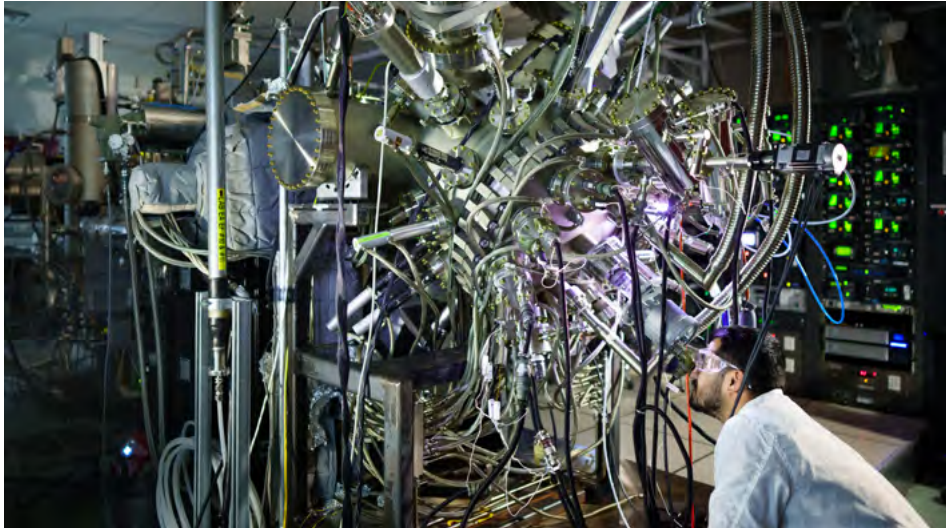




Sandia's safest year ever Page 5

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# A surprise contender for cooling computers: lasers



**EPITAXY** — Sadvikas Addamane, a materials scientist at Sandia, gazes into a viewport of a molecular beam epitaxy reactor, highly specialized equipment Sandia will use to build experimental photonic cooling plates designed at startup Maxwell Labs for testing. **Photo by Craig Fritz**

*One company says lasers may save energy and water. Sandia Labs is helping test the idea*

By **Troy Rummler**

**S**andia is helping a tech company test a bright new idea for cooling computers.

Minnesota-based startup **Maxwell Labs** has entered into a cooperative research and development agreement with Sandia and the University of New Mexico to demonstrate laser-based photonic cooling for computer chips. The company is

— CONTINUED ON PAGE 3

# Red tape reduction effort Unleash Excellence saves estimated \$55 million

By **Myles Copeland**

**R**ed tape. It's universally despised. So how does it wind its way around institutions from the college bursar's office to the Department of Motor Vehicles?

"When things go wrong, the default answer is to put training and a policy in place. But sometimes, what you're mitigating isn't worth the cost to mitigate it," said Meghan Pickard, senior manager for Operating Systems Excellence.

In the summer of 2023, Sandia launched a campaign titled Unleash Excellence, a

massive, ongoing effort to hunt down and destroy red tape.

This began with a comprehensive review of Labs' policies with an eye toward empowering employees and reducing unnecessary requirements. By the end of fiscal year 2024, 429 requirements had been removed from Sandia's policy system.

"Internal controls make it easier to ensure we follow the rules, but they slow down the Labs like crazy, and people who put those internal controls in place won't realize how much they've slowed things



**HONORING EXCELLENCE** — Labs Director James Peery, left, poses with Supply Chain Director Louis Griego and the WWE-style belt that recognizes Unleash Excellence successes. Supply chain teams implemented faster processing of purchases and other time and cost savings.

**Photo by Lorenzo Gutierrez**

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### Sandia National Laboratories

Albuquerque, New Mexico 87185-1468

Livermore, California 94550-0969

Tonopah, Nevada | Kauai, Hawaii

Amarillo, Texas | Carlsbad, New Mexico | Washington, D.C.

**Katherine Beherec, Editor** kgbeher@sandia.gov

**Ray Johnson, Production** rbjohns@sandia.gov

**Craig Fritz, Photographer** cvfritz@sandia.gov

**Michael Langley, California Contact** mlangle@sandia.gov

#### CONTRIBUTORS

Michelle Fleming (milepost photos, 505-844-4902),

Neal Singer (505-846-7078), Kristen Meub (505-845-7215),

Troy Rummier (505-284-1056), Meagan Brace (505-844-0499),

Mollie Rappe (505-288-6123), Skyler Swezy (505-850-2063),

Kim Vallez Quintana (505-264-1886), Kenneth Vigil (505-537-1528),

Luke Frank (505-844-2020), Michael Baker (505-284-1085)

Maggie Krajewski (mkrajew@sandia.gov),

Valerie Alba (vnalba@sandia.gov), Lea Blevins (lsblevi@sandia.gov)

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**EDITOR'S NOTE:** Please send your comments and suggestions for stories or for improving the paper. If you have a column (500-800 words) or an idea to submit, contact the Lab News editor at [labnews@sandia.gov](mailto:labnews@sandia.gov).

# Sandia's capabilities touted at nuclear deterrence all-hands meeting

By **Kenny Vigil**

**D**eputy Labs Director Laura McGill and Associate Labs Director Steven Girrens led an all-hands meeting on nuclear deterrence on Feb. 18 at the Steve Schiff Auditorium. Staff from Sandia California joined virtually.

Laura opened the meeting by discussing the changes in our current environment and emphasizing that Sandia is meeting its deliverables.

"We are here when the nation needs us," she said. "We are delivering the capabilities the nation needs."

In addition to recognizing Engineers Week, a significant portion of the meeting was dedicated to discussing Sandia's roles and capabilities in the nuclear security enterprise. The first is Sandia's role as the lead system integrator for the nuclear weapons program. This role requires close collaboration with labs, plants and sites across the nuclear security enterprise, as



**PROGRAM PROGRESS** — Deputy Laboratories Director Laura McGill delivers remarks at the Nuclear Deterrence all-hands meeting in February. She told employees that nuclear deterrence programs are moving forward positively, thanks in part to the work of Sandia and the collaboration across the nuclear security enterprise.

**Photo by Craig Fritz**




well as NNSA, DOE and DOD contractors to ensure systems and subsystems in weapon systems work together seamlessly.

Dan McMurtrey from the Microsystems Engineering and Science Applications Complex, or MESA, discussed Sandia's crucial role as the design and production agency for strategic, radiation-hardened microelectronics for stockpile systems.

"We bring capabilities that matter in the nuclear industry," Dan said. He added that MESA is the largest government-owned fabrication facility, providing thousands of parts for DOE, NNSA and DOD.

Other topics covered included an update on modernization and stockpile programs; a highlight on the exceptional 2024 production delivery performance;

infrastructure challenges; changes to the Nuclear Deterrence Program Management Office; a summary of future projects; and an update on nuclear deterrence strategy and innovation activities. The session wrapped up with a look ahead at digital engineering and artificial intelligence for nuclear deterrence activities. 

## Laser cooling

CONTINUED FROM PAGE 1

pioneering the new technology to regulate the temperature of chips, and significantly lower the power consumption and increase the efficiency of conventional air and water-based systems.

"About 30 to 40 percent of the energy data centers use is spent on cooling," said Raktim Sarma, the lead Sandia physicist on the project. He added that in some communities, the amount of water needed can strain local resources.

Maxwell's experimental microchip components could bring relief to the data center industry, where energy costs have become a **growing concern**.

"A successful project will not only address the immediate need for energy savings but also pave the way for processors to operate at performance levels that were previously thought impossible," Maxwell Co-Founder and Chief Growth Officer Mike Karpe said.

Data centers are where servers, typically thousands of them, process the emails, web searches and doom scrolls that connect the internet. Companies may also own private data centers for activities that need significant computing power, such as training artificial intelligence. All these activities generate heat, so data centers need extensive cooling systems to prevent servers from overheating.

Many researchers, including Raktim, have been studying photonic technologies — devices that harness light to perform useful work — for various applications, including data processing, communications and **national security**. Compared to electronics, photonics can be faster and more energy efficient.

But Raktim and his team believe this is the first time anyone has tried using photonics to chill computers.

### Enter the laser

Although lasers are better known for heating things up, such as in laser welding, engraving and 3D printing, they can also cool under specific conditions. This occurs when a particular light frequency is matched with a very small, very pure target of a specific element. In some quantum computers, for example, lasers help hold individual atoms at super-cold temperatures.

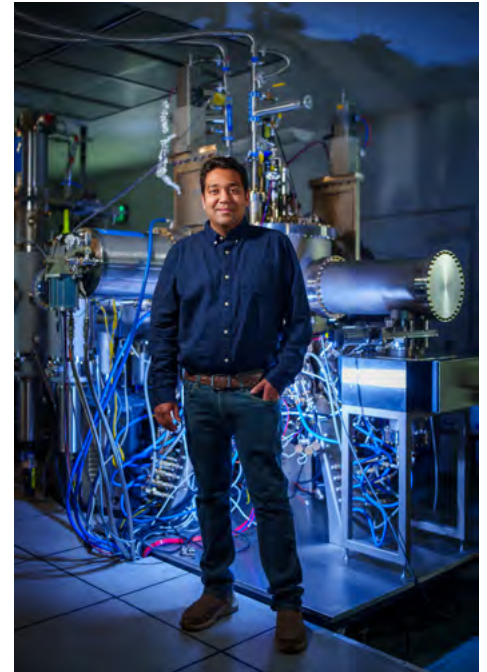
While Raktim cautioned a laser system cannot cool an entire house or any bulk materials, he said it might work for computer chips like GPUs if the cooling light can be focused on small, localized hot spots.

"We really only have to cool down spots that are on the order of hundreds of microns," about the size of a speck of dust.

Maxwell CEO Jacob Balma says his company aims to do just this. The idea is to use a photonic cold plate to either replace or complement water and air based cooling systems, which also allows for the resulting extracted heat in the form of light to be recycled and turned back into electricity.

In some current systems, cold water flows through microscopic channels in copper cold plates laid over a chip to soak up heat.

The Maxwell cold plate would be a light-based variation, designed with materials and microscopic features roughly the size of a virus — about a thousand times smaller than the thickness of a human hair — that channel cooling laser light to localized hot spots.



**RAKTIM SARMA** — Physicist Raktim Sarma leads the Sandia team partnering with Maxwell Labs to explore new ways to cool computers with light. **Photo by Craig Fritz**

Balma said his company's models indicate a laser-based cooling system can keep chips colder than water-based systems, explaining, "This will enable novel energy-recovery paradigms not possible with traditional cooling technology."

If the models prove accurate, the new way of cooling could allow chips to operate harder without overheating, improving their overall performance and power efficiency simultaneously.

"The unique capability of light to target and control localized heating spatially and at optical timescales for these devices unlocks thermal design constraints that are so fundamental to chip design that it is hard to speculate what chip architects will do with it — but

I trust that it will fundamentally change the types of problems we can solve with computers,” Balma said.

Maxwell’s Chief Technology Officer and Co-Founder, Alejandro Rodriguez, through his role as a professor at Princeton University, has previously collaborated with Sandia’s Raktim to design similar nanophotonic structures for other applications.

“It became clear to me from this collaboration that Dr. Sarma and Sandia Labs are among only a handful of partners that carry the vision, appetite and technical capabilities to address the highly interdisciplinary and pioneering materials, electronics and photonic components of this project,” Rodriguez said.

## Sandia to build extremely pure gallium arsenide devices

Sandia brings to the collaboration specialized expertise in working with a material called gallium arsenide. It is a semiconductor like silicon, and it makes up most of Maxwell’s cold plate design.

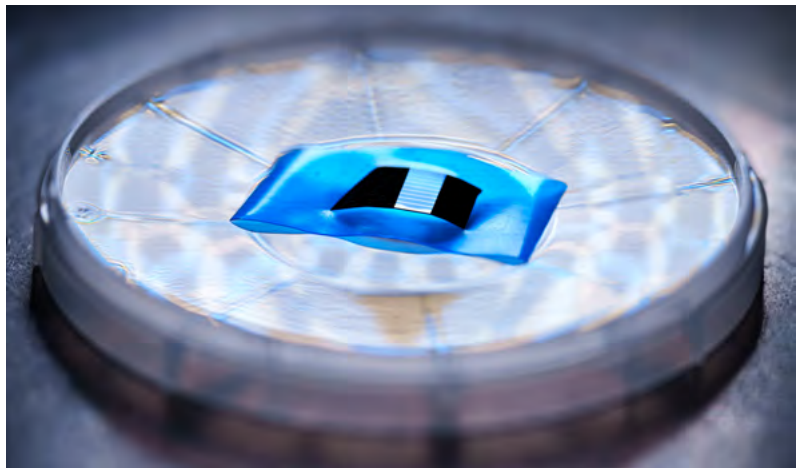
Because laser light will heat up impurities, erasing any cooling effect, the cold plate needs to have extremely pure, thin layers of crystalline gallium arsenide,

also known as epitaxial layers, to work.

“Which is what we’re good at,” Raktim said.

Sandia has a long history of producing high-quality semiconductors as the **nation’s source** of microchips for the nuclear stockpile. It also jointly operates the **Center for Integrated Nanotechnologies**, a DOE Office of Science user facility, with Los Alamos National Laboratory. Raktim and Sandia’s Sadvikas Addamane, both CINT scientists, will use a technique called molecular beam epitaxy to grow the wafers and build the devices.


“With MBE, we use ultrahigh purity sources, we can control the thickness of materials with a precision of less than one atomic layer and we grow the layers under



**THIN FILM** — Produced at Sandia, this gallium arsenide-based semiconductor is less than a micrometer thick. **Photo by Craig Fritz**

ultrahigh vacuum,” Sadvikas said.

Through the new research agreement, Maxwell Labs will generate the technical designs, Sandia will build the devices and UNM will analyze their thermal performance.

These agreements, known as CRADAs, foster mutually beneficial partnerships to facilitate cutting-edge research and development toward commercialization. In fiscal year 2024, Sandia entered into 72 new **CRADAs**, the second-highest number in the Labs’ 75-year history. 

## Unleash Excellence

*CONTINUED FROM PAGE 1*

down.” said Natasha Schwartzwald, manager of Lean Excellence and Design. Natasha cited increased options for staff members to “test out” of many required trainings as an Unleash Excellence win.

To identify policies and processes that were creating drag, and generate ideas for improvement, the Labs introduced a crowdsourcing tool. The Unleash Excellence tool, which gathers ideas that “aim to reduce red tape, increase efficiency and effectiveness,” has received more than 1,200 ideas and counting. Sandians vote ideas up or down.

“Those ideas that get upvotes very quickly capture the attention of leadership,” said quality systems professional Lisa Ragsdale, who has worked on Unleash Excellence for the life of the project.

One of those ideas, titled “Simplify Travel Booking,” was upvoted more than 300 times.

Sandia subsequently added SWABIZ, which, among other benefits, allowed Sandians to book and change flights via phone app rather than speaking with an agent under the old process.

“Unleash Excellence helps us see pain points from the traveler’s perspective,” Travel & Event Management manager Anne Rimbart said.

Shortly after adding SWABIZ, Anne’s team was coming back from a conference in Atlanta when a global IT outage crippled their air carrier. They rebooked flights within minutes and flew home to their families rather than being stuck in the airport.

“We’re giving people time back in their day,” Meghan said.

The Unleash Excellence effort is also



**PASSING THE BELT** — In a friendly confrontation, Supply Chain Director Louis Griego wrestled the WWE-style belt that recognizes Unleash Excellence successes from senior manager Duff Lill, whose team started “Red Tape You Love to Hate,” an early effort that addressed bureaucratic obstacles. **Photo by Lorenzo Gutierrez**

giving time back to Sandia’s mission. The Labs supply chain team worked with NNSA officials to streamline contractual requirements that slowed down negotiations with vendors for critical parts and services.



Hypersonics project manager Tim Penn said the improvements cut negotiations from months to weeks.

“We’re able to reach agreements faster because we’re able to shift the focus from terms and conditions to technical content,” Tim said. “We’re always in a position of needing to go fast.”

The supply chain team was recognized for making improvements with an Unleash Excellence WWE-style championship belt, a traveling trophy bestowed by Labs Director James Peery.

“I’m glad the Unleash Excellence


initiative was created,” said Louis Griego, director of Sandia’s Integrated Supply Chain Center. “We hire really smart, dedicated people and we want our team to think critically. By doing things like this, we give our teammates the autonomy to meet the fundamental spirit of requirements and encourage them to think critically and be creative.”

Louis wrestled the belt from senior manager Duff Lill, whose team started “Red Tape You Love to Hate,” an early national security programs effort to address bureaucratic obstacles. This effort

predated and catalyzed the Labswide Unleash Excellence initiative.

Overall, results of Unleash Excellence have been staggering. As of mid-March, its projects saved an estimated 419,000 hours of labor, with a cost impact of \$55.6 million.

There’s more to come, according to Natasha.

“We’re not done cutting red tape,” she said. “It’s a journey and it’s going to take time. Five years from now, we’re going to look back and say, ‘It’s so much easier to do my work.’” 

# Sandia’s safest year ever

*Lowest injury rate recorded in Labs history*

By **James Stewart and Scott Faulk**

**J**on Snell was nine years old when he watched a man fall nearly 20 feet from a ladder balanced precariously on a picnic table. His future brother-in-law landed flat on the concrete, his face smothered in paint, gasping for air. He was lucky. He walked away with some scrapes and a bruised ego, but young Jon walked away with something else: an understanding that humans make decisions that can have devastating consequences.

Laura Tidwell knows those consequences firsthand. In her early twenties, a horseback riding accident left her with an injury that took months to heal. She remembers the pain, the frustration and the way simple things like turning to check a blind spot while driving suddenly became brutal tasks.

“It was a wake-up call,” Laura said. “It made me realize how much an injury can take from you, both at work and in life.”

Years later, Jon and Laura, now Environment, Safety and Health senior managers at Sandia, have turned those experiences into careers dedicated to helping others avoid the same fate. And today, they have something worth celebrating.

Thanks to years of effort and a growing culture of safety, Sandia has accomplished a measurable shift in its safety culture that has culminated in the lowest injury rates in its recorded history, excluding months

during the pandemic when on-site work was limited.

## What that really means

While statistics can be dry, Sandia reaching its lowest ever recordable injury rate is anything but. For every 100 employees working at Sandia over the past year, 99.3% finished their workdays uninjured — a testament to a workplace where safety is a shared responsibility and becoming a cultural norm.

A recordable injury is one that requires medical treatment beyond first aid. That could mean stitches instead of a bandage, a prescription instead of over-the-counter pain relievers or restricted work duties instead of a full workload.

“If you look back at the past 10 months, our safety record has been consistently better than our three-year average and even further below our five- and 10-year trends,” Jon said. “That tells me we’re not just having a lucky year — we’re seeing a real shift in how people approach safety.”

For Jon, that’s an A-plus in an environment as complex and high stakes as Sandia, where employees work with intricate machinery, hazardous materials and cutting-edge technology. Maintaining safety is no small feat, and it’s something Sandia must do to deliver on its mission.

## The anatomy of an achievement

Making Sandia a safer workplace required a coordinated effort to change how safety is approached across all organizations. This



**A LIFE-CHANGING EXPERIENCE** — Laura Tidwell, now a senior manager in Environment, Safety and Health, pauses for a photo while riding Yukon. When she was younger, Laura had a riding accident that left her injured, and the long recovery gave Laura a deep understanding of how serious injuries can impact a life. In 2025, Laura’s commitment to safety came full circle as she helped Sandia achieve its safest year ever, with 99.3% of employees finishing their workdays uninjured.

Photo courtesy of Laura Tidwell

transformation relied on data-driven decision-making and a Labswide commitment to prevention.

For years, Laura’s and Jon’s teams and their partners analyzed trends, identified risk areas and tackled hazards before they resulted in injuries. Teams studied where and why injuries were happening, giving safety professionals a roadmap to prevent future incidents and share lessons learned across the Labs.

One example is slips, trips and falls, which consistently rank as the most common injury types. Rather than simply reacting to these incidents, the safety and facility teams mapped out high-risk areas, improved walkway designs and deployed ice melt before storms hit.

Another major risk was ergonomics. The data showed employees who had never completed workstation assessments were more likely to experience musculoskeletal injuries. In response, Sandia's safety teams launched a campaign to assess and adjust workstations before employees developed chronic pain or injuries.

"Data gave us direction, but it was the people who made it work," Jon said. "By working together across teams, we weren't just reacting to injuries — we were preventing them."

Laura's and Jon's teams leaned on partnerships across departments to turn insights into action. Ergonomists, Environment Safety and Health coordinators, medical professionals, safety engineers, facilities and line partners all played critical roles in making these changes a reality.

### The human side of safety

Beyond data and policies, something deeper drives Jon and Laura: a personal investment in the well-being of every person who walks through Sandia's doors.

"I feel honored to be a part of this," Jon said. "We don't always get to see the accidents we prevent but knowing that fewer people are getting hurt because of the work we do — it makes it all worth it."

For Laura, the impact of safety extends beyond the workplace. "When someone avoids an injury, we protect their job, hobbies, family and quality of life," she said. "That's what keeps me motivated."

Both Jon and Laura recognize that safety is more than enforcing rules. It's about relationships and making good choices.

"Trust is at the core of it all," Laura said. "Trust that leadership cares, trust that colleagues will look out for one another, and trust that when someone speaks up about a hazard, it will be taken seriously."

### What comes next?

The work isn't done, and it never will be — because there's no finish line. Safety is a daily commitment that shapes the way people work and interact.


"We've come a long way," Jon said. "And if we keep this momentum going, we can make Sandia an even safer place for the next generation."

Achieving the lowest injury rate in Sandia's history is a reason to celebrate, but it's also a challenge to keep raising the bar. Vigilance, collaboration and personal dedication made this milestone possible, and they



**LESSONS LEARNED** — Nine-year-old Jon Snell, who grew up to become an Environment, Safety and Health senior manager, witnessed his future brother-in-law fall from a 20-foot ladder perched on a picnic table. Although the man sustained only minor injuries, the incident left a lasting impression on Jon. In 2025, that lesson came full circle as Jon played a pivotal role in helping Sandia achieve its safest year ever. **Photo courtesy of Jon Snell**

will be the keys to keeping Sandia's workforce safe for years to come.

Laura and Jon's journey started with personal experiences, but their mission has become something much bigger. They, along with countless others at Sandia, are shaping a workplace where safety isn't just something they do — it's who they are. 

## Risk and reward: A career spent looking forward

*Associate Labs Director Andy McIlroy retires after over 30 years*

By **Michael Ellis Langley**

“The California site is a unique asset for the Labs and for the nation.”

Just a few weeks away from retirement, Andy McIlroy, associate Labs director for Integrated Security Solutions, is thinking a lot about his time at Sandia California and starting to run into some lasts — last Senior Leadership Team meeting, last time at the California cafeteria

— which is a bit strange for a man so focused on firsts.

### Take it from the top

Andy has spent more than 30 years at Sandia, starting with two years as a postdoc in the Combustion Research Facility — a facility he would later help run. He came to the Labs after achieving a bachelor's degree in chemistry with honors and distinction from Harvey Mudd College and a doctorate in chemical physics from the University of Colorado.

He left Sandia in 1993 to take a position with The Aerospace Corporation and become the type of researcher most



**DECADES OF DEVOTION** — Integrated Security Solutions Associate Labs Director Andy McIlroy is retiring from Sandia after 30 years.

**Photo by Spencer Toy**

romanticized by American culture: a rocket scientist.

“I wanted to stay at Sandia because of the incredibly important work and the people here, but there wasn’t really an avenue for that at that time,” Andy said on a rainy morning in February as he recalled his career. “The practice then was that postdocs were never hired by the Labs after their stint was over.”

Andy was happy studying propulsion as a rocket scientist, never thinking his path might return him to Livermore. But in 1997, he got a call that changed his life.

“A mentor of mine, whom I had worked with in CRF, said that he was setting up a new microfluidics program, and they had decided to backfill his position and wanted me to apply,” Andy said. “I didn’t say yes immediately because my wife had a career working as a chemist for a pharmaceutical company. I wasn’t going to just upend her career.”

As it happens, the new microfluidics team needed a biochemist, so there was an opportunity for her as well, and the pair both became Sandians. For Andy, a return to the pure science work of the Combustion Research Facility was a welcome change that held the promise of new opportunities.

### Old flame, new discovery

In his scientific career, Andy has authored and co-authored more than 40 papers, but he said one project stands out and brings him the most pride. Andy was part of a team, along with now Senior Manager Craig Taatjes and professor Terry Cool of Cornell University, examining flame chemistry — specifically, the chemistry of combustion intermediates, the chemicals that transform fuel and oxidizer to carbon dioxide and water.

“People had studied combustion for years to understand what is happening inside flames. The area where combustion happens is very small, so it’s hard to sample the chemistry going on within the flame,” Andy said. “It turns out, when you study a reaction in low pressure, the area of combustion stretches as the flame gets lower. It makes it easier to detect what is going on in there.”

The team was able to get access to the [Advanced Light Source](#) at Lawrence

Berkeley National Laboratory. The facility’s intense extreme ultraviolet light enabled detailed measurements without interfering with the chemical reaction. Andy’s job was to design and build a large, yet portable, vacuum system to house the combustion system and custom mass spectrometer used for measurements.

“Of course, portable just meant it could fit in the back of a truck,” Andy said. “But it was really very exciting and was something no one had yet done.”

Andy took over the construction of an already designed system — one that he discovered would never work.

“There had been a fair amount of money invested in it,” Andy said during a Careerapalooza interview on March 4. “Three to six months in, I thought ‘This thing doesn’t work the way it’s supposed to.’ I kept doubting myself because I knew the folks who did the initial design. They were great scientists. I must be doing something wrong here.”

He decided to take a step back and ask how he would design it. He recalled finding a fatal flaw and, after checking his calculations over and over, summoned the courage to suggest radical change.

“It was never going to work the way it was designed,” Andy said. “I had to go back to my manager at the time and tell him, ‘You spent this big chunk of money on this, and it is never going to work. We need to take this big hunk of stainless steel and put it in the bin and start over. As a matter of fact, we shouldn’t just start over, we should completely redesign this from scratch.’”

A move some might see as risky turned out to be a decision that led to a major scientific discovery.

The team discovered a new class of intermediate — compounds that form through combustion — that had only been



**SEARCHING FOR UNDERSTANDING** — Retiring Associate Labs Director Andy McIlroy recalls his participation in a breakthrough in the understanding of combustion chemistry. **Photo by Spencer Toy**

theorized to exist. Those molecules were previously dismissed by most scientists as something that occurred so fast that, if they existed at all, didn’t matter to the combustion chemistry. The team not only confirmed their presence, they also learned that the chemical was relatively stable and common.

“Craig and Terry had the ah-ha moment, but it wouldn’t have been possible without the ALS and the chamber. It really was discovery through collaboration,” Andy said.

Andy still has a high-resolution image of that experiment, taken from inside the chamber, at his desk to mark his participation in the team that first observed those intermediates inside a combustion event.

### Opening Sandia to the world

Andy demonstrated his commitment to discovery through collaboration for the global scientific community in 2011 when, as a senior manager, he helped lead the development of the [Livermore Valley Open Campus](#).

“I worked with (former Lawrence Livermore National Laboratory director) Bill Goldstein,” Andy said. “The best minds in the world don’t come exclusively from the United States. We can get new perspectives and learn about discoveries and methods in other countries.”

While that may seem obvious to many people today, it was a bit of a risk just a decade ago.



“We had to sell our value proposition to the Department of Energy and other federal departments to allow for a place where foreign nationals could come to work. It was risky to propose this, but I think our careers went OK afterward,” Andy said, pointing out his ascension to associate Labs director and Goldstein’s to lab director.

Since its founding, the Livermore Valley Open Campus has hosted hundreds of international scientists, breakthroughs in diesel engine design and biotechnology and the creation of a handheld biochemistry lab.

### A special place

The Open Campus on the east side of Sandia California is just one reason the Labs’ Livermore site is special to Andy.

“We are able to do things a little more easily than the larger Labs,” he said. “We were the first to test and institute the 4-10 work schedule. We created the first extreme ultraviolet lithography machine, which ultimately allowed the creation of today’s state-of-the-art chips and more powerful phones and other microelectronics. We are nimble and able to react more quickly to find new efficiencies that benefit the whole Labs.”

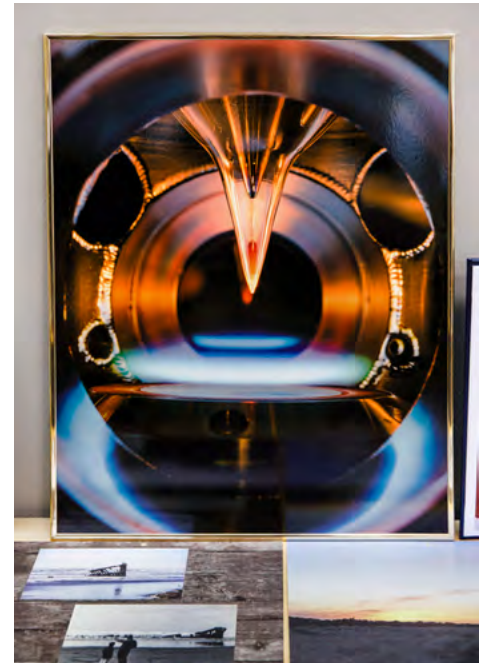
Andy jokes that he might end up being known as the “ALD who moved the most dirt” because of the amount of new construction at the California site during his tenure. The new Data Center, started

by former Associate Labs Director Dori Ellis, the Sandia Programs Engineering and Assembly Research facility, Limited Area Multi-Program Secure High Bay Laboratory complex and cafeteria are some of the new buildings on the 50-year-old site. Perhaps counterintuitively, Andy said all the additions to the site are actually savings for the American taxpayers.

“We didn’t just build these facilities because the site was aging,” Andy said. “We are leading three nuclear weapons programs here. These updates help us do things more efficiently and ultimately save money. The landscaping was not just to make the site more attractive. The drought tolerant plants save water, which is a precious resource in California, and let us spend less money on maintenance.”

Andy also points out improvements people cannot see, like the upgrades to the water and sewer systems throughout the site. The aging plumbing was leaking into buildings and into the ground, costing money in maintenance and lost water. Upgrading that system will save the Labs money in the years to come but also, Andy points out, each of these site improvements makes Sandia California more efficient, more productive and ensures the site continues to lead by example for generations to come.


“One of the jobs of every ALD for the Integrated Security Solutions Division is to be a steward of the Livermore campus,” Andy said. “This California site is a unique



**MEMORIES** — Associated Labs Director Andy keeps a photo at his desk of the combustion experiment that confirmed new intermediates existed within flames. Andy participated on a team that first observed those intermediates inside a combustion event. **Photo by Spencer Toy**

asset for the Labs and the nation. It is a special place where people do extraordinary work.”

Since announcing his retirement in January, Andy has been approached by other Sandians telling him how much he impacted their lives and careers.

“I tell them all the same thing,” Andy said. “It’s easy to support exceptional people.” 

## Tapping back into your passion

*After a 28-year hiatus, Sandian rediscovers his love of acting*

By **Magdalena Krajewski**

**D**an Ware doesn’t like to talk about himself. But he doesn’t mind being in the spotlight, although not in the way you might think.

“I’ve never met a microphone I didn’t like,” Dan, a communications specialist at Sandia, said.

This makes sense when you meet him. He speaks loudly and clearly. He’s not yelling, but if you shared a wall with him, you’d know when he was talking. He has this ability to project that seems natural, as if he could give a speech before a crowd — no notes, no projector, no problem.

Dan belongs on stage, which works out because that’s where he feels most at home.

### The stage

He was first introduced to the stage and acting in high school, where he was

a theater kid and performed in several musicals, including “Paint Your Wagon,” “West Side Story” and “Oklahoma.” In college, Dan took a handful of acting classes, but nothing serious.

“It wasn’t my career trajectory, just something I did for fun,” he said.

After college, Dan started his career, got married and started a family. As he explains, he got busy with the “real-world stuff.”

Dan wasn’t acting anymore, but he was still very much on a stage. In his work as



a communications professional, he often found himself before a crowd, sometimes with a microphone, disseminating information and updates to local media and the public.

Eleven years of his career were spent working for the New Mexico Forestry Division, where he did many things, but perhaps most notably, he kept New Mexicans updated during several catastrophic wildfire seasons. Between 2003 and 2014, while in this role, the state experienced nine of the most destructive wildfires in recorded history. Dan's metaphorical stage at this time often positioned him standing with a raging fire behind him.

## Act one

"In 2014, I left state forestry to take a job in Farmington at BHP Billiton New Mexico Coal," Dan said. "I would live there during the week and come home to Albuquerque on the weekends, but there wasn't a whole lot to do in Farmington, so my weeknights were pretty boring."

It had been 28 years since Dan had been in a play, but he saw an audition for an upcoming show, tried out and got the part.

Back in the spotlight, Dan remembered how much he loved acting.

"I caught the bug," he said.

And the rest is history.

Dan starred in three plays while living in Farmington before moving back to Albuquerque. Back home, he auditioned for a play at the Adobe Theater. Again, he got the part and found a new community.

"The Adobe Theater is true community theater," Dan said. "We're not a theater troupe; we're not professionals. Productions are open to anyone who wants to try their hand at being in a play. Anyone can audition. We're run by and for the community."

On top of acting, Dan sits on the Adobe Theater Board of Directors.

"Being part of this community and helping run a community theater gives me a lot of self-gratification," he said. "We're all volunteers. We don't do this for money,

but collectively we help this place run — from cleaning the bathrooms to stocking the concessions, helping build sets and deciding which plays to do. It's been really rewarding."

It's a close-knit community that Dan has not only helped maintain but also build.

"In 2022, the same year I started at Sandia, I was in a stage play based on the board game Clue. It was put on by a now-defunct theater group," Dan said. "We were in this super run-down theater. There were holes in the ceiling, it was hot and the air conditioner didn't work. It was just problem after problem. But it was also one of the most fun plays I've ever done because, as a cast, we had to come together and get through all these hiccups, and it brought us closer as a group."

Dan brought several of the actors from that play into the fold at the Adobe.

## Dan's passion

In the last seven years, Dan has acted in nine stage plays and several audio productions. He and his wife also host and produce the show Radio Theater on KUNM FM.

"In my day-to-day life, I'm pretty introverted," he said. "But acting lets me be someone else. I can be a character on stage that allows me to do things and say things that I would not typically do or say. It lets me explore other characterizations. It's fun."

Dan said working full-time and acting isn't without its stressors. But at the end of the day, it's a passion he doesn't want to lose again.

"I took a long break from acting between 1988 and 2015," Dan said. "During that time, I didn't think about what



**ON STAGE** — Dan Ware gives a talk at the Adobe Theater where he has acted in several plays and currently sits on the board of directors.

Photo by Craig Fritz

 | Technical Library

# NATIONAL LIBRARY WEEK

APRIL 7-11

APR 8

**NM TECHNICAL LIBRARY OPEN HOUSE**  
(Bldg. 804/10)

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APR 9

**POP-UP LIBRARY AT THUNDERBIRD CAFE**

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For the full schedule of events visit


NLW.sandia.gov



was missing because I was busy living life, working, raising kids and supporting my kids' passions. My son plays soccer, so it was just soccer all the time — practice, games, tournaments — and I loved all of it, but soccer was his passion, not necessarily mine. Once I started acting again, I realized there was a piece of my life that had been missing all those years; I rediscovered my passion.”

Dan lived an entire life before he got back in touch with the spotlight, and once he did, he remembered how much he loved it.

“I think people have to look at their lives and take stock of the things that really give them self-satisfaction, whether that be

gardening, theater, mountain biking, etc. We all have things we like to do, but what are the things we love?” Dan said. “Think of the things you want to do more of, not out of obligation, but because you truly enjoy them. For me, it's theater; the more I do it, the more I want to do it. That's passion.” 



**BACK AT IT** — A theater kid in high school, Dan Ware took a 28-year break before returning to the stage.  
Photo by Craig Fritz

# Applying microscopic concepts to big-picture safeguards

*Sandia engineer protects us from ourselves, each other*

By **Luke Frank**

**D**ongmei Ye has spent her 23-year career working to keep the public safe. Her efforts have been instrumental in both research fields and the nuclear security enterprise. Her achievements in supporting Sandia's nuclear weapons reliability mission have far-reaching impacts, safeguarding the health of the stockpile and underpinning the success of the national nuclear deterrent.

Fittingly, Dongmei recently received the [Society of Asian Scientists and Engineers](#) Career Achievement Award, which celebrates technical accomplishments and advancements in science, engineering and technology. This prestigious award recognizes exemplary leadership and volunteerism within the SASE community.

## Bioengineering bonanza

In addition to her vital work as a weapons reliability engineer, Dongmei has developed bioengineering capabilities and led research teams addressing challenges in both the national biodefense mission and public health. Her notable accomplishments include a sophisticated synthesis system to generate and characterize potential bioagents, bioengineering of nerve agent countermeasures to combat biological weapons of mass destruction, ribosomal capture to rapidly identify emerging viral outbreaks and advancing therapeutics for Crohn's disease.

When the urgent need for COVID-19



**SAFETY MATTERS** — Sandia engineer Dongmei Ye was recently awarded the prestigious Society of Asian Scientists and Engineers Career Achievement Award, celebrating technical accomplishments and advancements in the fields of science, engineering and technology.

Photo by Craig Fritz

diagnostic testing arose at Sandia at the onset of the pandemic, Dongmei was called back from her reliability duties and stepped onto the frontline at Sandia's COVID-19 diagnostic testing lab. Her efforts contributed to thousands of diagnostic tests being performed at Sandia, allowing the Labs to continue its national security work without interruption.



“For me, this award not only recognizes my personal achievements over the years, but also the environment in which I am able to succeed,” Dongmei said. “Sandia provides a platform for us to explore new career paths and expand technical skills into different mission areas. The levels of support, resources and expertise enable us all to excel in our work. Sandia demonstrates the potential of team science in developing solutions to our national security and other challenges.”

**Accomplishments abound**

Dongmei is a recipient of numerous national and international awards, has contributed to numerous high-impact publications and is a popular, sought-after speaker. Alongside her frontline work, she also has been actively involved in professional societies and research and



development programs, fostering aspiring talents among clinicians, researchers and trainees. Dongmei established the design

procedure for a local startup company and is actively engaged in K-12 education, cultural outreach and athletic programs.

# ABQ mayor visits Sandia



**WORKING TOGETHER** — Albuquerque Mayor Tim Keller addresses an audience at Steve Schiff Auditorium during a Community Engagement Speaker Series event on March 25. His talk, titled “Working Together to Improve Our Community,” covered local issues such as crime, homelessness, addiction and economic development. Keller also toured the Unmanned Aircraft Systems Lab during his visit. It was Keller’s third visit to the Labs as part of the Community Engagement Speaker Series; he also spoke to the workforce in 2018 and 2023. Sandians can find video recordings of Keller’s talk and others from the Community Engagement Speaker Series in the Digital Media Library.

Photo by Craig Fritz



# Smart connections



**SMART LABS UNITE** — Sandia hosted representatives from eight national laboratories and University of California, Irvine, at the Albuquerque site for a workshop on Smart Labs in March. The Smart Labs initiative focuses on boosting the efficacy of laboratory ventilation systems to improve safety, increase building efficiency and lower operating costs. Sandia’s Smart Labs initiative began in 2021 and has so far saved Sandia over 100,000 kilowatt-hours of electricity and \$64,000 in energy costs. Inspired by the workshop, the Sandia team is working to integrate fume hood data into analytics tool SkySpark to assist in monitoring and more quickly addressing equipment issues.

**Photo by Bret Latter**

## Mileposts



James Harris 35



Howard Walther 35



Kyle Hayden 30



Darren Hoke 30



Larry Kincaid 30



Marlo Maxson 30



Stephanie Willis 30



Guadalupe Barraza-Medina 25



Darren Branch 25



Rachel Carlson 25



Steve Highland 25



Issac Toledo 25





Robin Brunt 20



Sylvia Chavez 20



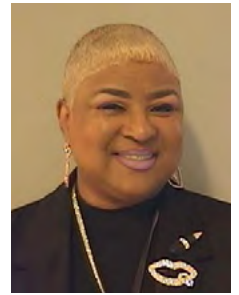
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Pete Heald 20



Billy Lucero 20



Stephanie Kelly-Johnson 20



Yvette Montoya 20



Jessica Vanderburg 20



Steve Vender 20



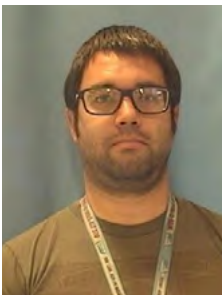
Daniel Doman 15



Chris Hackard 15



Russell Hall 15



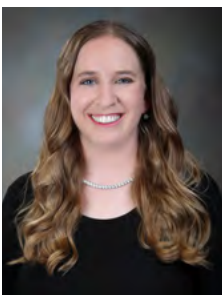
Jeff Salzbrenner 15



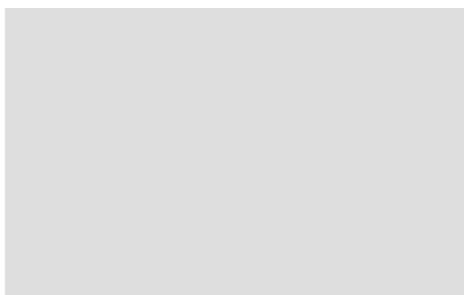
Heather Sandoval 15



Greg Seligman 15



Megan Tribble 15



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[community-involvement@sandia.gov](mailto:community-involvement@sandia.gov)

## Recent Retirees



Nancy Aldridge 31

