



SANDIA RESEARCHER Jianyu Huang sits in front of a combination TEM-STM microscope similar to the one he used to image buckyball births. On the computer screen are images of flaws occurring in nanocylinders, a continuing area of research for Jianyu at the joint Sandia/Los Alamos CINT center. (Photo by Randy Montoya)

# Buckyball birth observed by Sandia CINT researcher Jianyu Huang

**Observation, simulation confirms hypothesis of Nobel laureate Smalley**

By Neal Singer

Almost everyone in the scientific community has heard of buckyballs, but no one until Sandia's Jianyu Huang (1132) had seen one being born.

A paper detailing the work was published in the Oct. 26 *Physical Review Letters* and immediately highlighted in *Nature Nanotechnology*, *New Scientist*, and *EETimes*.

Buckyballs — more formally known as buckminsterfullerene  $C_{60}$  — are carbon-linked nanostructures named for their resemblance to the geodesic dome macrostructures favored for their strength by environmentalist Buckminster Fuller.

In addition to the strength generated by their carbon-carbon bonds — “the strongest chemical bonds in Mother Nature,” says Jianyu, who still seems awed by the properties of the nanomaterial — the structure forms a relatively impermeable cage that conceivably could safely transport molecules of hydrogen for fuel, or tiny doses of medicine to targeted sites within the human body.



RICHARD SMALLEY

**Buckyball codiscoverer and Nobel laureate Richard Smalley had hypothesized that buckyballs are formed in this fashion, but at the time of his death in 2005 no experimental confirmation was yet available.**

But before their widespread use is possible, buckyballs have to be available in large numbers. To achieve that, a better understanding of how they form is crucial.

“We have now the first direct, in situ, experimental proof of the hypothesis — very significant to the scientific community — that these structures are formed by the heated ‘shrink-wrapping’ of carbon sheets,” says Jianyu.

That is, heating bends single-atomic-layer carbon sheets into nano bowls, and then adds more carbon atoms to the edge of the bowls until the formation of giant fullerenes — larger, less stable versions of the  $C_{60}$  molecule. Continued application of heat reduces these fullerenes — “shrink-wrapping” is the favored term — to the size of stable  $C_{60}$  molecules, the buckyball: the smallest stable arrangement of carbon atoms in that shape.

In further heating, the buckyball vanishes, further proof that the buckyball stage had been reached.

Buckyball codiscoverer (1985) and Nobel laureate

*(Continued on page 4)*

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### Yucca Mountain uses Sandia cognitive software to verify records management compliance

**Software finds relevant documentary material, including email messages**

By Chris Burroughs

*Note: The following story is part of a series of articles on Sandia's Cognitive Science and Technology Program.*

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Among the tasks required to license Yucca Mountain as a storage facility for spent nuclear fuel and high-level radioactive waste is for DOE to certify that it has made available to the Nuclear Regulatory Commission (NRC) — the licensing agency — all necessary “documentary material,” including emails, reports, and other correspondence.

But how do you weed through the thousands of documents and email records associated with the Yucca Mountain Project to determine which are relevant to licensure?

Yucca Mountain personnel found the solution in algorithms developed by Sandia's Cognitive Science and Technology Program.

They turned to a text analysis system built for the program that can quickly differentiate relevant documents from nonrelevant ones or to determine relationships between documents. Specifically, they are using



two software systems that perform different functions and generate different types of data — Licensing Support Network Archive Assistant (LSNAA) and Data Trace Tool. Both are part of STACY, a suite of tools used for document analysis.

LSNAA is helping validate the way text-based materials, like emails, are identified as relevant — i.e., pertinent to the licensing process. All of the documents are originally categorized by members of the workforce using guidance provided by DOE. LSNAA provides an automated means of validating that individuals are applying the guidance consistently and correctly.

**“A good [human] reviewer can look at 500 emails a day. That means to review 10,000 emails a day requires 20-person days. LSNAA . . . reduces the effort as much as 90 percent.”**

— Justin Basilico

“A good [human] reviewer can look at 500 emails a day,” says Justin Basilico (6341), who led design and development of the algorithms used in the STACY LSNAA. “That means to review 10,000 emails a day requires 20-person days. LSNAA saves time and money

*(Continued on page 4)*

### Retiree Irv Hall: Building lives one home at a time across the globe



Sandia retiree Irv Hall has been honored by International Habitat for Humanity as its volunteer of the year. The world-famous organization has called Irv its “global ambassador.” Read about Irv's latest efforts on behalf of Habitat in the story on page 8.

### EO to decide soon on how Sandia will meet FY08 FTE targets

By Chris Miller

Sandia's Executive Office (EO) this week began to analyze information gathered during the recent data call (*Lab News*, Nov. 9) and will soon decide how the Labs will meet its overall budget and FTE targets for FY08.

The data call, issued in late October, asked each division to identify “work that is not affordable this year and to identify potential opportunities to reassign individuals to other work that may be available in the Lab.” Based on changes in work within the Integrated Enabling Services Strategic Management Unit (IES SMU), as well as the FTE targets for the entire Lab set by the EO in August, there is a potential for 40 to 80 FTE involuntary separations this fiscal year, says Sandia Executive VP John Stichman. However, layoffs are a final step in an extensive process to match people with work,

*(Continued on page 4)*



### \$3.6 million and counting

Sandia employees and retirees have pledged a record \$3.6 million (so far) in the 2008 Employee Caring Program in New Mexico. California Sandians have increased their participation rate in the annual SHARE program. The stories about Sandia giving are on page 3.



### Fit Business award

California's Wellness Task Force has awarded Sandia/California's Preventive Health and Life Design Center (LDC) its coveted Fit Business Award, which recognizes efforts to create a healthier workplace. The story is on page 3.



### A transforming vision

NNSA senior official Marty Schoenbauer shared with a Sandia audience recently a vision for the nation's nuclear weapons complex that departs in key ways from the complex as it exists today. The story is on page 5.

## What's what

This is the penultimate time for me to write in this space and that may be a good thing because this column is supposed to be a little light, a little humorous, and in the current environment, it's hard to find much that's light or funny. I'm referring to our lab, Sandia, but the sober spirit also hangs over our colleagues at Los Alamos and Lawrence Livermore.

Unable to agree on a true budget, Congress has extended the continuing resolution that provides stopgap funding until mid-December, providing another month at last fiscal year's funding levels. With the holiday season approaching, and absence from the legislative halls likely to be more common than attendance, it's uncertain whether Congress will be able to extend the continuing resolution for yet another month, much less agree on a new budget to fund the nuclear weapons complex.

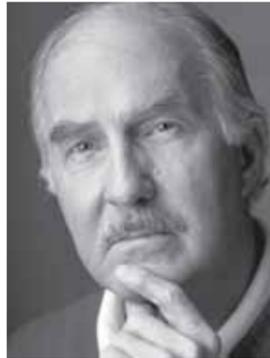
So we here at Sandia and our colleagues throughout the complex wonder about our futures and the futures of these legendary institutions where we work. Our colleagues at Lawrence Livermore got the news last week that 500 of them will soon be out of jobs, and that there will be more to follow. And just this week, Los Alamos announced it will lay off up to 750 employees. All of us have read the newspapers and watched the television news reports predicting that funding for all of our labs and other facilities will decline, forcing the loss of hundreds – and more likely, thousands – of jobs. Even so, it's a shock once the blunt, unequivocal finality actually materializes in print and word.

Unlike at Lawrence Livermore and Los Alamos, the blunt finality hasn't shocked us at Sandia yet, but the conviction that it will happen can be overheard in quiet conversations around coffee pots and water coolers and cafeteria tables and parties for soon-to-be retirees. The common denominator of the complex is bright people, from the PhD technical corps to the administrative offices to the keepers of the infrastructure. These bright people know that if they see and smell smoke, there's almost certainly a fire somewhere. And they fret over whether when they see and smell that smoke, it'll be their job that's creating it.

So, they worry whether they'll have a job a year from now, and if they don't have, how they'll keep their homes and educate their children and ensure some level of comfort for themselves and their mates when they want or need to retire. And while worry over personal fate trumps during this time of uncertainty, most of us have always thought of ourselves as part of the whole in the grand role of helping safeguard the nation's security – whether we have our hands on weapons or supercomputers or purchase orders, insurance forms, steering wheels, or any other of the hundreds of things that comprise the symbiotic reality of the complex.

It's a nervous time, a time when light or funny just isn't in the script.

– Howard Kercheval (844-7842, MS 0165, hckerch@sandia.gov)



HOWARD KERCHEVAL

## Sandia plays role in GAO airport bomb-smuggling assessment

By John German

Sandia played a key role in a government assessment of explosives screening procedures at US airports that made national news last week.

In the study, Government Accountability Office (GAO) investigators smuggled liquid explosives and other bomb-making parts through security checkpoints at 21 US airports. Materials to make the homemade explosives used in the tests are commercially available to the public.

Jim Phelan of Contraband Detection Dept. 6418 says Sandia formulated and demonstrated the explosives used in the GAO study at the request of the Department of Homeland Security (DHS). The GAO is the watchdog arm of Congress.

"They needed help in determining the correct liquid explosive formulation that would detonate using a non-traditional detonator," says Jim.

### GAO cites security policies

He says Sandia did the work in July. Last Thursday, the results of Sandia's involvement were discussed briefly during testimony in a session of the House Oversight and Government Reform Committee. Video of an explosives demonstration conducted at Sandia was shown during the hearing. (The video is available at <http://ln.sandia.gov/demo-video>; Sandia's is the second of the three demonstrations shown.)

The GAO's report, which referred to Sandia only as "a national laboratory," said airport transportation security officers generally followed procedures and used security screening technology appropriately; however, the GAO investigators were successful due to weaknesses in the security policies, it said.

The GAO suggested improving security and catching smugglers with "aggressive, visible, and unpredictable deterrent measures." Improved detection technology may also improve security, the GAO said.

Says Jim: "Sandia's mission includes a focus on solving problems that increases the security of US citizens and society. Our role is to support DHS and Transportation Security Administration (TSA) in defining the damage potential of homemade explosives and improving security systems needed to detect them."

## Labs champions, teams prepare for big DOE ES&H inspection

Preparations for the January DOE Environmental, Safety and Health Evaluations (HS-64) inspection have identified a number of areas where Sandia has improved its ES&H posture over the past few years, but have also brought to light segments needing additional focus, says Bob Brandhuber, senior manager for ES&H and Sandia's project lead for the inspection.

"The HS-64 inspection will let us benchmark the progress Sandia has made since 2003 and 2005, when we were inspected by the Office of Independent Oversight and Performance Assessment," Bob says.

Many people associate inspections with tough inspectors who look for shortcomings or areas needing improvement, but Sandia does not approach HS-64 that way, says Bob. "We see this as a means of showing ourselves, the Sandia Site Office, and the DOE inspectors the caliber of professionalism, the expertise of line and staff, and our enhanced ability and commitment to protecting our people and the environment."

Sandia has been going all-out in preparation for HS-64, with teams working under director champions focusing on every area subject to the inspection, says ES&H and Emergency Management Director Phil Newman. "So far, the support and preparation for the inspection has been impressive. The inspectors will be looking for evidence of line implementation of ES&H. We're confident that our teams will continue on their current path of confirming evidence exists, correcting any issues they find before the inspection where possible, and putting in place reasonable and appropriate corrective action plans where appropriate."

"Whatever we can do to demonstrate our commitment, execution, and integration of ES&H into day-to-day operations will contribute to the inspection's success," Bob says. "Feedback and Improvement and Work Control are two areas in particular where the inspectors will be observing members of the workforce. By taking a few moments to ensure that each of us is working in line with the Integrated Safety Management System [ISMS] system, we'll help ensure a positive inspection outcome."

— Debi Angeli & Robin Perini

## Sandia LabNews

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# Sandia named a 'fit business' by California Wellness Task Force

By Patti Koning

Sandia/California has met the gold standard, at least according to the California Fit Business Award. Earlier this month, the site's Preventive Health and Life Design Center (LDC) received the highest level of recognition in the program, which seeks and recognizes business models that promote a healthier workplace.

In a letter to site health promotion coordinator and educator Morgan Edwison (8527), state Sen. Tom Torlakson, D-Dist. 7, wrote that "your company is being recognized as a leader in California for the steps you have taken to ensure employee health."

The Fit Business

Award focuses on four main areas: "Eat Better," "Move More," "Promote Healthy Lifestyles," and "Create a Culture."

Morgan says providing better nutrition on the site has been a recent focus in response to negative feedback about the lack of healthy food choices. The LDC team partnered with Health, Benefits, and Employee Services to set about improving choices at the on-site grab-and-go deli, vending machines, and catering. The goal is to stock vending machines with at least 50 percent healthy, balanced choices. A further step is to increase the price of less healthy options.

Large posters at the on-site deli provide complete nutrition information for some of the popular items sold and advice on how to make meals healthier. Site dietitian Deja Chornenky (8527) is working with approved caterers to create healthier menus. She is also working to have preferred caterers make at least 50 percent of their menus offerings healthy. Recently best practice standards for healthy food choices have been incorporated in the request for proposal process for food vendors.

Deja leads a Healthy Eating, Healthy Heart class designed to help participants lose weight through healthy eating, exercise, and healthy lifestyle habits.



HEALTH PROMOTION COORDINATOR and educator Morgan Edwison conducts a Health Risk Assessment (HRA) for Adam Ruggles (8367). The HRA is the cornerstone of Sandia/California's Preventative Health Program, which was awarded a gold level Fit Business Award this year. (Photo by Randy Wong)

The LDC offers plenty of opportunities for employees to move more. Exercise classes include tai chi, yoga, circuit training, and outdoor, mentor-led walking groups. Health risk assessments are a key part of the program.

Emily Thompson (8527), the LDC fitness specialist, organizes a variety of fitness programs and services for the site. Among those services are fitness challenges offered throughout the year. The "Maintain No Gain" program is currently under way, which challenges participants not to gain any weight during the holiday season. (For more information contact Emily at 925-294-3703.)

Nearly 2,000 health risk assessments have been conducted to date. In the five years that the LDC has been open, there have been 730 active participants. About 70 people use the LDC each work day.

Site management received high marks for the broad acceptance and support of healthy lifestyle and preventative health programming. The Managers' Peak Performance Program was created to engage and encourage managers to shift perspectives and begin creating balance in their work and personal lives. Managers participate for six months, during which they identify a personal breakthrough that they would like to create in the work-life balance.

Engineering Services Manager Howard Royer (8207) credits the Managers' Peak Performance Program with helping him achieve his goal of cholesterol reduction. "The program helped me emphasize diet, stress reduction, and work/life balance, wherein I got my cholesterol down to a healthy level by the end of the program," says Howard. "I encourage my staff to take

## Sandia California News

advantage of the LDC and Health Benefits programs because I feel strongly that healthy people are the best contributors to Sandia and the community."

Tim Shepodd, manager of Materials Chemistry Dept. 8778, was looking for peace when he participated in Managers' Peak Performance. "This happened at a time when there was a lot of change and resulting stress," he recalls. "My goal was to be at peace and set an example for my staff."

He found value in being able to examine his management style and performance in a nonthreatening environment. "Ordinarily, there's not a real venue to do that," says Tim. "The hardest thing to do is set aside the time, but when I can, it is spectacularly valuable."

While Morgan is pleased with the Fit Business Award, she's not resting on her laurels. "We want to continue following up on health risk assessments and improving nutrition on site," she says. "We've seen good results from our followups, but we'll have a better picture in a couple of years. The next step is to link illness, attendance, and productivity with participation in LDC programs."

## California Site SHARES with the community

By Patti Koning

Leadership at the California site presented a challenge to the workforce this fall: Increase participation in the Sandia Helps and Reaches Everyone (SHARE) program. The workforce responded with an increase from 56 percent participation last year to 60 percent this year.

"The site should be proud of what we accomplished. Sandians have demonstrated strong support for the communities in which we live," says Dawn Manley (8351), the 2008 SHARE committee chair. "We hope to make SHARE even better next year."

This year's program began with an ice cream social, served by Div. 8000 VP Paul Hommert and various

directors and senior managers. On hand were representatives from several of the community groups supported through SHARE, including Open Heart Kitchen, the Livermore Cultural Arts Council, Tri-Valley Haven, and Valley Humane Society.

The Tri-Valley Community Foundation (TVCF) supports SHARE by distributing Sandia's contributions at no cost. TVCF is a local organization dedicated to raising and distributing charitable contributions to local human service, cultural, and educational organizations in Livermore and surrounding communities.

The SHARE campaign ended with a celebration on Nov. 12. Centers 8100 and 8900 were recognized for leading the site with 70 percent participation each.

## Sandia New Mexico News

### ECP giving topples previous record and still climbing

By Iris Aboytes

It took engineers, lawyers, and accountants. It took the unions — OPEIU, Metal Trades, and SPA. It took Sandia's secret weapon, the retirees. It took all Sandians working together to break last year's ECP record \$3.335 million. Currently the total is at \$3.559 million.

Final pledge numbers will be announced by the United Way of Central New Mexico early next year.

Impending budget cuts did not keep Sandians from giving. It is obvious they believe in a quote by World War II Royal Air Force Commander Norman MacEwen, "We make a living by what we get, but we make a life by what we give."

"Once again Sandians are to be congratulated for their outstanding leadership in caring for those most vulnerable," says Jack Holmes, president and CEO of United Way of Central New Mexico. "One of the true signs of leadership is consistency of performance. You are celebrating your 50th anniversary of partnering with United Way with your ECP campaign. Year after year Sandians say clearly 'we care'

and you show that by giving more and more of your time and resources and knowledge to make a difference in our community and state. Congratulations on a terrific campaign."

The Nov. 5 *Los Alamos NewsLetter* announced preliminary results for Los Alamos National Laboratory. Employees have pledged \$600,000 in their campaign, which ended the last week in October. That number could still increase. LANL's M&O manager matches contributions on a dollar-for-dollar basis. That means total contributions from the national labs in New Mexico are nearly \$5 million.

### Planning began right after last campaign

At Sandia, this year's campaign began the day last year's campaign ended with a lessons-learned meeting. From there, planning began. Payroll, programmers, Sandia representatives, and United Way met to discuss how the campaign could be enhanced, making it easier for each Sandian to have the opportunity to share.

"I want to thank everyone who participates in meeting the needs of our communities," says campaign cochair Terri Lovato (4220). "Special thanks goes out to the ECP representatives and to the professional staff who planned the campaign and events. It's an honor to be part of such a generous group of individuals."

"I am especially proud of the number of new hires who have joined our honorable tradition of giving," says cochair Pam Catanach (3652).

The ECP jingle contest attracted more than 100 entries. Judging was done by members of the media relations staff and various other Sandians. Each winner receives a set of movie tickets.



ECP SIDEWALK ART — created by Annie Valencia (9338), Tim MacAlpine (9514), Kevin Jameson (9328), and Peggy Warner (9532).

### ECP Jingle Winners

#### Week 1

A heart that gives, a heart that cares,  
A penny at a time will get us there.  
A heart that grows, a heart that shares,  
A penny to ease the pain they bear.

— Curtiss Keliiaa (9336)

A heart that gives, a heart that cares,  
A penny at a time will get us there.  
Love isn't love until you give it away,  
Let's share our love in a United Way.

— James E. Walker (6451)

#### Week 2

Make a difference and you will see,  
What comes back to you and to me.  
For some a meaning to live may be found,  
For others their lives for better turned around.

— Teresa Bennett (10547)

Make a difference and you will see,  
What comes back to you and to me.  
No need to worry, no need to strain,  
For the heart that gives has joy to gain.

— Rosa Zalesak (9601)

#### Week 3

A friendly smile, a helping hand,  
Can change a life and make it grand.  
My dollar and your dollar, like acorns and oak trees,  
Small things creating great possibilities.

— Anna Nusbaum (9535)

A friendly smile, a helping hand,  
Can change a life and make it grand.  
So remember those who have helped you through,  
Then see what more can be done by you.

— Daniel Wilcox (5578)

# Buckyballs

(Continued from page 1)

(1996) Richard Smalley had hypothesized that buckyballs are formed in this fashion, but at the time of his death in 2005 no experimental confirmation was yet available and other methods have been proposed.

Jianyu's discovery happened unexpectedly. He was looking for flaws in nanotube durability. Transmitting electric current through the atom-sized tip of a scanning tunneling microscope (STM) inside a transmission electron microscope (TEM), he had heated a 10-nanometer-diameter multiwalled carbon nanotube to approximately 2,000 degrees Celsius when he saw the exterior shells of giant fullerenes form from peelings within the nanotube. High-resolution 2-D images of the process taken by a CCD camera attached to the microscope showed the fullerenes reducing in diameter, linearly with time, until the structure became the size of  $C_{60}$ , the smallest arrangement of carbon atoms that form the soccer ball shape.

Then the buckyballs vanished.

Simulations created at Jianyu's request by professor Boris Yakobson's team at Rice University, who coauthored the *Physical Review* paper, show that heating could reduce fullerenes by emitting carbon dimers (pairs of atoms) until they reached the basic buckyball shape. Further removal of carbon pairs collapsed the structure.

Buckyballs are formed by hexagonal and pentagonal arrangements of carbon atoms that seem stitched or

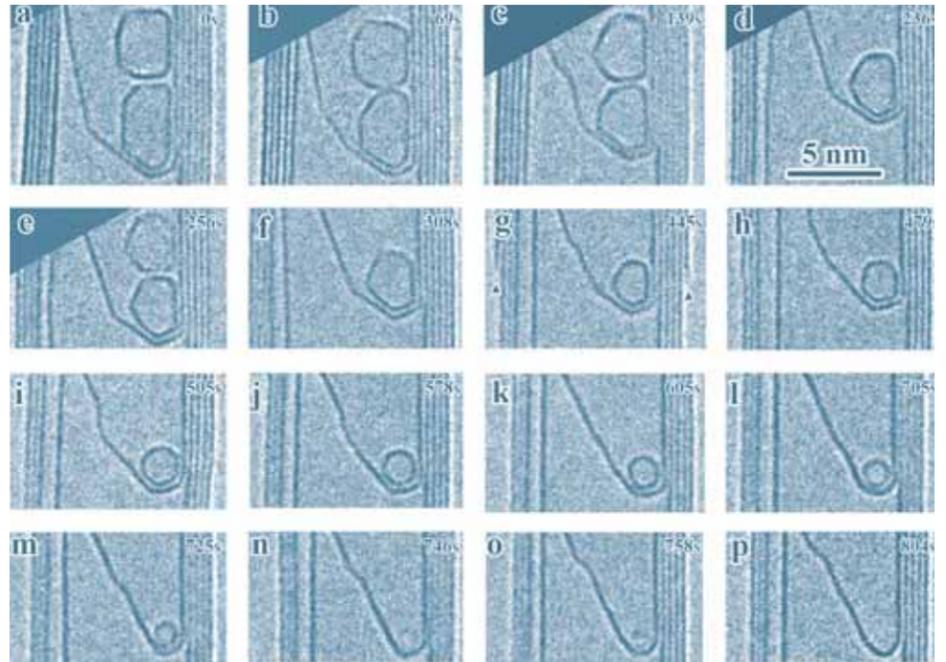
welded together, in appearance much like a soccer ball. Their curvature, however, is caused by the pentagons alone, 12 to a buckyball. Departing atoms leave the same number of pentagons until the fullerene shrinks below its smallest stable shape, below which the buckyball disintegrates.

"I used to study metals," says Jianyu, who grew up in a remote Chinese farming village and now utilizes the most complex instruments at Sandia's Center for Integrated Nanotechnologies. "But carbon nanomaterials now are much more interesting to me."

CINT is a joint effort of Sandia and Los Alamos national labs and is supported by the DOE's Office of Science.

The buckyball discovery was initially made by Jianyu on similar instruments at Boston College, and then interpreted at CINT.

"The STM probe inside the TEM is a very powerful



PRESENT AT CREATION — Jianyu Huang's atomic images of the inside of a nanotube show the formation of fullerenes, their reduction to  $C_{60}$  buckyballs, and their dispersion when heated beyond that point. The images were taken by a transmission electron microscope.

tool in nanotechnology," Jianyu says.

"The STM probe is like God's finger: It can grab extremely small objects, as small as a single atomic chain, enabling me to do nanomechanics, nanoelectronics, and even thermal studies of carbon nanotubes and nanowires."

The research was paid for by CINT and Laboratory Directed Research and Development.

# Yucca Mountain

(Continued from page 1)

by reducing the effort as much as 90 percent."

The LSNA software analyzes messages that have been categorized by subject-matter experts and learns how to differentiate relevant from nonrelevant email messages. When applied to a database of emails, for example, LSNA shows the user what messages appear to have incorrectly implemented the guidance, making it faster to find potential inconsistencies in categorization. The tool provides a search capability that allows users to search for specific information by key word, date, and categorization.

Justin says the cognitive software makes the second of three reviews categorizing the emails. Human originators make the first categorization, and human reviewers always make the final decision as to which emails are truly relevant.

The other Sandia software tool used at Yucca Mountain to prepare the license defense is the Data Trace Tool.

Data Trace watches analysts while they trace from high-level analysis model reports down to raw data collected in lab notebooks, representing that work as a graph with "nodes." This provides a means to qualify and support the validity of the model reports that can be saved and accessed again later.

"Previously everything had to be done by hand," says Zach Benz (6341), Data Trace Tool lead developer. "We provided a new tool that delivers a visual representation of the user's tracing history."

The tool is in use by the analysts now.

Wendy Shaneyfelt (6341), member of the cognition team and project manager for development of the two tools, says she is pleased that tools developed as part of Sandia's augmented cognition research benefited the Yucca Mountain project.

"This represents tech transfer in its best sense from our cognitive research to a real-world application," she says.

## 150,000 emails reviewed using smart software in 2007

In 2005 Yucca Mountain personnel undertook a compliance review of 2.6 million email messages. For that review at least 165 members of the workforce invested at least 60,000 person-hours over the five-month duration of the review. In 2007 project personnel reviewed 150,000 email messages using the Licensing Support Network Archive Assistant (LSNAA). Eight members of the workforce worked part-time for six weeks to conduct the review. In both instances, the result was high confidence in the way that guidance is being applied. Using LSNA, the effort was completed with far less burden on program resources by a factor of three.

# FTE targets

(Continued from page 1)

including the possibility of retraining, John says.

Sandia's FTE targets are based on projected revenue and business activities collected from each SMU. These projections form the basis of the resources needed for the year and are based on multiyear projections to position the Labs for its future business environment.

"We manage by intent. Our August planning targets for the coming fiscal year are the result of an extensive process based on multiyear business projections for both direct and indirect resources across the Labs," John says. "We will continue to follow our August planning assumptions and FTE targets for FY08."

Sandia's Human Resources and Integrated

Enabling Services organizations presented preliminary results from the data call to the EO on Monday, Nov. 19. In addition to the data call, each division is submitting its plan for how it will meet FTE targets in FY08; those plans were due Nov. 20. The EO will make decisions late in November or early December based on the sum of this information, and those decisions will be communicated first through management and then Labs-wide, providing the guidance and processes to identify affected groups and impacted employees, John says.

"Because we likely will stay below the threshold of 100 involuntary separations, we do not expect to hit the requirements for the more extensive 3161 site-specific plan," John says. "Although we are not planning incentives, Sandia will follow the processes identified in our current policies (CPR 300.2.2 and CPR 300.3.2) that guide involuntary separations, including a provision for severance pay."

## On target: Sandia aids in successful antimissile test

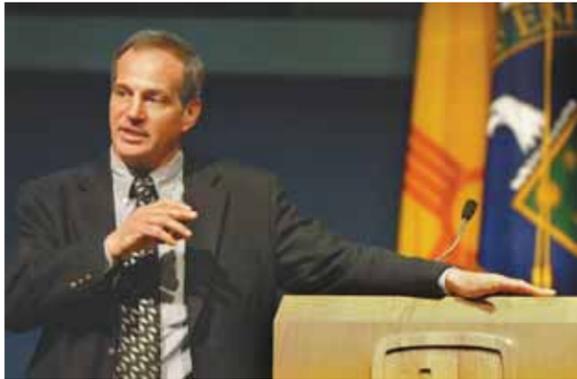


THE US MISSILE DEFENSE AGENCY (MDA) and the US Navy in a joint test successfully shot down two ballistic missile targets launched nearly simultaneously from Sandia's Kauai Test Facility (KTF). For the first time, the operationally realistic test involved two unitary "non-separating" targets, meaning that the target's warheads did not separate from their booster rockets. The test accomplished the 10th and 11th successful intercepts in 12 scheduled flight tests for the Aegis Ballistic Missile Defense Program, a sea-based component of MDA's Ballistic Missile Defense System designed to intercept and destroy short- to intermediate-range ballistic missile threats. For the Nov. 6 test, two ARAV-A target vehicles were launched from KTF. At approximately 6:12 pm local time the first target was launched from Pad 1. Moments later, the second target was launched from Pad 15. In the photo at left, the two target vehicles are seen streaking skyward from KTF. Minutes after the launch the USS *Lake Erie* fired two SM-3 missiles and successfully intercepted the targets.

Photo by Mike Bejarano and J Nowicki (both 1535)

# The case for complex transformation

**NNSA official Marty Schoenbauer spells out current plans for reshaping the nuclear weapons complex**



MARTY SCHOENBAUER, NNSA's principal assistant deputy administrator for Defense Programs, speaks to Sandians at the Steve Schiff Auditorium. (Photo by Randy Montoya)

By Bill Murphy

Marty Schoenbauer, principal assistant deputy administrator for Defense Programs at NNSA, recently offered Sandians at Steve Schiff Auditorium (and sitting in via streaming video) a vision of the future nuclear weapons complex.

In a nutshell, the vision is of "a smaller, safer, less expensive complex that leverages the scientific and technical capabilities of our workforce and meets national security requirements," Schoenbauer said.

Realizing that vision, he said, will require changes in the way the complex is structured and managed, where and how work is done, and how many people will be involved in carrying out that work.

## Eight sites now, eight sites later

While impacts of the transformation will be felt across the complex, including Sandia, there is no plan to close any sites. "The best risk posture for the complex," Schoenbauer said, "is to maintain the centers of excellence that exist today. And so, if you're flying over the US and you look down, you'll see that we started with eight sites and we end up with eight sites [if the

preferred alternative is implemented]. But if you land and walk around the different sites, they're going to look a little different."

Schoenbauer characterized his remarks at Sandia as "predecisional information on the Draft Preferred Alternative for Complex Transformation." He placed special emphasis throughout his comments on the word "draft," adding that "the doors are still wide open [to changes in the proposal] even when the word 'draft' is removed."

Schoenbauer cited several factors as driving the need for complex transformation: a need to be more responsive to a volatile and unpredictable 21st century security environment; a need to provide a safer, less toxic environment for workers and — related to that — a more sustainable stockpile; a need to implement post-Cold War mission capabilities (and a decreased need for redundancy of those capabilities and the supporting infrastructure); a need to consolidate nuclear materials at fewer NNSA sites; and a need to mitigate the effects of flat budgets in the face of increased operational costs.

## Transformation must go forward

Schoenbauer showed charts summarizing proposed consolidation of mission activities at NNSA sites. The consolidation, which affects every NNSA site in often

significant ways, will create a more interdependent complex. The goal is "to do more as an enterprise rather than as individual sites," Schoenbauer said.

Schoenbauer said that although NNSA considers



ENGINEERING A NEW COMPLEX — NNSA official Marty Schoenbauer (second from left) pauses during a tour of Sandia's MESA facility to admire the sculpture of Sandia engineer Willis Whitfield, inventor of the laminar airflow clean room. Joining Schoenbauer are, from left, Sandia MESA chief Mike Cieslak, Sandia Site Office Manager Patty Wagner, and Deputy Labs Director for Nuclear Weapons Joan Woodard. (Photo by Bill Doty)

development of the Reliable Replacement Warhead (RRW) to be a vital step in the evolution of the stockpile, "transformation must occur with or without RRW."

Several Sandia activities will be impacted under the preferred alternative. Current plans, Schoenbauer said, call for NNSA to cease weapons tests at the Tonopah Test Range (TTR) in 2009 with a proposal to perform flight testing and testing of gravity weapons at existing DoD facilities. Schoenbauer and Nuclear Weapons VP Joan Woodard visited TTR in October. During the visit there was discussion about a new landlord/tenant model under which testing expertise would remain at TTR and NNSA would contract for testing at the site on an as-needed basis.

*"The best risk posture for the complex is to maintain the centers of excellence that exist today."*

— Marty Schoenbauer

## Supercomputing on the table

Major nonnuclear environmental testing, now conducted at several sites across the complex, would be consolidated at Sandia. Nonnuclear design and engineering, which has always been a key Sandia mission, would be consolidated totally at Sandia. The preferred alternative calls for Sandia/California site to become a multiagency laboratory, "with significantly lowered NNSA landlord costs by 2010."

A significant proposal impacting Sandia in the preferred alternative is to consolidate supercomputing capabilities at Lawrence Livermore and Los Alamos national laboratories. Sandia has been part of the NNSA Advanced Strategic Computing initiative since its inception.

Schoenbauer noted that the supercomputing proposal "has been of keen interest" at Sandia. "This is one area," he said, "that is and will be getting a lot of attention." He acknowledged that "the hardware piece" of supercomputing may carry more weight than had been considered in the initial business case analysis and reminded Sandians that the proposal is still in draft form. The supercomputing proposal "is an area where we're looking for input," he said.

The next steps, Schoenbauer said, include refining and socializing the draft preferred alternative and then — probably by early December — removing the word "draft" from the proposal. Implementation of some elements of the proposal could begin by next spring.

Schoenbauer's complete presentation, along with detailed charts of data that underpin NNSA's decision-making process, can be seen at <http://ln.sandia.gov/future-complex>.

## Schoenbauer seeks feedback on draft plan from Sandians

In his presentation at Sandia, NNSA Principal Assistant Deputy Administrator for Defense Programs Marty Schoenbauer encouraged Sandians to provide feedback or comments about the preferred alternative to either Nuclear Weapons SMU Transformation Site Champion Kathleen McCaughey or alternate Ajoy Moonka, or Deputy Labs Director for Nuclear Weapons and Executive VP Joan Woodard.

"We appreciate Marty's visits to both Sandia sites and his interest and commitment to connect with

people across the [nuclear weapons] complex," Joan said after Marty's visit. Sandia management, she noted, has been and continues to be engaged in providing feedback, proposing alternate options, and suggesting clarifying modifications in the language of the preferred alternative.

"We're working with groups across the Laboratory," Joan said, "to understand fully the impacts of the proposed changes, and to provide additional information to the entire staff as it becomes available."

## Feedback

### Promotion to exempt staff a rigorous process for internal, external hires

**Q:** Why is the requirement for Promotion to Exempt Staff (PES) process so difficult for internal employees? For example, if you were an external candidate who completes a master's degree, you need no relevant work experience to be hired into Sandia as an MTS. Yet, if you're already an employee and you complete your master's degree (paid for by the company), you need to prove that you're already doing MTS type work before a selecting manager will even consider choosing you to go through the PES process. Doesn't this setup seem backwards? Shouldn't a person who has worked for the company, been educated by the company, and has a good work history with the company have an easier time trying to become an MTS than somebody right out of school? I know the political answer is "to find the best person for the job" but there are many managers who won't even attempt the PES process unless specific criteria are already accomplished. I haven't found one manager yet who will go through the process unless they know it is a "slam dunk." It seems as though the PES process is failing "the best person for the job" because of paper politics.

**A:** The Promotion to Exempt Staff process was designed to be consistent with the rigor and requirements for external hires, not to be more difficult. The key considerations in the PES process are threefold. First, the work being performed must meet the criteria for exemption under the Fair Labor Stan-

dards Act. Second, the individual being selected for the position must be qualified to perform the work. Third, the individual being selected must also be able to apply their knowledge, skills, and abilities across multiple functional areas and/or organizations.

While the completion of an advanced degree is a notable accomplishment, this alone does not deem a candidate qualified. Past work experience, whether at Sandia or other previous employment, is always a consideration. Sandia's tuition assistance programs are designed to encourage and enable employees to further their education; it is not a guarantee of promotion or special consideration.

The PES process requires the time and consideration by several members of management in addition to the selecting manager. For this reason, many managers will initiate the PES process only when they are confident that the candidate can successfully complete it. To do otherwise would not be an efficient use of management resources.

The PES process is often perceived as another level of bureaucracy. This is certainly not the intent. The intent is to ensure that individuals selected for promotion are qualified and able to compete effectively within their new peer group.

— BJ Jones, Director (3500)

# Mileposts

New Mexico photos by Michelle Fleming



Jim Salas  
35 2553



Craig Boney  
25 5712



Peggy Dubois  
25 1283



Mark Garrett  
25 2556



Duane Garrison  
25 9548



David Schroeder  
25 2454



Mark Diltz  
20 5733



Bertice Tise  
20 5348



Bruce Varnado  
20 6754



Kevin Zavadil  
20 1825



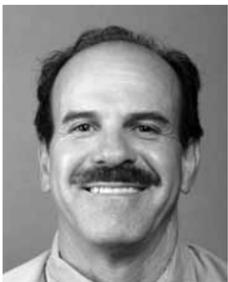
Lori Carroll  
15 3512



J. Delene Cox  
15 6035



Diane Denney  
15 3332



James Griego  
15 10844



Mark Kimmel  
15 1672



Jeffrey Mahn  
15 12335



Scott Mitchell  
15 1415



Judy Neff  
15 5924



Heather Tate  
15 5933



Sandra Tonnesen  
15 5055



Linda Wagner  
15 5054

# Recent Retirees



Vern Romesberg  
35 6754



Ann Murphy  
30 3332



Arthur Verardo  
30 2990



Larry Desonier  
23 6753



## Tom Hunter wins community service award



SANDIA LABS PRESIDENT AND DIRECTOR Tom Hunter has been named a recipient of the 2007 New Mexico Distinguished Public Service Award. Tom, second from left, receives his award from former New Mexico Gov. Toney Anaya. Looking on at right is former New Mexico Gov. Garrey Carruthers. This year marks the 38th anniversary of the New Mexico Distinguished Public Service Awards program. Distinguished Public Service Award programs exist in most states across the country. Several states have used the New Mexico awards program as a model. The Distinguished Public Service Award is considered the highest community service award in each state where it is offered.

## A new generation of nuclear professionals form chapter

By Neal Singer

The fledgling Sandia chapter of the North American Young Generation in Nuclear (NA-YGN) held its first meeting on Oct. 23 in the breezeway of Bldg. 823, attracting 30 attendees from a wide variety of Sandia organizations.

According to co-organizer Virginia Cleary (6763), the idea is to establish a Sandia career development group for professionals working in nuclear fields including weapons, energy, environmental cleanup, and medicine. Social networking is part of the concept.

"We want to help junior staff acclimate to Sandia's culture and take advantage of Sandia's unique technical expertise," she said. "There's a knowledge gap. How do we transfer that knowledge?"

"Young" is defined by NA-YGN, established in 1999, as "35 years old or younger, or less than 10 years of professional work experience." But anyone is welcome to participate, say the organizers. "We look forward to more experienced engineers playing an active role in our organization," says Virginia. "Everyone can benefit from participating, whether it's the new engineer refining 'soft' skills or the experienced engineer initiating knowledge transfer to the younger staff."

In fact, says Ross Radel (6763), another conference organizer, the term "Young Generation" is a problem because obviously, he says, "we want to be highly inclusive to facilitate knowledge transfer."

The group intends to present a series of informative speakers to its members, as well as provide a forum to discuss problems of interest. Additionally, NA-YGN is planning to organize workshops, community outreach, and social activities.

The kickoff meeting featured a career development presentation from Pat Brady (6316), who discussed (among other matters) things about Sandia he wished he had known when he started out as a researcher. The audience, which included members of 1000, 2000, 5000, and 6000, listened as Pat described the ease with which people from different Sandia organizations work together, the advantages to young researchers in doing so, and the importance of being ready to return research favors.

"Understanding the big picture and how you fit in it is very important to advancing your career at Sandia," says Virginia.

Other organizers include Ben Cipiti (6774), Jeanne Dion (6761), Joonyub Jun (6762), Tracy Radel (6761), and Tara Olivier (6761). Their efforts were supported by Gary Rochau (6763) and Marianne Walck (6760).

The group plans to meet next at noon on Thursday, Nov. 29. All Sandians are welcome.

"Actually, you don't have to be a nuclear engineer to join," says Virginia. "Your work may support nuclear [issues] as a fire engineer or ceramicist or accountant, for examples."

For information, visit [www.na-ygn.org](http://www.na-ygn.org) or contact Virginia at [vcleary@sandia.gov](mailto:vcleary@sandia.gov) or 284-8902.

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

## MISCELLANEOUS

GENERATOR, Kipor KGE3000TI, 3000-amp, electric start, new, only 14 hrs., paid \$1,300, asking \$700 OBO. Grasser, 828-9051.

PUSH MOWER, antique, iron, blades sharpened, ball bearing wheels, \$50 OBO; recliner, Lane, huge, beautiful, \$100. Jones, 352-1007.

FUTON MATTRESS & COVER, frame, excellent condition, \$100; entertainment center, excellent condition, \$150. Chavez, 417-3114.

COMFORTER SETS, queen, floral; sprint treadmill, good condition; transport wheelchair, never used, \$175. Hodges, 238-9684.

COFFEE/TEA SERVICE, elegant, heavy, silver plate, 7-pc., Goldfeder Silver Co., Conn., 1900, \$300. Lambert, 768-5955.

MIRROR, manufactured by Lane, 21" W x 44"H, walnut frame, 4-in. wicker panel at top, \$50. Pendall, 265-3008.

WOODEN ROCKING CHAIR, w/cousins, very good condition, reasonable. Sedillo, 255-0669, ask for Lita.

DINING ROOM TABLE, Ashley, w/4 padded chairs & 2 stools, black frame, tiled top, very modern, \$400; microwave, \$30. Willis, 304-5034.

SOFA, LOVESEAT & CHAIR, contemporary black leather, excellent condition, \$500 OBO. Teraji, 271-8195.

TRACTOR, Ford 2N, gray, 3-pt. hitch, PTO, w/back blade, \$2,700. Coon, 830-0528.

TRACTOR, Ford 8N, new engine, tires, paint, front loader (bucket & forks), mower, weights, \$6,000 OBO. Wirth, 281-6752.

PROPANE TANK, 500-gal., 2 regulators, hose, 100-gals. of propane in tank, \$1,600; propane water heater, 38-gal., \$300. Gallegos, 864-3387.

HDTV, 53-in. Hitachi, excellent condition, \$900; large sofa, microfiber, camel, \$100; queen box spring, \$50. Rutten, 869-6381.

TELESCOPE, Meade 8-in. Schmidt-Cassegrain, w/tripod/motor drive, eyepieces & JMI NGC-Max computer, like new, \$600. Laskar, 856-7806.

LAPTOP, Dell XPS, red, AGEIA, PhysX-M1730, physics processing unit, jaw-dropping graphics, 4 GB DDR2 memory, paid \$4,000, asking \$2,900. Rogers, 315-2335.

ELECTRIC GUITAR, Fender Starcaster & Fender Frontman amp, new condition, \$150. Buteau, 296-2113.

L-SHAPED SECTIONAL, 67" x 90" W, 2 end tables, 1 coffee table, like new, all for \$1,500 OBO. Pacheco, 205-5952.

DIGITAL CAMERA, Canon Rebel XT350, 2 Canon lenses, 4 GB, external flash, w/case, \$600. Sanchez, 323-1773.

SKI RACK, Yakima Ski Slope, w/locks, 4 alpine or 1 alpine/1 snowboard, never used, paid \$170, asking \$50 OBO. Martinez, 259-3426.

ELECTRIC DRYER, Kenmore 90 series, king capacity, like new, \$125. Gallegos, 865-1647.

BAR STOOLS, \$75/set; office chairs, \$75/set; storage bins, originally \$100, asking \$75 ea.; dorm refrigerator, \$40. Roybal, 792-2473.

ABDOMINAL EXERCISER, Ab Lounge 2, revolutionary, exercise in comfort, w/instructional video, brand new condition, \$75 OBO. Burr, 293-2588.

GENERATOR, Kipor, 1000-W, still in box, extended warranty, 54-dB, 30-lbs., \$500. Jaramillo, 836-6832.

SCALE, Doctor's-style, perfect condition, 400-lbs., in 1/4-lb. increments, \$100. Williams, 271-8104.

FUR COATS, European fox, his & hers, \$875/both; toaster oven, \$10; vacuum, \$20; self-propelled vacuum, \$50; tire chains, \$15. Garcia, 280-5815.

UPRIGHT VACUUM, Riccar, w/attachments & extra bags, \$30. Bisbee, 293-0356.

REFRIGERATOR, w/ice maker, 22-cu. ft., \$200; sofa, \$200; sofa table, \$75; oak china cabinet, \$220; 5-shelf unit, \$12. Hernandez, 352-9945.

COMPUTERS, 2, Vista, 2900+, 1 GB RAM, 120 GB HD, DVD, NIC, 19-in. monitor, \$225 ea. Noble, 856-0955.

APPLE G5 COMPUTER, dual 2 GHz, 1 GB RAM, 160 GB HD, Airport, DVD burner, Leopard/Tiger disks, original owner/manuals, \$1,900. Weston, 350-7059.

ACOUSTIC-ELECTRIC GUITAR, '06 Alvarez Professional Series PD80SC, Dreadnought, mint condition, \$400. Prior, 235-4486, ask for Raymond.

CHICOS, (adobe oven-baked & sun dried corn), ~100-lbs., 5-lbs./\$50. Gutierrez, 239-7059.

UTILITY TRAILER, 5' x 8' enclosed, single axle, rear ramp, \$1,800. Rogo, 249-3918.

ELECTRIC DRYER, Kenmore Elite, white, 3 yrs. old, excellent condition, paid \$600, asking \$300. Valerio, 898-4744.

POWERED SUBWOOFER, Velodyne, 15-in., F-1500, factory refurbished, awesome for music or movies, cost \$1,350, asking \$350. Richter, 896-9534.

ELECTRIC BASS & AMP, Ibanez GSR200-FM Trifade Burst, w/100-W Crate BT-100 amp, like new, \$400. Sjaardema, 856-6139.

IPOD SHUFFLE, silver, 1 GB, box opened but unit never used, \$50. Schriener, 275-3312.

PIANO, organ, pinball machine, \$150. Northcutt, 299-6958.

SONY WEGA, 32-in., Sony DVD player/surround sound w/speaker stands, paid \$1,200, asking \$500. Richardson, 332-8769.

CHRISTMAS TREE, 9-ft., full, wide, Hobby Lobby M, not lighted, for lights add \$15, very good condition, \$95. Zaffery, 858-0954.

SCANNER, HP ScanJet 5470C w/transparency adapter, \$35; HP PhotoSmart color printer 7560, \$35 or \$50/both. Pelletier, 884-3726.

SPEAKERS, NHT 2.5i tower, sycamore color, pair \$350 OBO; TEMA TV stand, teak, steel, glass, \$200. Aas, 401-6737.

GOLF CLUBS, half-set of men's or women's, w/hand carts, \$40; bird cages, small to large, \$20-\$40. Miller, 286-8181.

RECLINERS, 2, Lane, wall-huggers, leather, camel color, \$150 ea. or \$250/both. Hole, 255-1444.

STEREO, Fisher, AR speakers, w/working 8-track, record changer, 78-45-33-1/3 rpm, \$50 OBO; reel-to-reel tapes, mostly classical, \$1 ea. Alexander, 291-8028.

SCANNER, Primax Colorado, complete w/software, printer cable, not USB, pick up, free. Woods, 720-8492 or woods@asme.org.

SNOWBOARD, Lamar Slayer, size 159, \$150; Vision Spectrum wood core snowboard, size 148, w/bindings, \$100; Black Drake bindings, \$50. Flores, 681-7078.

FILM CAMERA, Olympus IS1, 35-135 mm ED telephoto lens, w/case, \$65. Dietz, 286-8244.

DORM REFRIGERATOR, 42"H, Samsung, w/freezer, \$60; digital camera, great Christmas gift, 5 MP, w/zoom, \$65 OBO. Cocain, 281-2282.

DINETTE TABLE, kitchen, hexagonal, w/6 chairs, glass coffee table, 3/4-in. thick, sectional sofa, queen sleeper, matching recliner. Turner, 292-6891.

AFGHAN HOUNDS, various ages over 6 mos. old, many colors & prices, photos available, located in San Jose NM. Gonzalez, 505-421-2343.

ROCK T-SHIRTS, Korn, Led Zepplin, Slipknot, Counting Crows, etc, assorted sizes, \$13. Garcia, 270-3805.

GRACO CRIB, & transitional bed w/mattress, w/trundle drawer, honey color, great condition, \$75. Lewis, 821-6688.

SONY PSP, w/charger, rarely used, excellent condition, \$100 OBO. Gallegos, 610-7036.

WROUGHT-IRON WINDOW PANELS, many beautiful security bars, fit various size windows. Headley, 828-0505.

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

### Ad rules

1. Limit 18 words, including last name and home phone (If you include a web or e-mail address, it will count as two or three words, depending on length of the address.)
2. Include organization and full name with the ad submission.
3. Submit ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. One ad per issue.
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active and 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.

TREADMILL, needs work, \$25; 400-CD changer, \$100; file cabinet, \$30; printer, \$20; fax, \$20. Kordenbrock, 286-8776.

KENNEL, 36"L x 24"W x 26"H, hard plastic body, w/wire grate door & windows, on rollers, \$25. Pechewlys, 856-6878.

CEMENT MIXER, 3.5-cu. ft., industrial quality, excellent, \$250. Cuderman, 884-8627.

MP3, computer peripherals, DVD, housewares, speaker, antique sewing machine, some items new. Barker, 459-5624, burqueno.googlepages.com.

ARTIFICIAL CHRISTMAS TREE, 6-1/2-ft., pre-lit, used once. Drebing, 293-3335.

AREA RUG, 5' x 8', handmade, 100% wool pile, black/shades of gray, like new, photo available, \$25. Kepler, 296-0402.

SNUGTOP CAMPER SHELL, 4 mos. old, white, LED brake, carpet on inside roof, fits '95-'04 Tacoma or Ranger, \$1,300. Raether, 363-1631.

CHINA, 46-pcs., Warwick June Bride, perfect condition, \$200. Thompson, 298-8954.

5TH WHEEL-TYPE RV STORAGE/TRUCK BOX, fits long wide bed, diamond plate aluminum, \$200. Miller, 296-0095.

TRAVEL TRAILER COVER, Adco, used, fits 31-32-ft., cost \$350 new, asking \$100. Pritchard, 299-3543.

## TRANSPORTATION

'04 TOYOTA MATRIX, 4-dr. hatchback, good mpg, silver, little old lady owned, only 5K miles, \$11,800. Campbell, 294-6000.

'03 HYUNDAI SANTA FE GLS, V6, 3.5L, AT, 2WD, AM/FM/CD/cassette, 35K miles, excellent condition, \$11,750. Saba, 307-5092.

'07 TOYOTA COROLLA, only 6.5K miles, excellent condition, \$15,500 OBO. Garcia, 720-4966.

'99 PLYMOUTH GRAND CARAVAN, AC, PS, PW, cruise control, tow hitch, 89K miles, \$4,700. Johnson, 255-6650.

'01 DODGE GRAND CARAVAN SPORT, minivan, 4-dr., champagne, 97K miles, \$6,500. Castle, 275-5400, ask for Chris.

'04 DURANGO, 4WD, leather, 3rd row, newer tires, AM/FM/CD, rear AC, 42K miles, great condition, \$14,900. Nichols, 275-5807.

'02 MONTERO SPORT XLS, leather, fully loaded, excellent condition, \$7,300 OBO. Sena-Henderson, 296-3498.

'03 FORD EXPLORER LIMITED, V8, low miles, like new, below book, \$19,950 OBO. Herreid, 881-4572 or 899-0851.

'03 HONDA S2000, w/hardtop, yellow, new tires, low mileage, \$24,000. Sisneros, 899-8048.

'07 SUBARU TRIBECA, 7-passenger, gold, DVD, satellite radio, in-dash GPS, 15K miles, excellent condition, \$29,500 OBO. Corey, 286-9121.

'00 DODGE DURANGO SLT, AT, 4WD, 4.7L, all power, leather, dual AC, 85K miles, car fax & photos available, \$9,000 OBO. Foster, 270-6696.

'03 HONDA ACCORD EX, all power, leather, heated seats, sun/moon-roof, all new brakes, excellent condition, \$13,500 OBO. Cadieux, 730-7119.

'63 RAMBLER SEDAN, runs well, \$1,200 OBO. Newman, 266-6928.

'97 FORD T-BIRD LX LIMITED EDITION, 3.8L, V6, red w/grey cloth interior, spoiler, 43K miles, \$5,500 OBO. Weinmaster, 298-1620.

'03 MINI COOPER, new windshield, tires, brakes, navigation system, spoiler, leather, cold weather pkg., 54K miles, \$16,800. Reber, 259-5751.

'06 JEEP LIBERTY LIMITED, 4WD, heated leather seats, CD changer, sun roof, low miles, excellent condition, \$19,000. Roybal, 239-4337.

'03 FORD EXPLORER XLT, rear AC, roof rack, etc., 99K miles, below book, \$12,500 OBO. Schmidt, 280-2772.

'03 MOUNTAINEER, V8, AWD, new rubber, extended warranty, 41K miles, must sell, \$16,500. Hendry, 797-8259.

## RECREATIONAL

ALUMINUM BOAT, 12-ft., '72 Meyerslake, 9-hp motor, trailer, \$1,200 OBO; boat trailer, \$450 OBO. Browning, 265-9947.

'07 ROKETA, Bali 150 cc, new, automatic, pushbutton start, radio, saddle bag, \$1,500. Atencio, 307-1299.

'94 WINNEBAGO MOTORHOME, beautifully equipped, 5.9L, 6-cyl., turbo diesel, 72K miles, reliable Cummings, 10+-mpg, \$29,000. Roberts, 203-6528.

'97 HARLEY-DAVIDSON ROAD KING CUSTOM FI, violet, custom seat & bags, full warranty, 52K miles, \$9,700. Walton, 865-7371.

'05 YAMAHA 650 CUSTOM V-STAR, blue, back rest, shaft drive, new tire, windshield, 10K miles, \$4,800 OBO. Blend, 831-9455.

BASS FISHING BOAT, 16-ft., w/trailer, motor, accessories, \$1,000; River Rogue canoe, 14-ft., \$400 or trade for good, working refrigerator. Vandever, 908-0556.

MOUNTAIN BIKE, Hawk Hill model, 15-in. frame, 26-in. wheels, 24-spd., V brakes, like new, \$225. Surbey, 823-2843.

'07 ARTIC CAT ATV, like new, priced to sell, only ridden 180 miles, \$6,000. Candelaria, 239-0611.

'07 ARTIC CAT ATV 650, 4x4, seats 2, only 165 miles, like new, always garaged, \$7,000. Cuoco, 892-7181.

'96 FOUR WINNS BOAT W/TRAILER, 17-1/2-ft., 4.3L, V6, I/O, Volvo Penta Stern drive, many extras, \$6,900. Shain, 266-3126.

## REAL ESTATE

2/3-BDR. HOME, 1-3/4 baths, 2-car garage, SE of Paseo/Ventura, photos available, \$259,900. Olson, 440-8159.

3-BDR. TOWN HOUSE, 1-3/4 baths, 2-car garage, 2-story, NE Heights/Academy area, quiet neighborhood, MLS#527437, \$165,000. Dansby, 821-4416.

3-BDR. TOWN HOME, 2-1/2 baths, 2-car garage, 2-story, 2,050-sq. ft., new tile floors near Juan Tabo/Manitoba, FSBO, \$249,900. Griego, 306-6189.

3-BDR. HOME, 2 baths, 2-car garage, 1,700-sq. ft., near Sandia, Mirabella, custom fireplace, patio, storage, sprinklers, alarm, upgrades, \$219,900. Crozier, 286-0696.

MODERN WESTSIDE HOME, hardwood, tile, 1,950-sq. ft., stainless appliances, centrally located, quiet neighborhood, \$260,000. Carrasco-Ruiz, 898-6129.

3-BDR. HOME, 2-1/2 baths, loft, large kitchen, living room, family room, dining room, 2-car garage, 1,978-sq. ft., 1 owner, \$214,000. Sanchez, 917-5630.

2-BDR. MOBILE HOME, 1 bath, 10' x 60', 1960, good condition, \$2,500 OBO. Humbert-Hale, 286-1444 or 281-1888.

1-ACRE LOT, Cliffs Valley, gated community, near Greenville, S.C., golf membership available. Steiner, 401-8114.

FURNISHED HOME, on beach in Kino Bay, Mexico, photos available. Bender, 281-1989.

3-BDR. HOME, 2 baths, 1,850-sq. ft., hot tub, garage, 1030 Jefferson SE, Ridgecrest area, \$15,000 under appraisal, \$265,000. Weber, 821-1504.

4-BDR. HOME, 1-3/4 baths, 2,116-sq. ft., huge great room, double garage, upgrades, great schools, NE Heights, \$296,000. McKeever, 797-0287.

3-BDR. HOME, 1-3/4 baths, Eubank/Lomas, wood deck, fenced corner RV parking, new floors & stucco, \$169,900. Marshall, 385-3076.

3-BDR. CUSTOM HOME, 2-1/2 baths, 2,450-sq. ft., study, 3 fireplaces, Jacuzzi, mountain/city views, cul-de-sac, MLS#533907, \$389,900. Rogers, 299-3878.

3-BDR. HOME, w/separate office, 2-1/2 baths, 2-car garage, spacious, granite, lots of extras, Wyoming/Alameda, \$314,900. Parkes, 681-5082.

4-BDR. HOME, 2 baths, 2-car garage, 1,750-sq. ft., 2 yrs. old, open plan, Ladera, oversized lot, MLS#600901, \$230,000. Ortiz, 459-8374, ask for Rachel.

4-BDR. HOME, 1-3/4 baths, 2-car garage, 1,750-sq. ft., fireplace, 1 acre, w/view of Sandias, Edgewood, \$230,000. Massoth, 980-9944.

## WANTED

NEW YORK TIMES NEWSPAPERS, from September 7, 2007 on, will pick up. Wagner, 823-9323.

HOUSE TO SIT, Albuquerque area, all or part Jan.-Feb., experienced senior sitter, no fee. Otey, 916-608-9153, bgotey@comcast.net.

GARAGE TO RENT, for 3/4 mos., East Albuquerque or East Mountains. Medeiros, 286-4217.

US COINS & COIN COLLECTIONS, Borders, 271-8107, ask for Rex.

TREADMILL, low price, good condition. Bristol, 843-9490.

MT. FUJI HIKING STICK. Douglas, 281-9842.

ROOMMATE, 1,600-sq. ft. 5 min. from Eubank gate, private bath, Internet, kitchen, laundry, parking, \$350/mo. Morath, 781-330-1253.

HOUSEMATE, 3-bdr. home, 2 baths, 2-car garage, 5 min. to Eubank gate, no smoking/pets, \$450/mo. plus utilities. Cheng, 417-8216, method3@gmail.com.

OLD GAME "CRAZY CLOCK," made in 1960s by Ideal Toys, must be in good shape. Kovarik, 897-2188.

GOOD HOME, male puppy, 1 yr. old, needs more room to run, shots are up-to-date. Ernest, 293-1757.



# International Habitat for Humanity honors retiree Irv Hall as volunteer of the year

By Iris Aboytes

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So reads Irv Hall's winning nomination for the International Habitat for Humanity volunteer of the year award (one of two in the US) presented at the Habitat for Humanity International Focus on the Future Conference in early October.

Irv and his wife, Lois, have been on several Jimmy Carter projects, including builds in Korea, the Philippines, Mexico, South Africa, and Georgia.

They have often sponsored the houses they have worked on. They cosponsored the Sandia/Sandia Retiree Habitat for Humanity house currently under construction (*Lab News*, Sept. 24).

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The Halls led a Habitat global village team to Guatemala in December 2005. The team worked on five houses that the Halls sponsored. "What a wonderful trip," says Irv. "The team felt God was in their midst."



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The Halls then started thinking about trying to make their gift go further. Working with staffs in Guatemala and HFHI, the Guatemala Dream Project was started. The goal of this project is to build 200 homes in Guatemala in the next two to three years. The Halls hope to get their gift matched. This is a first for HFHI.

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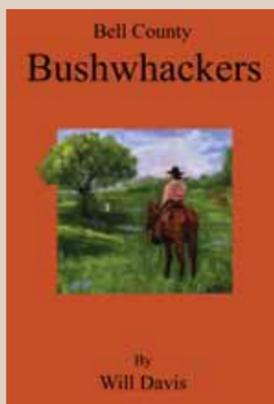
## Retiree Will Davis (aka) Dave Bushmire on the trail of the *Bell County Bushwhackers*

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*Lance Kincaid struggles to discover his past after losing his memory due to the wounds he received in a Civil War battle. His search takes him from Illinois to Bell County, Texas. His guide, Dark Moon, a Tonkawa scout, guides him and his partner Hefty. So begins the newly released book, *Bell County Bushwhackers* by Dave Bushmire under the pen name of Will Davis.*

His book is based on his experiences and actual historical events and locations. Dave, who retired from Sandia after 40 years, researched each location to ensure accuracy and give the book a flavor of the 1800s. He visited the towns, forts, and rivers discussed in his book and talked with the people about the legacy of the areas.

Dave moved to the West in the mid-1900s from Pennsylvania. He became interested in the West and read books on ranching, horses, and life in the early West. Dave became particularly interested in the history of the Apache Indians and includes them in his novels. He bought a small ranch and raised cattle and show horses. He showed award-winning quarter horses



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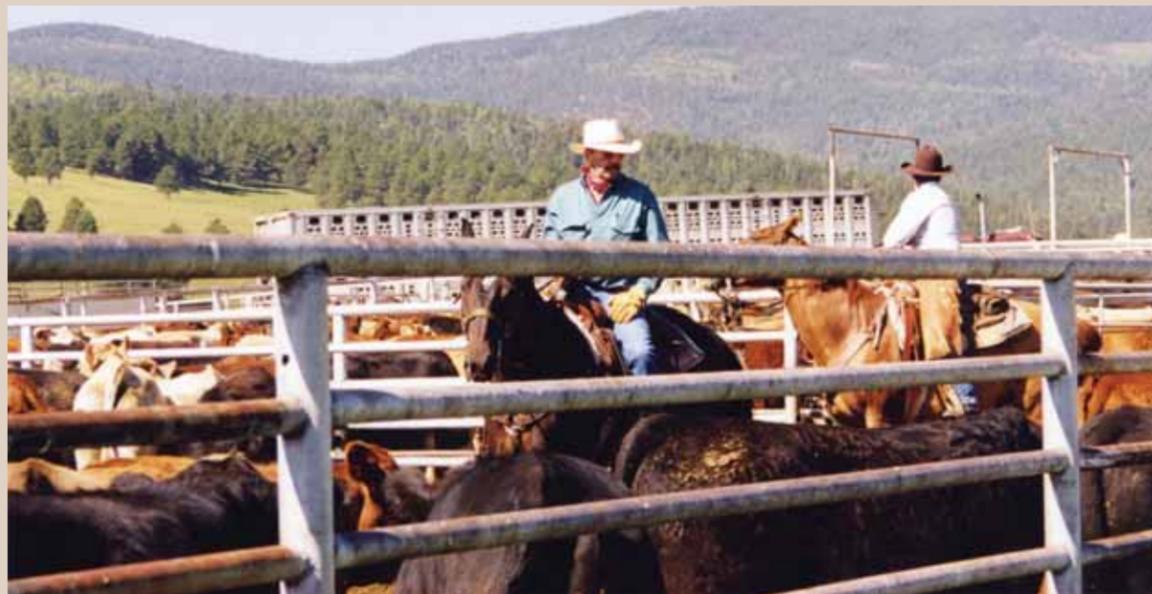
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You can keep up to date with Dave's progress on his second book and learn about the historical locations covered in his books by visiting his website at [www.westernsbwilldavis.com](http://www.westernsbwilldavis.com).



AT HOME IN THE SADDLE — Dave Bushmire tends to a herd of cattle during a roundup.

## Feedback

**Q:** I have noticed that some job postings, both internal and external, are restricted to applicants who qualify for the OYOC program. Is this legal?

**A:** As a recipient of federal funding, Sandia must comply with Executive Order 11246 for Affirmative Action requirements. Sandia's affirmative action policy is to apply good-faith efforts to achieve a balanced workforce including full utilization of women and minorities at all levels and in all segments of the workforce where deficiencies exist. The One Year On Campus (OYOC) program, now called the Master's Fellowship Program, supports this policy, as it is an external recruiting program designed to broaden the pool of qualified candidates. The end goal is to attract and retain top diversity talent with advanced technical degrees into technical staff positions. Sandia also has a Special Master's Program that offers on-roll employees the same opportunity that the OYOC program offers external candidates. These programs provide advanced educational opportunities to a diverse pool of candidates and employees, and demonstrate Sandia's commitment to achieving a balanced workforce.

— BJ Jones (3500)

## Mission Engineering Night a success



TWENTY-FIVE SCIENCE-MINDED STUDENTS and their parents recently attended a pre-engineering demonstration at Albuquerque's Eisenhower Middle School. The event, called Mission Engineering Night, enabled students and parents to participate in a wide range of engineering activities, including human electronics, structural design, and robotics. A variety of hands-on activities for the students introduced topics such as the effects of pressure on water and air. During the evening students and parents discussed the opportunities available in science and engineering careers. According to Sandia facilitator Norb Tencza (above, interacting with students), the students were enthusiastic, asking questions related to global warming, water supplies, and "out-of-the-box" thinking, including how they may be challenged to solve real-world engineering problems during their lifetimes. Norb says the Eisenhower Middle School presentation is part Sandia's commitment to introduce science and engineering concepts and career options to students in local K-12 schools.

(Photo by Randy Montoya)

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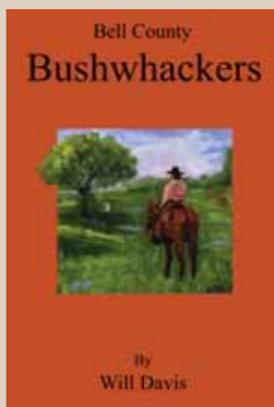
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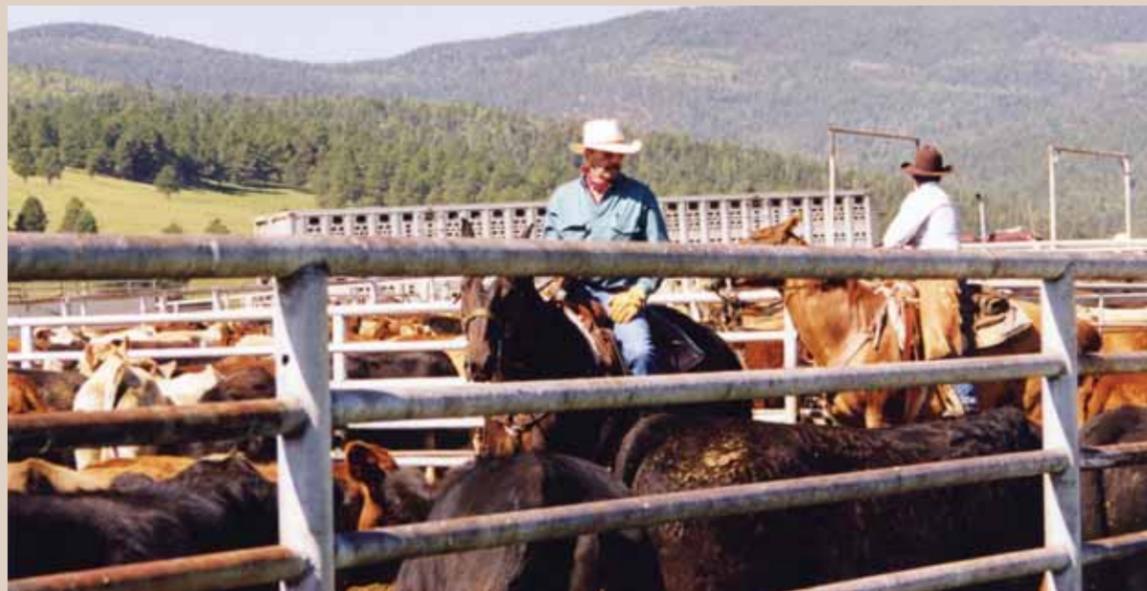
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