BlackBerrys to be allowed in tech areas
Sandia is first lab in complex to establish limited area usage

By Julie Hall

If you’ve seen someone talking on a BlackBerry recently inside Sandia’s limited area, don’t be alarmed. While general use of cell phones (including smartphones) is still prohibited “behind the fence,” the first stage in a phased introduction of Sandia-owned BlackBerrys into limited areas at the New Mexico and California sites is under way.

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A primary goal of the effort, he says, is to empower the workforce with a secure means of communication that can lead to higher levels of productivity with existing staff and resources. The intent is to eventually replace all government-issued cell phones with Sandia-issued BlackBerrys.

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“I think the use of these devices at the laboratory will probably explode and I think it will be a game changer,” Scott adds. “It’s all about a team having a vision about having BlackBerrys in the tech area and seeing that vision come to fruition properly configured, Sandia-owned BlackBerry devices are now being allowed into limited areas. Authorized devices have a credential icon, as seen on the left of the screen above. (Photo by Randy Montoya)"}

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That’s that

A few weeks back, I wrote admiringly of Div. 1000 VP Steve Rotter’s continued self-identity as an engineer. And I noted that I – despite having a job history that reads like the duct jacket blur of a first-time novelist – still consider myself a writer. In that column, I asked readers how they self-identify and got some nice responses. My favorite is the one I got from a reader whom, for reasons that only he and I know, I’ll call Delbert Mace.

“I always self-identify as an engineer,” wrote Delbert. “If the context calls for it, I’ll elaborate and call myself a civil engineer, a nuclear engineer, a civil engineering contractor, etc. It’s a short explanation that satisfies everyone and at one time it was actually true. When I think about all that I do here at Sandia that isn’t really engineering and how it outweighs the work that I do, I think I should find a more accurate title for myself. I’ve settled on Employee. If I ever use up all those business cards on which I wisely did not print my department number, I’ll make that title,” I liked, Delbert.

Along these lines, my wife remembers that when she was a little girl she had to fill out a form at a local school about what her parents did. Now, her father – her father-in-law – was a naval aviator, but somehow I guess that didn’t sound like a real job to my wife when she was seven or eight years old. So I put in the place on the form that asked her what her dad did, she wrote “worker.”

To our kids, maybe that’s what we are, regardless of what we call ourselves — engineers, writers, accountants, physicians, custodians, and cooks — we’ll do what we have to. And when all is said and done, we’ve done a pretty good job around here over the past 60 years. You might even say exceptional work.

... I wrote a while back about the little frustrations you go through in changing Kerberos passwords. I was old long ago and was always short expired and when I want to generate a new one – Volla! I got a nice letter number combination on the first screen. Felt like hitting all sevens on a slot machine. That gave me an idea: How about this for a cool Kerberos application? It’s designed so that you pull a virtual “handle” to spin up a new number, which would show up like the numbers on a slot machine. And here’s a wrinkle to make it interesting: You only get a certain undisclosed and random number of pulls. So you have to decide whether to take the Kerberos password that comes up or spin again, hoping for a better one. This is, if you run out of spins (and you never know when that’s going to happen) you’d get stuck with the last offering no matter how bad it was.

... Anyhow, I got this nice new password but here I am three weeks later, still wanting to type in my old password. Anybody know how long this muscle memory stuff lasts? It’s driving me nuts.

Sandia has found its way to the New York Times bestseller list. Sort of. Got a note from Dell Bayers, a senior research librarian over in the Technical Library. She’s gone across a reference to Sandia in Dan Brown’s new book, “The Lost Symbol.” Brown, you may recall is the author of the Da Vinci Code, which only sold umpteen million copies. It’s a sure bet this new book will sell well, too, getting Sandia’s name out in front of a lot of people. The passage — on page 231 of Dell’s edition of the book — mentions a Sandia-developed nonlethal technology that can measure protein complex formation and protein networks. (Photo by Lloyd Wilson)

Sandia’s Jerilyn Timlin earns NIH award for research into protein interactions

By Mike Janes

Sandia chemist Jerilyn Timlin (8622) has been presented by the National Institutes of Health (NIH) with a New Innovator Award. The $1.5 million award is the first NIH career grant given by the NIH this year. The award encourages researchers to explore bold ideas that have the potential to catalyze fundamental and speed the translation of research into improved health.

Jerilyn received the award for her project, “New and improved measures of protein dynamics and interactions at extreme resolutions.” The work aims to develop state-of-the-art technology that can measure protein complex formation and protein networks in a multiplexed fashion with spatial resolution beyond that of the optical microscope.

“I’m so grateful to have this opportunity to equip the field of biological imaging with a new analytical tool for visualizing and quantifying multiple protein interactions,” Jeri says. Jeri’s award is for $1.5 million over five years.

“As one of only 55 Innovator Award recipients nationally, this is a tremendous accomplishment for Jeri personally,” says Glenn Kubitko, director of the Center 8600 and the Sandia Bioscience Research Foundation. “It is also a very significant confirmation of the continuing maturation of Sandia’s bioscience capability.”

NIH has granted 115 awards under three innovative research programs supported by the NIH Common Fund's Roadmap for Medical Research. The Common Fund supports cross-cutting, trans-NIH programs with a particular emphasis on innovation and risk-taking.

“The appeal of these programs is that investigators are encouraged to challenge the status quo with innovative ideas, while being given the necessary resources to test them,” says NIH Director Francis S. Collins. “The fact that we continue to receive such strong proposals for funding through the programs reflects the wealth of creative ideas in science today.”


Sandia National Laboratories

Lockheed Martin

Society of Vacuum Coaters Technical Conference in Albuquerque Nov. 3-5

The Society of Vacuum Coaters is holding its inaugural Technical Conference (TopCon) Nov. 3-5 at the Albuquerque Marriott. The conference focus is on “Advanced Coating Technologies for Corrosion/Erosion and Decorative Coatings — Alternatives for Electroplating Techniques.”

The conference will discuss existing and potential applications of advanced coating technologies to high-volume and demanding applications in various industries. It will also offer a unique forum for discussing these subjects from both fundamental and applied industrial perspectives. Particular emphasis is being given to alternative technologies, which are aimed at replacing toxic chemicals with methods that are compatible for use in air/water/food and energy/military, and consumer products.

The technical program will open Nov. 4 with a presentation by keynote speaker F. Doug Wall, manager of Corrosion and Electrochemical Sciences at Sandia National Laboratories. His presentation, “The Role of Corrosion Resistant Materials in the License Application for a Repository at Yucca Mountain,” will be followed by a session on the role of coatings on various industries. The session will be organized by Dr. Ken Decker, research scientist at Sandia National Laboratories. The speakers will present their views on the conference program. The conference will continue with a discussion of the conference.

Sandia Retirees are invited to attend the TopCon conference. For more information, visit https://www.svc.org. See our Public Information page on the TopCon site for more information.

Retail deaths

Elaine F. Brooks (age 85) — March 29
Elizabeth A. Dierchr (86) — April 25
Harry R. Guest (90) — Aug. 9
Perry K. Lovell (81) — Aug. 21
William E. Caldes (87) — Aug. 25
G. Lawrence Lane (74) — Aug. 26
Antonio Skender (81) — Aug. 28
Jose A. Chavez (84) — Aug. 30
George J. Svitava (86) — Aug. 31
Gerald W. Bollig (70) — Sept. 4
R. Stanton Reynolds (85) — Sept. 9
Manuel Archuleta (75) — Sept. 10
Richard J. Miller (87) — Sept. 11
Charles T. Duffy (87) — Sept. 19

Lab News reader service

The Sandia Lab News is distributed in-house to all Sandia employees and off-site contractors and mailed to all Sandia retirees. Sandia Lab News reaches everyone in industry, government, academia, nonprofit organizations, media, and private life who request it.

Retirees (only): To notify of changes in address, contact Benefits Dept. 3312, Customer Service, at 505-844-8727, or call 505-844-8727, or visit the Sandia National Laboratories, Albuquerque, NM 87185-1021.

SANDIA'S APPROACH WITH THE RDCDS begins with venue selection and moves ahead systematically. The process typically includes a full threat and vulnerability assessment of the venue, and we need to figure out the possible and likely attacks on that venue,” he says.

“What exactly are we protecting against? What options do the venue operators currently have that can take those threats off the table? Those are the kinds of questions we’re asking, and only then can we determine what elements from the RDCDS we can provide that will enable venue operators to execute the proper responses.”

For example, Nate says, consider a typical football stadium packed with some 60,000 spectators. A detection system, all by itself, might adequately detect a dangerous chemical release. But if it hasn’t been determined previously just how long it will take to evacuate the stadium, the detectors could prove useless if not enough warning time for emergency personnel has been allowed to usher fans out of the venue in a safe and orderly fashion.

To address these and other issues, DHS has directed Sandia’s emphasis, however, isn’t merely focused on developing RDCDS’s full capability on its behalf by executing two pilot exercises, says Nate Gleason (8125), event organizers are interested in the system’s ability to quickly deploy a video monitoring system consisting of a full suite of cameras, video recording and networking capabilities.

“The goals are to stream live video directly to exercise controllers and to record the proceedings for analysis later on,” says Nate. “The RDCDS can conduct its video surveillance activities remotely, and Sandia will likely have a staff member on site during the exercise in order to more effectively communicate with controllers.

SANDIA'S RAPIDLY DEPLOYABLE Chemical Detection System (RDCDS) includes multiple overlapping detection technologies and live video. Here, Steve Orth (8125) adjusts a detection module while a video camera looms in the foreground.

(PHOTO BY RANDY WONG)
Some tradeoffs necessary

The project stemmed from the efforts of the CIO’s office, the Safeguards and Security Center, and members of the California site to enhance productivity with a more secure means of communication than what is available with existing government-issued cell phones. The group's detailed risk assessment concluded that some functions of the BlackBerry would need to be disabled to meet the project’s security objectives.

As a result, users will find they’ll have to give up some functionality in exchange for being able to use their BlackBerry within limited areas. The security feature has already been disabled for all BlackBerry devices through the Blackberry enterprise server. If users want to take their Blackberry into the limited area, Bluetooth and camera/video recording functions (available on some models) will be disabled.

If users decide those functions are more important than bringing their Blackberries into limited areas, they may choose to not participate in the program, says Mike Gomez (9611), an information policy analyst overseeing the Blackberry project.

The modifications occur as part of the credentialing process. Before entering the limited area, BlackBerry users must complete user compliance training. Once training is completed and users agree to Sandia’s Blackberry Limited Area Rules of Use, Bluetooth and camera functions are disabled through the BlackBerry enterprise server. The rules of use define specific conditions that need to be met when using the device within limited areas, failure to comply with them may result in a security infraction.

Credentialed users receive a gold icon on their Blackberry, which are required to show if challenged for having a cell phone in the limited area. Clicking the icon displays information about the device and user.

Cell phones, iPhones are different

The introduction of BlackBerrys into limited areas does not necessarily mean a similar approach will be used with other types of cell phones, says Brian Bielecki, director of Safeguards and Security Center 4200. The intent is to eventually replace all government-issued cell phones with Sandia-issued Blackberrys.

A key difference is that Blackberry capabilities — such as Bluetooth, use of applications, etc. — can be managed centrally from the Blackberry enterprise server. Research In Motion, which introduced the Blackberry smartphone in 2002, has long targeted the enterprise market and places an emphasis on security for its devices, Mike says.

In 2003 the BlackBerry platform received Federal Information Processing Standards security certification from the National Institute of Standards and Technology — essentially giving the platform its nod of approval for meeting stringent government security standards, he says.

Sandia had to get approval from NNSA for its introduction of Blackberry devices into limited areas. After a number of previous attempts at gaining approval, a new effort was launched in the summer of 2008. The effort was a partnership involving the

Team members: Art Hale (1600), Brian Bielecki (4200), Brian Masood (8949), Pat Manke (9355), Mike Gomez (9611), Ken Kehaibone (9342), Robbie Evenoff (9342), Richard Pinsonneault (9342), Dallas Werner (5632), Stephen Le (8943), Gorald Lagasca (8943), Chris Birkig (9343), Jeremy Baca (9312), Sebastian Rael (9343), Curtis Hodge (9315), Ed Witcke (64432), Jerry Rudolfo (93335), Ken Bernier (9335), Mike Schaller (4210), Anthony Aragon (4242), Roger Showalter (42421), Dan Charleworth (51311), Kevin Faley (42421-1), Natalie Barnett (42422-2), John Long (9312), Scott Rogers (9329), Nicole Ballard (9343), Jarred Collins (9329), Marcia Jacob (8949), Matt Smitcher (9342), Herb Woeffler (8311)

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Diana de la Rosa honored for efforts to promote emergency management

Diana de la Rosa (4137) has received the New Mexico Emergency Management Association “Advancement and Promotion of Emergency Management” award. The award was presented at the recent NMEMA annual conference in Clovis, N.M.

NMEMA President Ken De Los Santos said, “According to the awards committee members, Diana was easily the winner amongst the others who were nominated for the award. She has done a great job of contributing not only to emergency management and NMEME, but also to local emergency planning committees.”

As winner of the NMEME award, Diana will serve on the NMEME Awards Selection Committee for next year.

Diana started work at Sandia in 1998 as part of the Radiation Protection organization and then moved to the Environmental Management program. In 2001 she became a member of the technical staff and joined the Emergency Management program.

For the past two years, Diana has been the lead for the off-site interface portion of the Sandia Emergency Management program, dealing with local, state, and federal agencies that interact with emergency planning and response at Sandia/New Mexico.

Michael Knavovich, manager of Emergency Plans and Support Dept. 4137, says, “We are very proud of the work Diana has completed in support of the Sandia Emergency Management program and are pleased that she is being recognized by her professional peers.”

In 2008 Diana was recognized at the annual DOE/NNSA Emergency Management conference in Reston, Va., when she was one of two recipients of the Excellence in Emergency Management award. The New Mexico Emergency Management Association gives out three major awards each year: Emergency Manager of the Year, Emergency Management Support Staff of the Year, and Advance- ment and Promotion of Emergency Management. An NMEME awards selection committee reviews the nominations from NMEME members and selects the winners based on performance and contributions in the field of emergency management.
Sandia at 60

Sandia National Laboratories’ 60th anniversary celebration at the Capitol Visitor Center in Washington, D.C., on Sept. 16 included remarks from a host of VIPs about Sandia’s significant role in helping protect Americans at home and abroad. Here are some of the highlights of what was said:

Tom Hunter, Sandia President and Labs Director
“As we celebrate 60 years of service, it’s worth pausing and asking the question, ‘What can we contribute further, what can we do to make this nation even stronger?’ When our grandchildren are here 60 years from now talking about the contributions this country has made to the world, they’ll know that the Department of Energy and Sandia National Laboratories have truly been noteworthy for more than a century.”

James Cicconi, AT&T Senior Executive VP
“This is where they take an idea and turn it into a result. And that’s what we’re all here to honor and respect.”

Dan Poneman, Deputy Secretary of Energy
“This [the national labs] is the incubator where you have the smartest people working on the toughest problems. These are not people who are just trying to max out their long-term income curve; they’re patriots and we really owe it to them to give them the acknowledgement, support and respect that they richly deserve.
“The president has been very clear that while we have a nuclear deterrent, we’re going to keep it safe, secure and reliable. Much of the work that keeps those words valid and true is going on at Sandia.”

Sen. Tom Udall, D-N.M.
“I spent 10 years in Northern New Mexico with Los Alamos, learning from them. It’s great now as a United States senator to also represent Sandia, to be able to learn from them.”

Sen. Jeff Bingaman, D-N.M.
“Our system of having national laboratories like Sandia is an example of how we’ve structured ourselves to allow people to do extraordinary things. I am here to congratulate all of you on this great anniversary and look forward to another 60 years.”

Sen. Byron Dorgan, D-N.D.
“It remains our commitment and must remain our commitment to be a world leader in science, engineering, and technology. And why is that important and related to Sandia? Because Sandia is one of our preeminent national laboratories. They are the crown jewels, in my judgment, of inquiry into science, engineering, and technology. Our weapons labs, our energy labs, our science labs are so unbelievably important to the future of this country.”

“The people who work at the labs are also great members of the community. They volunteer their time to education. So it’s not only about service to science and the nation, but service to the community, service to the people who live in their area.”

Rep. Martin Heinrich, D-N.M.
“Earlier this year I read the Congress’s Strategic Posture Review by William Perry and James Schlesinger. One of the most forceful recommendations they made in front of the House Armed Services Committee that I sit on is this idea that the president should designate our national nuclear labs as broader national security labs. And I would argue that Sandia is the prototype for that model as it exists today. In that role, Sandia has done more work for others than any other lab in directly addressing some of the most challenging national security issues facing our nation today.”
Laboratory Directed Research and Development

LDRD program casts wide, successful net, concludes D.C. symposium

‘For what you noticed when you were supposed to be doing something else’

By Neal Singer

The program best known by its initials — LDRD — was the subject of a tri-lab symposium on infrastructure security held in Washington, D.C., by NNSA in August. LDRD stands for Laboratory Directed Research and Development, a highly valued program of Sandia and other national labs.

“It’s the only program over which we have discretionary control in distribution of resources to aid our strategic sense of where we want to take the lab,” said VP Steve Rottler, new Chief Technology Officer (1000), whose address at the symposium focused primarily on cyber and energy security. “LDRD enables us to conduct high-risk, potentially high-value research in areas foundational to national security. We will be a forceful advocate for this work.”

“The program’s impact far exceeds its cost,” said Jamileh Soudah, director of NNSA’s Office of Institutional and Joint Programs and NNSA program manager for LDRD.

Return on investment

She told her D.C. audience that the LDRD 8 percent “tax” — the assessment charged on all NNSA labs projects, used to fund LDRD — “has produced 25 percent of the labs’ peer-reviewed publications, 35 percent of NNSA lab patents issued, and 60 percent of their R&D 100 awards.”

— NNSA official Jamileh Soudah

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The symposium’s rotating host this year was Sandia, which coincidentally also has the largest LDRD program of the three NNSA labs. This year, available funds at Sandia should be approximately $160 million, said Steve Rottler.

Sandia also was judged to have the best-of-show technology in a daylong 24-poster session culled by judges from 800 LDRD projects. Top honors were won by Chris Aplle (1815) and his team for a novel packageless battery that, by doing away with inert battery components, can enable more energy to be stored in four times less space.

Also presenting were NNSA researchers from Savannah River, Kansas City, and Pantex, who participate in PDRD (Plant Directed Research and Development) — similar to LDRD but with smaller programs.

The future of technology

Representatives from Livermore and Los Alamos national laboratories summarized their achievements on, respectively, climate change and bio threats, and electrical grid, gas networks, and border security.

Other presenters from NNSA, DoD, the Department of Homeland Security, and the Office of Science and Technology Policy spoke on the future of technology, defense from the point of view of external and internal challenges, and possibilities of external funding after LDRD monies cease.

(Continued on next page)
Laboratory Directed Research and Development

(Continued from preceding page)

clams, “Four times reduction in size is four times reduction in size,” said one judge of the indisputable, bird-in-the-hand, engineering triumph of a small light bulb lit and extended over and over by a battery as thin as a postal envelope held in Christ’s hand.

The genius of LDRD

Part of the genius of the LDRD program is that local control is valued. This intellectual independence is helped by the architecture of the program, which is not funded by any one agency but instead by a tax levied on all work performed by Sandians. This self-supporting funding gives the program an economic footing for its mental independence. This year, the assessment is expected to be 8 percent, as agreed to in the Energy and Water Appropriations conference on Sept. 30 and adopted by the House on Oct. 1.

Of course, independence is far from total, says LDRD program manager Hank Westrich (1011). Concern has high expectations for the impact of LDRD funding and NNSA has program oversight responsibility. “We’d be silly if we didn’t listen and consider their input,” says Hank.

The concept of discretionary research at DOE labs originated in the language of the Atomic Energy Act of 1954. The wording, modified in 1977, authorized the then newly created Energy Research and Development Administration (ERDA) to use “a reasonable amount of its operating budget for the funding of employee-suggested research projects.” The LDRD program itself was formally created in 1991 under the National Defense Authorization Act. Though funding for the employee-led approach has varied over the past 55 years, the concept of employee-led research has permitted researchers to propose their research insights to local management for funding and achieve unusually good results.

Projects are generated at the principal investigator level. They usually offer $500,000 per year in two- to three-year projects to selected researchers and $3 million to $5 million per year for so-called Grand Challenges. Progress is reviewed yearly, and funding can be terminated for a variety of reasons, including failure to reach milestones.

Sandia’s 2009 LDRD highlights imaginative research

Read the lists on this page to get an idea of some of the security-oriented, imaginative approaches funded this year by LDRD.

Award for Excellence winners (listed below), selected by Div. 1000 VP Steve Rottler, are eligible to compete for additional $50,000 projects.

Award for Excellence winners

“Explosives Detection by Photo-Ionization Ion Mobility Spectrometry”

The team successfully demonstrated a new generation of noninvasive ion mobility spectrometer using a novel approach of photofragmentation-ionization. Principal investigator: Thomas Rechatin (8128)

“Science at the Interface: Grain Boundaries in Nanocrystalline Metals”

Developing a fundamental understanding of grain growth in nanocrystalline metals reveals the formation of unexpected structures and suggests a novel answer to a decades-old problem. Principal investigator: Stephen Failes (1814)

“Data Mining on Attributed Relationship Graphs”

Advanced the state-of-the-art in the mathematics of tensor analysis and its applications to data mining problems of interest to the scientific and national security communities. Principal investigator: Tanara Kolda (8962)

“Novel Virus Coagulants for Water Treatment and Biomolecular Structural Science”

Substituting a single Ga⁺ for a ion in water-treatment coagulants produces much more reliable and effective reagent for removing waterborne contaminants. Principal investigator: Mary Newman (6736)

“Developing Key Capabilities for Quantum Computing: Trapped Ion and GaAs Approaches”

Through multidisciplinary and interdepartmental collaboration, this project has resulted in significant new infrastructure for developing and implementing device technologies for quantum computing at Sandia. Principal investigator: Matthew Binn (1723)

“Overcoming Jitter Effects for Remote Staring Sensors”

A new method was created for real-time detection of transient change in scenes observed by staring sensors subject to platform jitter and other real-world challenges. Principal investigator: Katherine Simonson (5353)

“Passive and Active Electromagnetic Frequency Selective Surfaces for High-Power Beam Applications”

Creating novel, configurable, electromagnetic meta-surfaces, materials-tensor instrumentation, and beam transmission measurement system for radar-cross-section reduction applications relevant to national security mission of the laboratory. Principal investigator: J. Jacques Loui (5343)

Poster presentations

A radiation microscope for SEE testing using >10 GeV ions - Georgy Vorobyev (1111)

A zero-power, motion-sensitive MEMS wake-up device — Roy Olson (1749)

Active cored-aperture neutron imaging — Peter Marleau (8132)

Advanced cathode and electrolyte for thermal batteries — David Ingeroll (2546)

Automated Monte Carlo biasing for photon-generated electrons near surfaces — Brian Franke (1341)

Computational and experimental platform for understanding and optimizing water flux and salt rejection in nanoporous membranes — Susan Renpe (8653)

Compositional ordering and stability in nanostructured, bulk thermoelectric alloys — Douglas Medlin (8656)

Computational mechanics for geosystems management to support the energy and natural resources mission — Charles Stone (1525)

Cosmic-ray hydrodynamics for land surface studies — Damin Deslets (6732)

Deployable pathogen diagnostic system — Ammon Hatch (8621)

Development and characterization of 3-D, nano-confined multilayered structures for advanced biotechnology devices — Bryan Keefe (1815)

Featureless tracking and locating — Karen Copeich Branch (3445)

High-temperature, large-format focal plane arrays for emerging infrared sensing applications — Jin Kim (1742)

Highly modeled hypothermal sensors for global awareness — Rex Kay (3719)

Host suppression and bioinformatics for sequences-based characterization of unknown pathogens — Todd Lane (8621)

Infrastructure for nondestructive real-time fingerprinting of integrated circuits — Todd Bauer (1746)

Innovative control of a flexible, adaptive energy grid — David Williams (6332)

Intelligent front-end sample preparation tool using acoustic streaming — Alvin Branch (1714)

Intelligent power controllers for self-organizing microgrids — Shannon Spiero (6312)

Interfacial electron and phonon scattering processes in high-magnification applications — Patrick Hopkins (1315)

“Novel Virus Coagulants for Water Treatment and Biomolecular Structural Science”

Principal investigator: Katherine Simonson (5353)

“Passive and Active Electromagnetic Frequency Selective Surfaces for High-Power Beam Applications”

Principal investigator: Katherine Simonson (5353)

“Developing Key Capabilities for Quantum Computing: Trapped Ion and GaAs Approaches”

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DURING A LAZAP TEST, Debra Yzquierdo-Trujillo keeps a close eye on the radar board, monitoring air support for the test ban treaty this night they’re going through a process that has been some 12,500 miles above the Earth. Through the atmosphere, illuminating the optical sensors into his headset microphone, querying his team: Safety. Laser. Mounted instruments and glowing LCD monitors, speaks quietly on well-oiled gears.

Once the target Vela was confirmed, the LAZAP team fired a laser at the satellite, illuminating its optical sensors, which were optimized to pick up ultrabright, ultrafast flashes of light — the kind of flashes that might characterize a nuclear blast. Since the LAZAP laser was being fired from a known location with known coordinates, testers could calibrate the sensors by comparing that known location with where the Vela satellite “thought” it saw the event. It was part of a suite of technologies designed to monitor the Vela satellite constellation. The Vela constellation was replaced in the 1980s by DSP satellites and the modern GPS satellite constellation. Both the DSP satellites and the modern GPS satellites carry optical sensors. And even though they are more advanced, capable, and sensitive than Vela-era sensors, they must still be tested and calibrated in the same way their Vela forebears were.

LAZAP TEAM laser expert Victor Chavez ensures that the project’s high-powered ruby and green lasers are performing at optimal capacity for a new round of calibration tests. LAZAP began in the 1970s to provide calibration data for the Vela satellite constellation. The LAZAP team creates light events that can be detected by optical sensors on board the satellites. LAZAP PROJECT LEAD Dave Denning studies a monitor that displays the orbital planes of the GPS constellation. Throughout its 35-year history, LAZAP’s primary customer has been the US Air Force NUDET Detection System Program, which owns the satellites that carry NUDET sensors, but the NNSA Office of Nonproliferation Research and Development (NA-22) and its predecessor in the Department of Energy, and other space-based optical sensor technology systems — as well as the case with the upcoming GPS Block III constellation — LAZAP will evolve to provide the necessary calibration and testing protocols.

It’s the space-based equivalent of making sure no aircraft are nearby. A quick check confirms: The window is open.

Tonight the group is firing a high-powered laser beam through the atmosphere, illuminating the optical sensors on a GPS Block II satellite on a path millions of miles above the Earth. As members of Sandia’s LAZAP (Laser Applications) team, this night they’re going through a process that has been going on for most of the past five years.

‘Standby, Safety. We’re making the move . . .’

Tonight, the laser beam is aimed straight up the slot in the dome, its pulsating, concentrated beam slicing the sky and visible all the way to the very edge of the atmosphere. Dave explains, “Light now, we do all our calibration testing with the ruby laser, but there are some potential advantages to using the green laser, so we’re doing some testing with it tonight.”

The Vela satellite “thought” it saw the event. If, for example, the Vela thought of this laser pulse was coming from, say, the vicinity of Amarillo, when it was actually originated in Albuquerque, controllers could build in this type of precision would be vital in pinpointing the location of a treaty violation.

The process was not unlike zoning in on a rifle, getting the crosshairs on the slot to correspond to where the bullet actually hit the target. The Vela constellation was replaced in the 1980s by the Defense Support Program (DSP) satellites and in the 1990s by the Global Positioning System (GPS). Both the DSP satellites and the modern GPS satellites carry optical sensors. And even though they are more advanced, capable, and sensitive than Vela-era sensors, they must still be tested and calibrated in the same way their Vela forebears were.

That’s why, on multiple-dark, clear nights each year, the LAZAP team is still working late, tracking, looking on, and laser-illuminating the latest generation of satellites that make up the space-based component of the nation’s nuclear detonation (NUDET) detection system.

“OK, we’re tracking. Safety. Are you guys good?”

Dawn Denning (5737), surrounded by a suite of rack-mounted instruments and glowing LCD monitors, makes a quick check of the optical sensors attached to her face.

“Team, I’m going to start shooting the ruby [laser]. I’m going to let the ruby out now.”

Once the target Vela was confirmed, the LAZAP team fired a laser at the satellite, illuminating its optical sensors, which were optimized to pick up ultrabright, ultrafast flashes of light — the kind of flashes that might characterize a nuclear blast. Since the LAZAP laser was being fired from a known location with known coordinates, testers could calibrate the sensors by comparing that known location with where the Vela satellite “thought” it saw the event. It was part of a suite of technologies designed to monitor the Vela satellite constellation. The Vela constellation was replaced in the 1980s by DSP satellites and the modern GPS satellite constellation. Both the DSP satellites and the modern GPS satellites carry optical sensors. And even though they are more advanced, capable, and sensitive than Vela-era sensors, they must still be tested and calibrated in the same way their Vela forebears were.

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And, says Dave, “As long as there are optical sensors on board American satellites, we’ll have an essential mission.”

A green light shoots from the dome onto the radar board, monitoring air traffic while the visual safety team outside continues to scan the skies.

The LAZAP team has an essential mission: to test and calibrate the optical sensor systems aboard American satellites, we’ll have an essential mission.”

A GREEN LAZAP shoots skyward as part of Sandia’s Laser Applications (LAZAP) project. LAZAP is high-powered laser beams as a part of a process to calibrate optical sensors on GPS and DSP satellites. Currently, calibration testing is done using a ruby laser, but because there are some potential advantages to using the green laser, the team is evaluating it during real testing conditions. In the unmarked photo, a green laser beam is visible to onlookers out to the very edge of the atmosphere.

On the radar board, monitoring air traffic, while the visual safety team outside continues to scan the skies.

Just as Dave is emphasizing that every member of the team can stop the laser firing at any time, he gets a call on his headset and an alert on the status board. One of the visual observers has put a hold on the test as an aircraft appears to be headed toward the quadrant of the sky where the laser is aimed. After a couple of minutes, the sky is clear again, Dave initiates another countdown. The test resumes and continues until the target GPS satellite moves below the horizon.

Later, Dave says the previous night’s tests gathered important data that will be useful in calibrating the space-based optical sensors. With a constellation of more than 30 GPS satellites and a number of DSP satellites still being used for NUDET applications, the LAZAP team has a busy and demanding schedule.

For the past several years the LAZAP project lead, is getting reports from his two visual-observer controllers and his radar controller. (The radar controller is working from a booth provided by a local FAA air traffic control center.) Visual and radar agree: The sky is clear. No aircraft in the vicinity.

Dave glides effortlessly on his wheeled office chair from one side of the control station to the other, checking data on an LCD monitor. It’s a chart displaying so-called predictive avoidance data, that is, windows of time when LAZAP will not inadvertently illuminate nontargeted satellites. It’s the space-based equivalent of making sure no aircraft are nearby. A quick check confirms: The window is open.

With everyone good to go, Dave says into his headset: “Team, I’m going to start shooting the ruby [laser]. I’m going to let the ruby out now.”

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‘Standby, Safety. We’re making the move . . .’
Researchers need simpler and more reliable ways to mix in tiny places such as micro-meter-sized channels. Jim’s discovery of how to mix tiny liquid volumes arose from LRDD-funded research directed at improving the sensitivity of the chemical sensors developed in his lab. That project, “Field-Structured Composite Stud- ies,” was a joint effort with Rod Williamson (now retired). While their LRDD project did not lead to the expected results, Jim and Rod were surprised by the wide variety of physical effects they discovered along the way, including magnetic mixing. These effects, Jim says, ended up being much more interesting and important than the original goal.

Since the project began, DOE’s Division of Mater- ials Science and Engineering, Office of Basic Energy Sciences, has now started a new project whose goal is to better understand the fundamental science of field-structured composites. So the program suc- ceeded even as it failed, and eventually Jim and PhD student Doug Read developed better ways to increase sensor sensitivity.

In Jim’s new method of mixing, when you turn on a particular kind of magnetic field, the magnetic particles suspended in the fluid form into chains — like strings of pearls — that start swirling around; that’s what does the mixing. The particles are then removed magneti- cally, leaving a nice mixed-up liquid.

More technically, the new mixing method, which Jim calls vortex field mixing, subjects a suspension of microscopic, magnetizable particles to a magnetic field whose direction is constantly spinning in a motion similar to a spinning top as it is about to collapse on its side, but much faster. In this “vortex field” the particles assemble into countless microscopic chains that follow the field motion, stirring every nook and cranny of the fluid. The vortex field stirs the liquid vigorously, and surprising fluid effects are possible, such as a kind of washing machine agitation where the spinning direction altern- ates periodically. Currently Jim, Lauren Rohwer (1715), and PhD student Kyle Soils (1112) work with the vortex field mixing, among other projects. Their experimen- tal report, pub- lished in the July issue of Physical Review, has gener- ated interest, including a Physi- cal Review Focus article and a Research High- light in the September MBS Bulletin.

This type of magnetic mixing with particles that assemble into micro-stir bars isn’t like the magnetic mixing you remember from high school chemistry class. “In your high school chemistry class,” Jim says, “when you mixed a beaker of water on a stir plate, underneath the plate was a permanent magnet spinning around to make the stir bar spin. If that hidden magnet suddenly became twice as strong, the magnetic field would double but you wouldn’t see any increase in the stirring at all.

“With our process,” he says, “if we make the mag- netic field twice as strong, the stirring becomes four times as strong because the stronger field makes the particle chains longer.”

With conventional stir-bar mixing you can increase the mixing torque by increasing the speed of the stir bar instead. It’s easy to do with a simple effect by simply holding the beaker slightly above the stir plate. In vortex field mixing increasing the speed of the wobbling doesn’t help, because the chains simply break into smaller pieces and the mixing torque doesn’t change at all. Vortex field mixing stirs just as effectively with mag- netic nanoparticles as with traditional micrometer-scale powders. In fact, excellent mixing torques have been obtained using 100 nanometer particles. This means even the tiniest fluid volumes can be mixed, as well as the largest.

As strange as these effects are, they were initially pre- dicted by Jim in a theory paper published in the Janu- ary 2009 issue of Physical Review. This paper also explains why a simple rotating magnetic field doesn’t induce mixing and predicts the optimal wobbling angle of the magnetic field.

Vortex field mixing requires only the modest mag- netic fields provided by simple wire coils that can be scaled to the size of the fluid cavity. Moreover, a researcher can trap the particles with a permanent mag- net, decant the mixed liquid, and recycle the particles endlessly.

The impact of this new method of mixing is hard to predict, but its applicability to fluid volumes of all shapes and sizes suggests many applications will follow.

But Jim’s lab has turned its attention to training mag- netic suspensions to effortlessly conduct heat in any desired direction.

This work was supported by DOE’s Division of Materials Science and Engineering, Office of Basic Energy Sciences.

Microfluidics

(Continued from page 1)

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**Microfluidics**

(Continued from page 1)

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— Researcher Jim Martin

Taming the email beast can save you time . . . and save the Labs more money than you might think

By Bev Ortiz (9342)

Email is a beast. Let’s face it. We all receive too much of it. We spend too much time during the day (or night or weekend) responding to it. It consumes us. Instead of a tool we use to facilitate communication, it has become our mas- ter and we its slave.

But what if you could save 15 minutes a day dealing with email? By the end of the week you would have saved 75 minutes. Doesn’t sound like much, but that is more than an hour you could dedicate to real work in one week. If you multiply that by the number of weeks you work in a year — say 46 — you now have made some serious progress; that’s 60 hours of real productive time in a year.

To identify specific needs and concerns, the team has created an email beast survey (http://tiny.sandia.gov/6zlxw) and encourages Sandians to complete it. The team intends to develop tips focused directly on specific con- cerns raised in the survey, and says it will find unique and creative ways to share them with the Labs. Possible venues for these tips might include a special time in a year.

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Believe it or not, it is possible to tame the beast. There are people at the Labs who are living proof that you can keep the beast in its cage.

**Effort began several years ago**

Believe it or not, it is possible to tame the beast. There are people at the Labs who are living proof that you can keep the beast in its cage.

The problem is not everyone knows the beast can be tamed. But right now a small group of people who are passionate about this topic are starting a grass- roots effort to spread the word to really get everyone at the Labs to believe, “I can tame my beast.”

The campaign, called Taming the Email Beast, is a continuation of an effort started several years ago by the CIO organization. Over the years, the cam- paign’s sole purpose has been to help people at the Labs in any way, shape, or form respond to the email beast that consumes them.

The campaign has produced the following:

- Mastering Email Beast class and time-management classes (http://info.sandia.gov/EmailBeast/) and time-management site
- Email beast video campaign (currently a work-in-progress)
- Taming the email beast video campaign (currently a work-in-progress)
- Email beast site (http://info.sandia.gov/EmailBeast/) and time- management site
- Ways to deal with email just once
- Ways to avoid cleaning out old email by hand
- Tasks — let Outlook keep track of things you have to get done
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According to survey input received so far, here are some of the time-saving tips people are seeking:

- Ways to avoid cleaning out old email
- Easy ways to streamline searching for email
- How to use rules to automate handling some email
- How to avoid cleaning out old email by hand
- Tasks — let Outlook keep track of things you have to get done

If you are interested in learning more about taming the email beast or even want to join the grassroots effort, contact Bev Ortiz (9342), Judy Sesma (6432), Cathy Sleetor (1623), Trish St. John (10613), Rosa Zalekas (10660-1), or Jeff Zirzow (6139).
By Iris Aboytes

I have been the Employee Caring Program publicity chairperson for the past few years. In that role, I’ve told you about young men, old men, young women, old women, babies, and lots and lots of beautiful children. I have written about my tour of various United Way agencies, but I have not told you why I give.

I grew up in northern New Mexico on a ranch with my parents Manuela and Gregorio Garcia, six brothers, and five sisters. One of my brothers and one of my sisters died as infants. One of my brothers was killed in an accident at age seven. One of my sisters died at 15. For a long time there were seven of us, but recently one of my brothers was overpowered by cancer.

To say my life growing up was full of ups and downs would be simplifying it. I can definitely say life was not boring. We had many challenges, but we also had many blessings.

Hard work was plentiful. Were we poor? No, I think we just did not have lots of things. We had enough to eat, a roof over our heads, warmth from a wood stove, and like my mom used to say, we had each other.

Christmas for us was a big pot of posole cooking on top of the stove. Santa Claus would have it ready for us to eat after midnight Mass. My mom used to say Christmas was good. We were all healthy, happy, and all together.

“What more could we possibly want?” she would say. Of course, we always thought of lots of things we wanted. She and my dad would just laugh. They knew we did not need them.

We usually welcomed each other’s hand-me-downs. My oldest brother would say that he was fortunate to be built differently than his older sisters. He did not have to wear the little one-piece railroad-engineer-like coveralls with the trap door that my sisters and I wore.

My dad would jokingly threaten him, but he never wore them.

I would be lying if I said that our family was generous. Summers were different. We had a big garden. My mother would say we had enough for everybody. I am not bragging, but we always had the biggest and sweetest melons and the crunchiest cucumbers. Our green chile was to die for. The tomatoes we would pinch and eat like apples. We ate like royalty; so did our neighbors.

That’s when life was good.

As we all grew older, we began having our own families. Today, we often discuss the old times. We don’t talk about life being harder, it was just different. We mostly laugh. Our family was not the only one experiencing hard times and blessed times. This story rings true with many of you. My story is not unique.

In later years, we would tease my mom about her treasure chest. It contained many medals, holy cards, and rosaries. They were gifts she received from many religious groups. She would send money in response to mail solicitations and receive her treasures in return. Each one of us owns at least one of her treasures. She took each request seriously and sent a donation. It wasn’t a lot.

“It is a sacrifice, Iris,” she would say. “We don’t make as many sacrifices as we should. These people need it more than I do. I have everything I need.”

So why do I give? Because, like my mother, now I can.

Can you?
Retiree medical plans 2010 and 2011 for Pre-Medicare and Medicare members — Frequently Asked Questions

Q: How will pre-Medicare and Medicare-eligible health plans work in 2010 and 2011? What if I have a combination pre-Medicare and Medicare-eligible family?
A: You and your spouse are each eligible for certain health care plans as listed below in the tables.

### Table A: 2010 Combo family plans

<table>
<thead>
<tr>
<th>Pre-Medicare Retiree Medical Plan</th>
<th>Medicare Retiree Medical Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandia Total Health administered by United Healthcare</td>
<td>Presbyterian Medicare Preferred Provider Organization (PPO) Plan (MM Medicare Advantage Plan)</td>
</tr>
<tr>
<td>UHC Premier PPO</td>
<td>UHC Senior Premier PPO</td>
</tr>
<tr>
<td>CIGNA In-Network</td>
<td>Lovelace Senior Plan (MM Medicare Advantage Plan)</td>
</tr>
<tr>
<td>Kaiser Permanente Traditional HMO (CA Only)</td>
<td>Kaiser Permanente Senior Advantage (CA Medicare Advantage Plan)</td>
</tr>
</tbody>
</table>

### Table B: 2010 Combo family plans (retired on or before Dec. 31, 2010)

<table>
<thead>
<tr>
<th>Pre-Medicare Retiree Medical Plan</th>
<th>Medicare Retiree Medical Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandia Total Health (administrato) to be announced in 2010</td>
<td>Sandia-sponsored Medicare Advantage Plan(s) (administrator) to be announced in 2010</td>
</tr>
</tbody>
</table>

### Table C: 2011 Combo family plans (retired on or after Jan. 1, 2011)

<table>
<thead>
<tr>
<th>Pre-Medicare Retiree Medical Plan</th>
<th>Medicare Retiree Medical Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandia Total Health (administrator) to be announced in 2010</td>
<td>Retiree provided an allowance to purchase individual Medicare Advantage Plan or Medicare Supplemental Plan in the marketplace</td>
</tr>
</tbody>
</table>

Q: Will UnitedHealthcare administer the Sandia Total Health and Sandia-sponsored Medicare Advantage plans? Will my provider be in the network in 2011? A: Sandia is required to do competitive source selection for medical plan administrative services contractors for both the Sandia Total Health and Sandia-sponsored Medicare Advantage program(s) for 2011 and beyond. Network provider (e.g., physicians and facilities) disruption issues will be taken into consideration during this process. The administrator selected will provide a national network (as it exists today) to accommodate retirees living in any state. The outcome of the source selection process will be announced in time for the 2011 Open Enrollment period, conducted in fall 2010.

Q: Will Medicare-eligible retirees need to enroll in Medicare Parts A and B? Can I have two Medicare Advantage Plans? A: You must be enrolled in both Medicare Parts A and B to be enrolled in a Sandia-sponsored or individual Medicare Advantage Plan. You cannot be enrolled in two separate Medicare plans. For example, if you enrolled in another group or individual Part D prescription drug plan, you cannot also enroll in a Medicare Advantage plan with prescription drug coverage.

An anomaly has been found

By Iris Abeytes

"An anomaly has been found." There was not much a woman wants to hear when she gets a mammogram. Yet those are the words Sandian Florence Christman (10244) heard.

Florence had seen the HBE notice about a mobile mammogram unit coming to IOPC in April. "I had no more excuses," says Florence. "I was a year overdue in getting the exam. Besides, the mobile unit would be parked in the IOPC parking lot. I made an appointment and feel fortunate I did.

A few days after her exam, she received a letter. An anomaly had been found. She went to her primary care physician, who recommended an ultrasound. The ultrasound detected "something." An MRI identified a slow-growing cancer. It was less than one centimeter in size. She was fortunate because it was caught early.

"I am very pragmatic," says Florence. "Had my cancer not been caught at this evolving. I was a year overdue in getting the exam. Besides, the mobile unit would be parked in the IOPC parking lot. I made an appointment and feel fortunate I did."

After the radiation, she will take pills (chemo) that are intended to destroy all the abnormal cells she might have in her body. "During my treatments at the New Mexico Cancer Center I have met many incredible women," says Florence. "We are all grateful that new treatments are constantly evolving.

"What I have learned is not to put anything off." — Florence Christman

The lumps were less than one centimeter in size. She was fortunate because it was caught early.

"I am very pragmatic," says Florence. "My focus was to deal with it, and get on with things." It took several weeks from the time she received the notice to having the biopsy and confirming she had breast cancer. The normal time from the initial tests to the operation to remove the lump is usually one month. However, Florence wanted more information before she decided which path to take. Therefore, the time period was pushed out a few weeks. Once she was well informed, she made her choice and scheduled the lumpectomy.

Florence’s healing after the lumpectomy took five weeks. She is now undergoing six weeks of daily radiation treatments. The radiation treatment takes only a few minutes and kills off any cancerous cells that may be hiding out in the breast. "The actual procedure takes less than 15 minutes," says Florence.

Benefits Choices 2010 Open Enrollment

- Nonrepresented (nonunion), MTC, and OPEIU represented employees — Oct. 19-Nov. 4, 2009 (5 p.m. MST)
- SPA represented employees — Dec. 1-3, 2009 (5 p.m. MST) (This change is due to union contract bargaining)
- Benefits Choices 2010 Open Enrollment for retirees, surviving spouses, and COBRA participants is Oct. 26-Nov. 10.

More information

Open Enrollment website (employees and retirees): http://hbe.sandia.gov
505-844-HBES (4237) or 1-800-417-2634, ext. 844-HBES (4237)
Hours: 7:30 a.m.-5 p.m. MDT

Who is eligible?

Any employee, spouse, or dependent covered under the UnitedHealthcare or Cigna health plans by Sandia can get a baseline mammogram once between the ages 35 and 39, and annually upon turning 40. High-risk women with an immediate family history (mother or sister) of breast cancer are eligible for an annual mammogram at age 25.

Retirees who do not have Medicare or any other primary insurance are also eligible. For covered dependents of retirees, the individual must meet the age criteria above and also would not be eligible if they have other primary insurance.

Note: Medicare covers mammograms but if you have other primary insurance that plan would pay first.

Who is not eligible

Dependents or individuals who have waived health care coverage through Sandia are not eligible for the mobile screening events held in New Mexico at this time.

Nursing mothers or mothers who have nursed in the last three months are not eligible.

Call Assured Imaging at 1-888-233-6121 to schedule an appointment. For more information go to eubenefits.custhelp.com/app/answers/detail/a_id/1519

Appointments are available from 8 a.m.-5 p.m.
- Oct. 27 - Juan Tabo at Candelaria Sandia Labs Federal Credit Union 3707 Juan Tabo Blvd. NE, Albuquerque
- Oct. 28 - Cottonwood Sandia Labs Federal Credit Union 3740 Ellison Rd. NW, Albuquerque
- Oct. 29 - Paseo del Norte Sandia Labs Federal Credit Union 8920 Holly Ave. NE, Albuquerque
- Oct. 30 - Los Lunas Sandia Labs Federal Credit Union 2700 Palmilla Rd. NW, Los Lunas

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Now you see it, now you don’t

Story by Iris Aboytes • Photos by Paul Silva

The top 85 feet of the Tech Area 5 stack, a 125-foot landmark near the entry to Tech Area 5, was removed in mid-September. The original stack was replaced in 1983 due to significant cracking. “The stack was a landmark and will be missed,” says Paul Silva (4824), “but it no longer supported Sandia’s mission.”

The annual maintenance costs, coupled with a potential safety hazard, provided the motivation to remove the upper portion. The maintenance was required because of structural damage incurred due to normal environmental factors (wind load). During high winds, the movement of the stack was definitely visible.

The stack is directly connected to the old Tech Area 5 Hot Cell ventilation system. The Hot Cell is in a cold standby condition with no foreseeable work. There are no other projects that would rely on the height of the stack. The exhaust stack is not connected to any active nuclear facility ventilation systems.

The stack modification project involved Sandia Facilities personnel led by Paul, Tech Area 5 personnel led by Norm Schwers (1381), ECI Construction, and Crane Services.

The stack was six feet in diameter and was made of quarter-inch and 5/16-inch steel plate. The fins at the top were spoilers, installed to disrupt air flow. The removed section of the stack weighed approximately 20,000 pounds.

The modification project was performed on the weekend to ensure low personnel occupancy during the construction activities. Before the activity began on Saturday morning, the operation had to be shut down due to prohibitive wind speeds. This reprieve for the stack was short-lived as the weather cooperated on Sunday, and the ECI and Crane Services contractors safely removed the stack in two pieces. Due to the high levels of air filtration in this ventilation system, all radiation surveys, inside and out, were contamination-free and the sections were subsequently sent to Reapplication.
Celebrating Hispanic heritage

Photos by Randy Montoya

SOUTHWEST MUSICIAN and recording artist Roberto Griego (above) performs for attendees at a Diversity Awareness Event celebrating National Hispanic Heritage Month. In the photo at right, a young performer from the group Mariachi Bernalillo samples some of the abundant food at the event, which was held in and around the Steve Schiff Auditorium on Sept. 29.

Hispanic Heritage Month recognizes the contributions of Hispanic Americans to the US and celebrates Hispanic heritage and culture. The observation, started in 1968 as Hispanic Heritage Week, was approved by President Lyndon Johnson; it was expanded by President Ronald Reagan in 1988 to cover a 30-day period starting on Sept. 15 and ending on Oct. 15.

Sept. 15 was chosen as the starting point for the celebration because it is the anniversary of independence of five Latin American countries: Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. They all declared independence in 1821. In addition, Mexico, Chile, and Belize celebrate their independence days on Sept. 16, Sept. 18, and Sept. 21, respectively. (From Wikipedia)

The Smithsonian Institution offers an online virtual tour celebrating Hispanic heritage. The tour offers an opportunity to learn more about specially selected objects from the Smithsonian collection — objects that tell a story about the nation’s Hispanic heritage. To take the self-guided, self-paced tour, go to the Smithsonian website at http://heritagetours.si.edu/hhm.html.

The 2009 Diversity Awareness Event celebrating Hispanic Heritage Month was held on Sept. 29 at the Steve Schiff Auditorium. The event, sponsored by the Hispanic Leadership Outreach Committee, honored the achievement of Hispanics and celebrated the independence of many Latin American countries. Just before 11 a.m. drums from the Abel Lucero Band invited all within their hearing to the festivities. The event had a great turnout, with Sandia, Air Force, and DOE employees enjoying the entertainment, food, and activities. In addition to the Abel Lucero Band, entertainment included Mariachi Bernalillo and New Mexico musician and recording artist Roberto Griego.

The Salsa, Chile, and Cultural Dessert Contest took place in the lobby of the Steve Schiff Auditorium. A panel of judges selected the winners, then tasting was open to all attending the event. Additional community outreach events celebrating Hispanic Heritage Month include the Sandia-sponsored Youth Art Contest themed “Our Culture, Our Destiny, Now and for the Future.”