurd (2128)