

The Communicator – November 2013

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Congressman Eric Swalwell visits Sandia/California

Congressman Eric Swalwell (CA-15th), Ranking Member on the House Science Subcommittee on Energy, made his third visit to Sandia/California on Sept. 23. Sandia leadership and staff briefed him on the site's stockpile modernization and transportation energy programs, and he toured two laboratories in the Combustion Research Facility. Swalwell closed his visit with a well-attended all-hands meeting and question and answer session.

At the all-hands meeting, Swalwell spoke on a range of topics, including climate change, same-sex marriage, immigration reform, corporate tax rates, the Affordable Care Act, Laboratory Directed Research and Development (LDRD) funding, and the government shutdown, which was still a week away on the day of his visit.

"To have an America in prosperity, we need to make measured investments in the future, which you are doing here at Sandia through your LDRD program," he said. "You are answering the call of your national security mission, and with LDRD funding, you are able to invest in the future. You have produced some great research that has advanced the cause of science and benefitted the country."

Swalwell encouraged everyone at Sandia to tell the story of the complete body of work done at the site. "I think the best thing you do here is not solely maintaining the weapons stockpile, which is critically important to our national security and military readiness, but also the technology that is developed through that work, which can be applied to problems that affect everyday consumers. A great example is the Combustion Research Facility," he said.



Transportation Energy Center Director Bob Carling (8300) gives Congressman Eric Swalwell an overview of transportation energy research happening at the California site. (Photos by Randy Wong)



Congressman Eric Swalwell speaks and answers questions at an all-hands meeting during his Sept. 23 visit to the California site.

SpinDX, Sandia Cooler win FLC awards

SpinDX and the Sandia Cooler were recently honored with Outstanding and Notable Technology Development Awards from the Federal Laboratory Consortium (FLC). Sandia won a total of five FLC awards from the Far West/Mid-Continent regions, the most that the organization has won at one time.

Self-Assembled Multifunctional Optical Coatings (SAMOC) also won an Outstanding and Notable Technology Development Award. Outstanding Regional Partnership awards were 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), the Department of Homeland Security (DHS), and Sandia for the development of cargo container security technologies. For more on these projects, see Nancy Salem's Oct. 18, 2013, *Sandia Lab News* story.

[<http://www.sandia.gov/news/publications/LabNews/archive/13-18-10.html#1>]

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.

"In a doctor's office, time is money," says Anup Singh (8620), senior manager of Biological Science and Technology. "Patients have become accustomed to an initial visit, some tests, samples that are sent off to a faraway 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 nonmedical applications, ranging from the detection of infectious-disease markers to food and water safety testing. SpinDx can quickly complete a variety of lab screening tests and can 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.

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 United States by more than 7 percent.

The Sandia Cooler takes heat from a conventional central processing unit (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.

The FLC, a nationwide network of more than 300 members, 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; these awards have become some of the most prestigious honors in technology transfer.



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New memorial plaque dedicated

Division 8000 Vice President Steve Rottler 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.



Jim Lund (8130), Carole Le Gall (8005), Dave Chandler (8300), and Sarah Allendorf (8650) pay their respects to the memories of Sandians who died while working at the site. (Photo by Dino Vournas)

My life as a mystery writer and police volunteer

By Carole Price

When I retired from Sandia in 1998, murder had never entered my mind except for in the mysteries I loved to read. Two years later, I started a new adventure after talking with author Penny Warner at a book signing. She invited me to join her critique group, and my mind started thinking of new ways to kill people off in prose.

Since that day, much has happened. I wrote my first mystery novel, set in Martha's Vineyard. After receiving my share of rejection letters, I retired that book to the far reaches of a file drawer.

I then stumbled upon the inspiration for my next book. My daughter had moved to Ashland, Ore., home of the famous Oregon Shakespeare Festival, and my husband and I attended several plays while visiting her. Simply put, I fell in love with the Bard and the theater, signing on for a behind-the-scenes tour and later interviewing someone from the festival. I was completely hooked and started to write a Shakespearean mystery set in Livermore's wine country. This novel would become *Twisted Vines*, my first published book.

If I was going to write mysteries, I realized that I needed to understand police procedures. So in 2003, I graduated from Livermore's Citizens Police Academy <www.cityoflivermore.net/citygov/police/academy.asp> and became a volunteer with the Livermore Police Department.

I now help the traffic department by tagging abandoned vehicles (those that have not been driven for 72+ hours). Every Monday, dressed in my navy and khaki uniform, I pick up a radio, keys, and call-ins. I then hop into a volunteer police car and head out to work. I'm the eyes and ears of the police department while I cover my beats – the two city sectors that I monitor for abandoned vehicles. Fortunately, I've only had to radio dispatch a few times for officer assistance.

The Livermore Police Department has been very supportive of my writing and generous in answering my many inquiries about police procedures. My research is fun. During roleplays with the special weapons and tactics (SWAT) unit, I've been shot at (with paint guns), handcuffed, and tossed to the ground.

In 2011, Five Star Publishing offered me a contract for *Twisted Vines*, the first in my Shakespeare in the Vineyard mystery series. Published in August 2012, *Twisted Vines* takes place in Livermore with a few scenes (just talk, no murders) in an interview room inside the Livermore police station. My publisher has specific rules for using the name of a real town or city; permission is required for every "real" name/place that appears in a scene with action. To meet this requirement, I consulted with the Livermore police chief. He then asked the city attorney to grant me written permission to use one of the police department's rooms in my book as long as my text didn't portray the police department or Livermore in a negative light.

Twisted Vines tells the story of crime analyst Caitlyn Tilson Pepper, who inherits a vineyard and two Shakespearean theaters in Livermore from an unknown aunt and becomes a target for murder. Cait's

investigation into the life and death of her aunt, a famous Shakespearean actress, forces her down an ever-darkening road paved with familial lies, devastating secrets, and multiple murders.

Since the consolidation of publishers and the disappearance of independent bookstores, authors are required to actively promote their own books. Last fall, I joined three other authors for a book tour of San Francisco Bay Area bookstores and libraries to promote our books. I also accepted an opportunity to be part of a panel at a mystery writer's conference in my home state of Ohio. In addition, I am rewriting my first book, the one set in Martha's Vineyard and hope to have it published soon.

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*Carole Price worked as an administrative assistant from 1981 until she retired in 1998. Following retirement, she contracted for DOE and returned to Sandia as a contractor for a 10-month stint. Her first published mystery, *Twisted Vines*, is available at Amazon, Barnes and Noble, and Bay Area bookstores and libraries. *Sour Grapes*, the second book in her Shakespeare in the Vineyard mystery series, will be released next year. You can learn more about Carole's mysteries at her website: <http://carolepricemysteries.com>. She is also a monthly blogger at <http://theladykillers.typepad.com>.*

