By Jules Bernstein

A recent discovery by Sandia researchers may unlock the potential to turn lignin, a byproduct of biofuel production, into renewable plastics, fabrics, nylon, and adhesives. The enzyme has little in common with other, better understood proteins, which previously made it impossible for scientists to guess how it functions. This paper marks the first time anyone has solved the structure of LigM.

(Continued on page 3)

Trash into treasure
Sandia could help biofuel pay for itself with goods made from waste

RESEARCHERS Amanda Kohler and Ken Sale study the bacteria they used to produce LigM. (Photo by Dino Vournas)

By Jules Bernstein

A recent discovery by Sandia researchers may unlock the potential to turn lignin, a byproduct of biofuel production, into renewable plastics, fabrics, nylon, and adhesives. The enzyme has little in common with other, better understood proteins, which previously made it impossible for scientists to guess how it functions. This paper marks the first time anyone has solved the structure of LigM.

(Continued on page 3)

Forbes ranks Sandia a top US employer
By Kristen Meub

Forbes business magazine ranked Sandia 20th on its 2017 Best Employers list in the large company category. A total of 500 employers were included on the list, and Sandia ranked first among large aerospace and defense companies.

The results were based on a survey of 30,000 American workers that asked how they liked where they work and how likely they were to recommend their friends and family apply to work there as well.

While every Sandian has a unique reason for working at the Labs, many appreciate the meaningful and challenging nature of Sandia's mission, says Human Resources Center 3500 Director Rob Nelson. He adds that the nature of the work and the culture at the Labs help attract top talent.

A surprise and an honor

"We have an amazing opportunity to connect the really great people who work at the Labs with important national security work," Rob said during an interview with Albuquerque Business First. "When you think about what our purpose is, it's really to develop advanced technologies that ensure global peace, and when you work at Sandia you have the opportunity to tackle tough problems with top scientists and engineers while still being able to maintain a work-life balance."

Sandia has not ranked on the Forbes Best Employers list in previous years, and the news of this year's ranking was both a surprise and an honor for Sandia's leadership team.

"I want to share my thanks and congratulate everyone who helps make the Labs a great place to work," Labs Director Steve Younger says. "Each of us contribute to Sandia's mission and impact the work environment. I also want to share my appreciation for the leadership and contributions of Jill Hruby and her team in shaping Sandia's culture. Their vision and efforts helped make Sandia into what it is today."

In its survey, done with help from the research firm Statista, Forbes noted how historic low unemployment numbers have increased the competition for great workers. The top three large employers for 2017 were retail giant Costco, Google, and the IKEA outdoor store.
**That's that**

What with new colleagues coming on board from Honeywell and Northrop Grumman, new Sandians hired over the past several months, and a wave of summer interns joining us from schools across the country, I thought I'd share a few thoughts about living in New Mexico.

First, there are lots of great books about the state, books that can give you the kinds of insights you can only get from great storytelling. Some of my favorites, in no particular order, include *Alas, Las Vegas*, *Five Past Midnight*, *Red Sky at Morning*, *Death Comes for the Archbishop*, and *Blood and Thunder*. Then there are the novels (all of them) by Tony Hillerman and the works – nonfiction and fiction – by Frank Waters. These books and countless others do a great job of conveying the history, the culture, the texture, and the diversity (geographic and demographic) of this most unique and extraordinary place.

As full and rich as all these books may be, though, they don't tell you everything. As such, I'd like to share a couple of insights I've gained over the course of several decades of living in the Land of Enchantment. Things I know now that I wish I'd known when we moved here permanently in the early 1980s.

First, come mid-April, without fail it's going to get hot (hot being a relative term at this time of year) and you'll be sorely tempted to get up on your roof and hook up your swamp cooler. My advice: DON'T.

You should know that in Albuquerque, hooking up the cooler is an annual affair with some ritualistic aspects. It's a process that for most households here also entails disconnecting your furnace. It's one or the other: heater or cooler, you can't have both. During that April warm spell, sweat it out for a few days. Because just as sure as can be, before the month is out, it will turn cold again. And you're going to need that furnace (as we did in our household last night – May 17 – when it got down into the low 40s and there was a dusting of snow on the Sandias).

The flip side of this advice is also true: Come that first cold snap in September, you'll want to go up on the roof, disconnect and winterize the cooler, and fire up the furnace. My advice: DON'T. You'll end up wishing you hadn't when it warms back up into the 80s right into October (and at that time of year, 80 is the new 90!).

DON'T plant tomatoes in April – that is, unless you just won the lottery and are on a real lucky streak. Chances are, we're going to get one last hard freeze some night before the end of the month and those lovely plants are not going to make it.

Enjoy the state's unique cuisine and learn the distinction between Mexican food and New Mexican food. It's important. But DON'T order red for the hottest chile, be it red or green. Being a New Mexican now, you'll be tempted to, but it can be really hot, hot to the point where you can't taste it – or at least – at all. At the least, have it on the side. That's perfectly okay. As an aside on this subject, years ago my parents were visiting and we stopped at a restaurant in Chama. My dad asked the waitress which was hotter, the red or the green. I've always remembered her reply and respected her honesty. "I don't know," she said. "They both burn too hot for me."

Over time, you'll find that New Mexico is mostly a DO sort of state. There are a lot more DOs than DON'Ts around these parts.

I've gained over the course of several decades of living in the Land of Enchantment a few thoughts about living in New Mexico.
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male scholars from the junior class from San Francisco Bay Area high schools recently gathered at Sandia's California site for the 26th annual Sandia Math and Science Awards. The Sandia Math and Science Awards program recognizes high-achieving young women for their accomplishments in STEM (science, technology, engineering, and math) subjects and encourages their future studies by pairing them with Sandia mentors. Teachers from 19 northern California high schools in Livermore, Dublin, Pleasanton, Tracy, Lafayette, Manteca, and Oakdale nominated students they deemed outstanding in math and science high school.

In her keynote address, Heidi Ammermann (8700), director of Homeland Security and Defense Systems, touched upon her academic and professional journey and the role Sandia plays in ensuring global peace.

"At the beginning of my career, I knew I wanted to do something with math and computer science," Heidi said. "But I also wanted to be involved in public service and serving my country. Sandia has allowed me to do both.

Here she also discussed a major theme that emerged in this year's nominations—mentorship.

"You all aren't just incredibly hard-working. You also went out of your way to motivate your peers and help others," she said. "It says so much about you as human beings and future leaders.

There's an app for that

Testing for chikungunya:

A

ld rapid, mobile testing for Zika and other viruses to the list of things that smartphone technology is making possible. Sandia researchers have developed a smartphone-controlled, battery-operated diagnostic device that weighs under a pound, costs as little as $100, and can detect Zika, dengue, and chikungunya within 30 minutes.

Testing for these mosquito-borne viruses currently requires a laboratory, and patients can wait days for results. The tests require instruments that are roughly the size of a microwave oven and can cost up to $25,000. This makes rapid testing unrealistic for limited-resource clinics in developing countries where the viruses are prevalent.

The Sandia team describes its rapid-testing prototype in a paper published recently in the journal Scientific Reports: “A smartphone-based diagnostic platform for rapid detection of Zika, chikungunya, and dengue viruses.”

Early research and development of the prototype device was sponsored by Sandia’s Laboratory Directed Research and Development (LDRD) program.

Smartphone technology is a key feature of the device. “In addition to creating an app that serves as a simple interface to operate the device, we were able to adapt smartphone camera sensors to replace traditional laboratory sample analysis tools, allowing for unprecedented mobility,” says chemical engineer and lead author Aashish Priye (8621).

Laboratory in a box

The Sandia team’s device is based on the loop-mediated isothermal amplified reaction (LAMP), a novel isothermal amplification technique that rapidly amplifies DNA or RNA.

Involving tagging fragments of synthesized viral DNA called primers with fluorophores — molecules that emit bright light signals. The primers incorporate into the heated and amplified sample. Such QASIR then causes samples containing viral DNA/RNA to appear bright, while negative reactions remain dark.

One-touch testing

For the Zika project, Robert’s team developed a novel algorithm that allows a smartphone sensor to act as a fluorimeter, detecting QASIR LAMP light signals if they appear. LAMP works so simply that the user need only place the smartphone on top of the LAMP box and open an app. The app then uses the sensor to initiate the LAMP reaction.

Once the 30-minute testing period is up, the smart phone photographs the sample. The app then employs a novel image analysis algorithm to accurately determine the color and brightness of the glow emitted from the LAMP reaction. This smartphone-based image analysis offers much greater detection certainty than the lab technician’s naked eye.

Zika virus has been linked to severe fetal abnormalities, including microcephaly and congenital blindness, as well as neurological disorders that can strike people at any age. By enabling diagnosis in half an hour, the device could help clinicians make faster decisions about patient care and isolation, and rapidly alert public health authorities so they can take measures to prevent spread of the virus.

Furthermore, Zika, dengue, and chikungunya are spread by the same mosquito type and have similar early symptoms. Sandia’s prototype diagnostic tool could enable care providers to test quickly for all three at the same time, preventing misdiagnoses. The same tool can also be adapted to detect other human or animal pathogens.

The cost of making a LAMP box prototype to test for these viruses depends largely on the cost of the phone selected for use with it. “There are billions of smart- phones in the world, even in developing countries, and this tool doesn’t require the highest-end smartphone on the market,” Aashish says. "It only needs to have an optical sensor and be able to run the app." The smartphone used in Sandia’s successful tests of the prototype cost a mere $20. Ultra-accessible and ultra-portable, the Zika box prototype could one day become a staple in point-of-care clinics worldwide.
The Field Office. In building on that, I would note that I’m a big believer in data-driven
also on the technical.
right the efficiency of mission delivery only increases.
ment, and Safety and Secu-
Human Resources, Procure-
ment, and Safety and Secu-

Jeff, we know safety and security are extremely important issues, priority issues,
Across the board — particularly on the support side of the Laboratories, but
also on the technical.

Several examples come immediately to mind. Not paying attention to safety
and security can have serious consequences for the people and its success?

We embrace that theme of exceptional service in the national interest; it’s rare

I'm going to shift gears a little bit and talk about Sandia employees. Steve, you’re
now in a position where you’ve been here for a long time and working with Sandians for a long time. Is there anything special you’ve noted about Sandia, about Sandia employees, that you’ve picked up over the years?

As a matter of fact, there is something special about Sandia. The climate in
which national security laboratories operate has changed over the past several
decades. There was a time when industrial concerns, the big aerospace companies,

Another big challenge — and it’s one we’ve already discussed briefly — is infra-
structure. That is going to become a critical concern in the next few years with several
of the facilities here that will have to be addressed. Infrastructure of course ties into
the Department was pressured to provide greater oversight to the laboratories and to
the plants and that led to close transactional oversight. I think we’re now entering the
third phase and that is true partnership between the field offices and the national labo-
raries and the Department of Energy and NNSA has gone through three phases.
The first phase was when the national laboratories were almost autonomous enti-
ties and the Department of Energy and its predecessors provided funding and generic
overview. However in the 1990s and early 2000s a series of problems occurred where
the Department was pressured to provide greater oversight to the laboratories and to
the plants and that led to close transactional oversight. I think we’re now entering the
third phase and that is true partnership between the field offices and the national labo-
ratories and the plants, and we look forward to strengthening that partnership.

Everything else happens. So, yes, hiring talented people, giving them the training that
they need, giving them the facilities that they need, is equally important across the
Laboratories.

Let’s move on and talk in broad strokes about the Labs’ culture. Sandia has a
great deal of exceptional service or continuing excellence in the national interest for
70 years. How do you see the new senior leadership team as building on that legacy?

We embrace that theme of exceptional service in the national interest; it’s rare
that the president of the United States gives you a theme that strong and that endur-
ing, so I’ll just leave it at that: We embrace that theme.

Sandians have taken that concept of “exceptional service” and applied it at the
community level as well. Is that going to continue to be an emphasis during your
tenure?

I’m certainly con-

Steve, looking out five years from now, what would you like Sandia to look like?

I would like Sandia to continue on the path it is on, to continue to deliver with
efficiency on its national security missions and many that we work on every day,
 Across the board — particularly on the support side of the Laboratories, but
also on the technical.

The first part would be that if we ever get to the point — and I say “we” because

I do think this is a team effort — if we ever say that we’re the best that we can be and
rest on our laurels, then we’ve stopped getting better. We don’t ever want to get to
that point. We can always do better even if what we do now is tremendous.

We can always do better even if what we do now is tremendous.

I think one of our biggest challenges — and this applies to both the Field Office

Another talk about Sandia employees, over the years we’ve prided ourselves on
hiring the best and brightest technical staff, going the extra mile to find the best people
to come here and help contribute. How important is it that we put that kind of rigor into
hiring our support staff?

I strongly believe it’s equally important. Things happen because of a combina-
tion of three things: people, places, and processes. Nothing happens unless someone
does it; it all happens in some facility or it’s an office, a laboratory, or production facil-
ity; and processes enable those things to happen.

So they are not just the foundation; the processes are the lubricants that make
everything else happen. So, yes, hiring talented people, giving them the training that
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Steve, as someone who’s been around the weapons complex a long time, have
you ever seen situations where the lack of focus on safety or security got in the way of
the mission. Y-12 National Security Complex in Oak Ridge had a security problem, Los
Alamos National Laboratory had safety issues in their plutonium facility and else-
where; both caused significant impacts on mission. And that, of course, impacts

national security. Safety and security are both every day, every hour efforts.

Our motto in NNSA is ‘Mission First, People Always.’ I think that is always going to be a key piece of mission success —
taking care of the people.

The first part would be that if we ever get to the point — and I say “we” because

Across the board — particularly on the support side of the Laboratories, but
also on the technical.

clearly, Sandia and NNSA are of one mind about where the focus of the Laborato-
ries should be, and that is in the mission. Given that, what factors do you see as help-
ing to ensure mission success?

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"Our motto in NNSA is 'Mission First, People Always.' I think that is always going to be a key piece of mission success — taking care of the people."
Revealing nature’s closely guarded secrets

For decades, scientists have wrestled with the problem of breaking down lignin, the part of plant cell walls that provides structure and protection from bacterial and insect attacks. This strength also makes lignin difficult to deconstruct, though there have been recent breakthroughs.

The plant matter used to produce ethanol can be chemically or physically pre-treated so that the lignin is deconstructed in the process. However, these methods can be expensive and reduce the amount of biofuel that can be harvested. They could also interfere with later-stage lignin harvesting. That’s why some researchers are focused on finding enzymes that convert lignin naturally and gently.

Lead author Amanda Kohler (8614) says her team knew enzymes could metabolize lignin and its derivatives because there are decades-old records of bacteria using enzymes for this purpose. Sphingomonas bacteria was discovered living in the waste water of a pulp mill more than 30 years ago. Once researchers realized the bacterium’s unique enzymatic pathways enabled it to live on lignin, their challenge was then to understand the enzymes in these pathways so they could mimic what nature had already done, and use that understanding productively.

Amanda and her team focused on LigM, an enzyme used by Sphingomonas, because it performs a key step in the conversion of lignin derivatives and it is the simplest of the known enzyme systems that perform this function. “When trying to mimic natural systems in a laboratory setting, the simplest, most direct systems are the best,” Amanda says.

The team found that half of LigM’s structure is composed of a common protein architecture found in all forms of life, from bacteria to humans. The rest of the enzyme — the active portion — is not found in any other known protein structure. This unique structure gives LigM the ability to bind specifically to molecules derived from lignin.

“Solving the structure allows us to understand how the organism may have evolved its unique function, which I think is scientifically one of the most interesting findings,” says paper co-author Ken Sale (8614). The team used the Advanced Light Source Synchrotron at Lawrence Berkeley National Laboratory, along with high-performance computing and fundamental biochemistry to gain their insights into LigM.

One key step in a longer pathway

LigM is designed to break down lignin derivatives, not lignin itself. It is important to understand that LigM’s function is only one key step in a longer pathway of reactions needed to fully deconstruct lignin. One active area of research involves finding other organisms, possibly fungi, that can execute the first step of breaking down large lignin mass into smaller fragments. Some of the Sandians who solved LigM’s structure, Ken and Matthew Mills (8614), have recently learned more about another enzyme that helps drive the breakdown of lignin into smaller fragments.

LigM works on a later stage in the process, when smaller lignin fragments already have been converted into a molecule called vanillic acid. “There is still work to be done to figure out the whole reaction pathway,” Amanda says. “But now we have a much-needed understanding of a key step in this process, and are developing enzymes to fit our end goals of lowering the cost of biofuels by making products from lignin.”
A tale of friendship, loss, and love

On Memorial Day, a Sandia veteran recalls the story of one Marine’s death and the friend who carried his legacy through family.

By Nancy Salem

Images courtesy of John Bailon and Jeff Hunter

A mission gone wrong

Before dawn the morning of July 28, John, Hunter, Lyons, and their platoon set out to clear two small towns. That involved going door-to-door and searching houses for weapons and insurgents. It was routine and they expected to be back for lunch. “Of all the missions we went on,” Hunter says. “We did far more dangerous things than we did that day.”

John’s squad started knocking on doors while Hunter’s squad guarded on the rooftop. Hunter was the new platoon leader and Lyons was his radio operator. Half was through the first town, John’s squad approached a house and was fired upon. A bullet hit and killed the fire-team leader walking next to John.

Nine insurgents were in the house and while three ran out the back carrying AK-47s, the others continued firing on John’s squad. Hunter’s group shot at the men who ran. The firefight raged on both fronts. “It was very dynamic, very chaotic; but that’s the way combat is,” Hunter says.

In the door the shooter opened fire on two animal pens in the backyard. N ine insurgents were in the house and while three ran out the back carrying AK-47s, the others continued firing on John’s squad. Hunter’s group shot at the men who ran. The firefight raged on both fronts. “It was very very chaotic; but that’s the way combat is,” Hunter says.

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By Monique Otis

What if an adversary of the US developed a super-powerful artificial intelligence capability and unleashed it on America's infrastructure? How would climate change-related drought affect the US infrastructure? How would a disruption in the Global Positioning System affect America's infrastructure? How would climate change-related drought affect the US national security? How would climate change-related drought affect the US national security? These are a few of the questions addressed by the 21 teams participating in the first-ever Sandia Strategy Challenge, a week-long activity that encouraged Sandians to think about strategy in new, out-of-the-box ways.

The challenge was structured around a set of team-based events designed to engage Sandians of all disciplines and expertise to think creatively, critically, and collaboratively about Sandia’s future. In all, more than 100 Sandians from across the Labs participated in the challenge.

After a kickoff that introduced some strategic thinking principles, participants formed teams and began creating scenarios depicting the impacts and responses to hypothetical events, including wars and terrorism attacks, pandemics, natural disasters, disruptive technologies, and more. Using scenario planning methods, teams designed their possible futures around conditions or states defined in a quadrant, considering the national security implications, and the implications and possible roles for Sandia. On the final day of the challenge, the 21 teams presented their conclusions to Sandia’s senior leadership and were scored on a set of criteria that included creativity, feasibility, and impact of recommendations or solutions. Winners were named in several categories, including overall effectiveness, presentation, out-of-the-box creativity, and Sandia impact. The winning teams are listed in the box below.

The challenge was so successful because we were able to push beyond what was traditionally considered acceptable. We were able to think outside the box.

The winning teams - Overall: “Climate change drought in southwest US” by Team 19 — Christina Bepple (2955), Summer Ferretta (2956), Stephanie Teich-McGoldrick (6712).
- Presentation: “Cryptocurrencies made popular in global economy” by Team 8 — Andre Honykh (10641), Monique Otis (111), Allison Fettorelli (9428), Kari Johnson (10626), Angela Valenzuela (10646).
- Creativity: (tie) “Malicious AI deployed against US” by Team 28 — Tyson Bailey (9424), Bryant Dentinger (9428), Jason Leichtenberg (5322), “Food shortage” by Team 10 — Bradley Head (2625), David Carter (3844), Severiano Siones (5804), Anna Miller (2569).
- Sandia impact: “Russian NAVO provocation” by Team 3 — Ben Bajorek (8712), Brandon Heinrich (8712), Jason Reinhardt (8716), Kelsey Trembler (8716), Lynn Yang (8716).
- Out of the box: “Inexpensive extraction of CO2” by Team 27 — Patricia Burton (6613), Jessica Rienzo (8885), Andrew Knight (8865), Ken Nunez (6613), Scott Olson (6613).

From a staff level, this was a good opportunity to communicate with leadership about possible avenues the Labs should look into when considering future research and capabilities.

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Build for the future

By Nancy Salem

Cliff Ho (10240), a Sandia subcontract manager, says, “All the partners are pre-qualified according to the organization. The minimum requirements included being in business for at least five years, having been licensed for the applicable construction discipline, and having a safety record that meets certain Occupational Safety and Health Administration requirements, Devin says. While much of the construction at Sandia falls under the partnership agreements, there are many other types of construction work that companies can bid on, often found on the Labs’ Business Opportunities website. Such projects include maintenance, demolition, and large-scale construction projects. Partnership subcontractors are listed on Sandia’s website and may be contacted for potential subcontracting opportunities.

“The construction partnerships are a strategic sourcing plan to ensure that construction projects at Sandia will be procured and executed as quickly, efficiently, and safely as possible,” Krista says. “We also want to ensure there are as many opportunities as possible for companies that want to work with Sandia.”

Mechanical engineering society elects fellows from Sandia

By Kristen Meub

Kevin Dowding (1544) has made significant technical and leadership contributions to national security by developing computational modeling for nuclear weapon design. He has served as the technical lead to integrate computational modeling for the design and qualification of Sandia’s B61 life extension program and pioneered computational approaches for under-standing and measuring margins and uncertainty in abnormal thermal environments.

Kevin is a founding member and co-author of the verification and validation standard released by the American Society for Testing and Materials (ASTM). He has reviewed for more than 10 journals and the National Science Foundation. He earned his bachelor’s, master’s, and doctorate in mechanical engineering from Michigan State University.
MISCELLANEOUS

‘DIRTY DANCING’ TICKETS, 2, Poppy, June 17, 8:30 p.m., orchestra, aisle, row M, dinner lounge access, $125. Bikes, 271-2561.

DIGITAL PIANO, Yamaha CLP-350i, conservatory, ebony, excellent condition, $1,250. Hamilt., 505-331-7633.

DOWNSOUSING, furniture & more, living room, breez., bedr. & misc., for call details. Peltier, 884-3726.

WEIGHT MACHINE, Pacific Fit- ness Newport, bench press, pulldown, leg extension, etc., $350, free-standing pull-up tower, 60. Rivera, 505-260-7742.

STEEL ALLOY CANS, authentic U.S. military, model P1420, good walls, 18.6 x 5.8 x 10.39, $20 ea. Myers, 505-908-7877.

BLACKSMITH STANDING VISE, antique, heavy-duty, $400. Ford longbed red camper shell, siding windows, $350. Schroeder, 917-4516.


COWBOYS TICKETS, 2 home games, sec. 143, row 1, seats 1 & 2, $100/pair. McCandless, 505-528-9786, ask for Suzanne.

MBA KALONIC GOLD RINGS, 2 1/2-European-cut 1-carat diamonds, includes zirconia, will consider selling diamond separately, consider offers. Kavans, 897-2188.


MEN’S MASONIC GOLD RINGS, COWBOYS TICKETS, 2, home games, sec. 143, row 1, seats 1 & 2, $300/pair. McCandless, 505-528-9786, ask for Suzanne.

15-yr.-old Pekingese needs a home, $400. Kennicott, 505-259-0826.

NEW MEMBERS, Optimist Club of Albuquerque, optimists bring us joy, make Communities & ourselves better. Thompson, 280-4505, ask for Randy.

SMALL FEMALE ADULT DOG, fixed, chipped, housebroken, 11 yr.-old Pedigree needs new friend. Andrea, 505-368-9565, text.

WANTED

NEW MEMBERS, Optimist Club of Albuquerque, optimists bring out the best in you, our communities & ourselves. Thompson, 280-4505, ask for Randy.

SANDIA CLASSIFIED ADS

Mileposts

New Mexico photos by Michelle Fleming
California photos by Randy Hightower

New Mexico photos by Michelle Fleming
California photos by Randy Hightower

Recent Retirees

New Mexico photos by Michelle Fleming
California photos by Randy Hightower

Irene Kolb
27
2992

Bill Kolb
29
6123

Pam St. John
28
8213

Darin Janegren
15
40

Ken Lee
381

Mike Hightower
831

James Miller
15
815

Randy Shibata
15
1024

Joe Rudy
36
1066

Javier Chavez
22
5246

Karen Hurst
23
723

Mary Anne Heise
104
620

Carlo Juarez
15
1533

Joe Rudys
15
965

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Sandia celebrates Asian Pacific Islander American Heritage Month

Photos by Lin Zheng

Almost 600 Sandians, friends, families, and members of the community came out to the National Museum of Nuclear Science and History earlier this month to celebrate Asian Pacific Islander American Heritage Month. After welcoming remarks from Museum Director Jim Walther and Esther Hernandez, Sandia’s Chief Diversity Officer, attendees were treated to dances and demonstrations by several Albuquerque-based troupes and organizations, including a lion dance, a Polynesian dance, Taiko drumming, a children’s dance, Mongolian dance and singing, a martial arts demonstration, food sampling, origami, floral arranging, and more.

The event was sponsored by Sandia’s Asian Leadership & Outreach Committee (ALOC), Talin Market, and Chopstix Chinese Cuisine. Vendors included the Asian Family Center, Ikebana International Chapter 41, Japan America Society of NM Inc., Ichiba School of Ikebana – Albuquerque Chapter, the New Mexico Chinese School of Arts & Language, and Kimo’s Hawaiian BBQ Food Truck.

The planning committee included Tim Crofton, Shivonne Haniff (5421), Jennifer Hayden, Ung Tae Jeong (9358), Tian Ma (6121), Claudia Madrid, Tammy Strickland (9152) (ALOC chair), and Lili Xiao (5355).

Sandians observe National Day of Prayer

More than 400 Sandians and others from across Kirtland Air Force Base participated in a National Day of Prayer gathering at the Steve Schiff Auditorium. The event was sponsored by Sandia’s Christians in the Workplace Networking Group in partnership with the Kirtland Air Force Base (KAFB) chaplain’s office.

Prayer leads for the day included Executive Pastor David Effert of the Believers’ Center of Albuquerque, retired Albuquerque police officer Adam Garcia, KAFB Wing Chaplain Lt. Col. Darren Duncan, and Sandian Cindy Fulcher.

Other attendees included Labs Director Steve Younger, Associate Labs Director, Infrastructure Operations John Clymo; Associate Labs Director, Mission Assurance Mark Sellers; Senior Director, Human Resources and Communications John Myers; Airman First Class Galan Lamberti, 377th Weapons Systems Security Squadron; the KAFB Honor Guard; and God’s House Choir. (Photos by TSgt. Oneika Banks, USAF, 377 Air Base Wing Public Affairs)