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READY FOR LAUNCH — Two B61-12 joint test assemblies loaded on an F-35 aircraft for a flight test on Aug. 19. **Photo by Craig Fritz**

B61-12 flight tests yield positive results

Successful flight tests confirm performance and reliability of the B61-12 on F-35 aircraft

By **Kylie Engleman**

Sandia, in conjunction with NNSA, conducted a series of successful stockpile flight tests at Tonopah Test Range in Nevada, with support and aircraft generation from Hill Air Force Base in Utah. The tests, conducted Aug. 19-21, yielded positive results as inert units of the B61-12 nuclear gravity bomb were successfully carried and dropped by an F-35 aircraft, marking a significant milestone in evaluating the weapon's performance. In late 2024, NNSA completed a multiyear life extension program for the B61-12, extending the bomb's service life by at least 20 years.

The August tests were the only B61-12 stockpile flight tests of joint test assemblies on an F-35 aircraft, solidifying the end-to-end reliability of the aircraft, crews and weapon system during missions.

However, that was not the only significant first during these tests. The series also included the first-ever thermal preconditioning of a joint test assembly for carriage on an F-35 aircraft prior to its release, validating B61-12 environmental requirements in a real-world combined environment. Stockpile flight tests support the NNSA laboratories' annual assessments and exercise warfighter capabilities.

"These B61-12 F-35A stockpile flight tests and captive carry flight test were the capstone accomplishment of a tremendous amount of planning and effort by those who were involved across not only Sandia, but many other agencies," said Sandia's Jeffrey Boyd, surveillance lead for the B61-12 and B61-13. "In addition, these B61-12 stockpile flight tests represent the completion of the most B61-12 flight testing surveillance scope in a year to date and the most in a given year for the foreseeable future."

Tonopah Test Range Manager Brian Adkins, who oversaw the tests at the range, said test days always require adapting a test plan with adjustments necessary to safely execute the test. "Expedient coordination by the entire test team resulted in two successful days of testing to evaluate three test assets," he said.

Collaboration between Sandia stockpile systems, the operational test staff at Tonopah Test Range and the U.S. Air Force enhances operational evaluation of

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Here to observe: Labs historian reflects on three decades of transformation at Sandia

1995 — Rebecca Ullrich at her desk in 1995, the year after she joined Sandia as research historian. **Photo from the Sandia archives**

By **Magdalena Krajewski**

Sandia historian Rebecca Ullrich has seen a lot in her nearly three decades at the Labs. But as she explains, that's what she's here for: "to observe."

"It's been a lot like watching a river go by in front of me," she said. "Observing how the Labs has changed, how we've dealt with change and uncertainty both internally and in the world around us."

When Rebecca started in 1994, the Cold War had ended, the United States had declared a moratorium on underground nuclear testing and the country was discussing a peace dividend.

"The Labs was entering a period of uncertainty," she said. "If we're no longer building any new nuclear weapons, and there's just the maintenance of the stockpile — which is no minor thing — some were asking whether there was still a need for the Labs."

Sandia, like many defense-related organizations at the time, was trying to figure out its position in a post-Cold War environment.

"There was a lot of soul searching and philosophical discussion going on," she said. "Then the Stockpile Stewardship Program was introduced, prompting a shift in focus and a reevaluation of staffing needs."

The Labs was downsizing, and as a result there were voluntary separation packages offered in 1996 and 1997, with some involuntary separations a few years later.

"It was a precarious time to be an employee," Rebecca said. "But as the historian, my job was to watch how Sandia handled these changes, observing how leadership — first Al Narath and then Paul Robinson — coped with what was going on while also trying to preserve morale."

In the following years, Sandia began to find its footing, expanding its work in counterterrorism, energy, cybersecurity and counterintelligence, slowly transforming into a multimission laboratory.

Wen Ho Lee fallout

Then, in 1999, Los Alamos National Laboratory scientist Wen Ho Lee was arrested and charged with mishandling classified nuclear weapon design information. The high-profile investigation and legal proceedings that followed raised significant alarms about security practices within the U.S. nuclear weapons complex.

Secretary of Energy Bill Richardson initiated a review of security measures across DOE and its labs, including Sandia, in an effort to find weaknesses and enhance protections for sensitive information. The situation prompted a push for broader reforms to improve oversight and management of classified information to help improve national security and prevent similar incidents from happening again.

Answering the call

By January 2001, Rebecca said things were on the upswing at Sandia.

"In the State of the Labs address, Paul and deputy director Joan Woodard said the budget had turned and expressed optimism," she said. "It was all positive. Programs were moving forward. We were going to see some life extensions come into play. Stockpile surveillance was going great. Computing was going great. Sandia was in a really good place.

"And then 9/11 happened."

Rebecca recalls driving to work when she heard about the first plane crashing into the World Trade Center, and then halfway in, she remembers the radio broadcaster announcing that a second plane had hit the south tower.

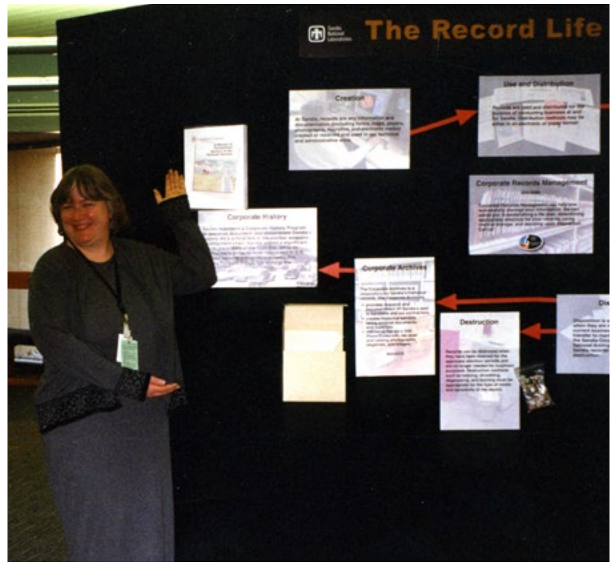
"I pulled over, called my husband, and told him to turn on the TV — something big was happening," she said. "When I got to work, people were huddled around the televisions in the break rooms. No one knew what was happening. Then we saw the towers collapse, and everyone was just in shock. It was really scary.

"Eventually, they decided to send us home, and we received a voice message on our desk phones. I remember hearing Paul's voice telling us what had happened, that we didn't know what it meant, but they were sending us home. Then he reminded us that our service was still needed. Maybe it was the timbre of his voice, but I felt so reassured in that moment. If Paul says it's going to be OK, if he says we're going to be fine, then we're going to be OK."

The next day, while other flights were grounded, a flight carrying around 50 Sandians departed from Albuquerque en route to Washington, D.C., with an Air Force escort.

The group would provide critical technical expertise and support to help assess the damage and investigate the attacks in the days that followed.

"I think Sandia being called upon in that moment was a statement about how important the Labs' work is," Rebecca said. "How vital Sandia is to national security."



2001 — Rebecca shows off the Record of Life Cycle exhibit as part of an Information Management Week event in 2001.
Photo from the Sandia archives

2002 — Rebecca stands in the shock tube.
Photo from the Sandia archives

2003 — Rebecca greets children and families attending Sandia's Annual Take Your Son to Work Week.
Photo from the Sandia archives

The stories

When asked what she loves about history, Rebecca points to the stories and narratives.

"History is full of complicated stories about how we got from here to there, because we could have ended up anywhere. But there's this path — decisions that were made, events that happened — that brought us to where we are," she said. "Sometimes people talk about history as if it's inevitable because we know the punchline; we know how it ends. But I love the stories that get us there, the ones we're still part of. We don't know the endings."

And Sandia's story, according to Rebecca, is still very much a river in motion, meandering through challenges but always moving forward.

"Sandia has been through a lot — the Labs, the workforce — but it has always gotten through, and there's no reason for that to change as long as it is meeting the needs of the nation," she said. "In times of uncertainty, when things are scary and out of our control, I believe the best we can do is fall back on what we do well, and at the Labs, that is to solve problems and produce. So, let's keep doing what we're good at."

Looking ahead

On Nov. 3, after 28 years of service, Rebecca archived her work, turned in her badge and hung up her metaphorical historian hat."Sandia really embraces its history, and so does the workforce," she said. "They're interested in the past of this place, what they've inherited and therefore what they can do. I hope I've been able to play a small part in that — keeping history alive and in front of them so that they can absorb and appreciate it and make it part of their experience here."

Rebecca's reflections on what Sandians have been through, how they've risen to the occasion and how they've persevered offer comfort. Maybe it's the timbre of her voice, but when Rebecca says it's going to be OK, then we're going to be OK.

2024 — Rebecca speaks to a crowd gathered to celebrate Sandia's 75th anniversary. **Photo from Craig Fritz**

2025 — Rebecca speaks to students from Rice University during a tour of the National Museum of Nuclear Science & History on Oct. 14. **Photo from Craig Fritz**

Labs Director 'absolutely confident in the stockpile'

By **Kenny Vigil**

The annual certification of the nuclear weapons stockpile is Sandia's most important responsibility, according to Labs Director Laura McGill. Sandia's stockpile teams work throughout the year, conducting tests and analyses to verify that the weapons are safe, secure, reliable and effective.

"Our modernization programs are still critically important and get a lot of attention, but the deployed stockpile serves as the foundation for the U.S. national defense strategy," Laura said, shortly after signing the annual stockpile assessment letter in her office Sept. 22.

The letter, which is sent to Secretary of Energy Chris Wright and ultimately to the president and Congress, provides a summary of the reliability of each system in the stockpile.

FINAL REVIEW — Labs Director Laura McGill reviews this year's stockpile assessment letter in her office. The letter is the culmination of a yearlong process to certify the U.S. stockpile is safe, secure, reliable and effective. **Photo by Craig Fritz**

As part of the certification, at least one of each weapon system in the stockpile is brought through the Pantex Plant in Amarillo, Texas, to be tested and examined. Engineers and scientists perform a variety of nonnuclear testing, including detailed inspection of components and material samples.

Laura explained that Sandia has continued to expand testing capabilities to reflect more real-world combined environments.

"The superfuge allows us to test acceleration, spin, vibration and shock all at the same time," she said. "The hardware reacts differently when you conduct these tests simultaneously. This also gives us better data to validate our models and simulations."

In addition to testing, the yearlong process includes briefings and synthesizing data into a single report.

ANNUAL ASSESSMENT — "It's an honor to sign the letter," said Labs Director Laura McGill, while finalizing the annual stockpile assessment certification in her office on Sept. 22. **Photo by Craig Fritz**

"A lot of work goes into this. We also have three independent teams that conduct their own assessments, bringing different perspectives and raising questions to make sure we have not missed something," Laura said. "I'm grateful to the team of engineers and scientists for their critical thinking, rigor and level of detail that goes into this process."

30th class completes Weapon Intern Program

Graduates reflect on their experience

By **Kenny Vigil**

After a year of rigorous coursework, team projects and visits to DOE and DOD sites, 23 participants have completed the 30th class of the Weapon Intern Program.

Family, friends and coworkers gathered in Steve Schiff Auditorium at Sandia New Mexico to celebrate the Class of 2025 during a graduation ceremony Aug. 21.

"Now it is time to put what you learned into practice," John Hogan, co-founder of the Weapon Intern Program told graduates. "You must be as skilled as a spinal surgeon. You cannot make a mistake."

John launched the first Weapon Intern Program class in October 1998 and served as the program's lead instructor. He held senior roles at both Sandia and Los Alamos national laboratories, as well as in the U.S. Army. He continues to serve as a senior mentor for the program and was the keynote speaker at this year's ceremony.

"I love this program, and I love this class every year," he said. John reflected on the challenges of starting the program, which originally spanned two years. Remarkably, the classes are still held in the same space as when the program began 27 years ago.

John noted that many people don't understand the vital role

TOP NOTCH — 2025 Weapon Intern Program graduate Preston Johnson receives a gift from his mother, Stella Johnson, with assistance from his 5-year-old daughter, following a graduation ceremony on Aug. 21. Preston was one of 23 graduates in the Class of 2025. **Photo by David Lienemann**

deterrence plays in national security.

"We all pay for fire insurance, and we hope we never use it," he said. "Think of yourselves as insurance policy makers for the ultimate security of the United States. When the unthinkable happens, people will be grateful we have this insurance policy in our pocket — a powerful negotiating tool."

Key connections

Brad Boswell also addressed this year's graduates in his role as director of Sandia's nuclear deterrence modernization programs. He said participants leave the program with more than technical knowledge.

"The contacts you make across NNSA and the DOD during the Weapon Intern Program are critically important," said Brad, who is now associate Laboratories director for nuclear deterrence modernization and stockpile systems.

Brad praised this year's class projects as particularly strong and relevant to current challenges faced by the nation.

"What you applied was top notch," he said.

Brad also acknowledged the sacrifices of the participants' families who supported their loved ones during this yearlong commitment. Many temporarily relocate or travel extensively to participate in the program.

WIP SEND-OFF — John Hogan, keynote speaker, and Nevan Shearer, Weapon Intern Program director, during the 2025 graduation ceremony. More than 20 participants completed the yearlong program. **Photo by David Lienemann**

Leadership recognition

U.S. Air Force Maj. Megan Olson received the 2025 Weapon Intern Program Leadership Award and was selected by her classmates to speak on their behalf at the ceremony.

"Be bold. Break the mold of the past 34 years. Do not accept the status quo and remember, it is not about you. It is about protecting your family, protecting the communities we live in and protecting our country," she said. "No matter what uniform you wear when you come to work each day, give your best. Our warfighters deserve it and our country needs it.

Madison McGrann, from Sandia California, was named the Class of 2025's Distinguished Graduate.

Graduate reflections

In the final days of the program, two participants reflected on their experiences, bookending a journey that began with a class visit to the historic Trinity Site near Alamogordo.

Abby Kerber, a mechanical engineer at the Kansas City National Security Campus, temporarily relocated to Albuquerque for the program. She said gaining a DOD perspective was especially valuable.

"As a production agency, we don't often interact with the final customers, let alone the servicewomen and men who are responsible for these systems every day," Abby said. "Understanding what's important to them and how their systems work through nuclear certification, fielding and mission planning has been very insightful."

She added that she's seen personal growth in her classmates and colleagues as they've operated outside their comfort zones.

"The group really supports each other and cheers on everyone's wins," she said. "It's been great to see people achieve their goals."

Zeke Villarreal, who works in nuclear safety at Sandia, said he created new connections through the program and deepened his understanding of the broader nuclear enterprise.

"I've gained a much fuller picture of the nuclear enterprise, past and present," Zeke said. "I particularly enjoyed getting to understand the culture at each site and seeing what the mission means to our partners in the DOD. I see the larger picture of what we do and why."

Program milestones

With this graduating class, more than 600 participants have completed the Weapon Intern Program since its inception. The 2025 class included participants from Sandia, the Kansas City National Security Campus, Y-12, NNSA, the Savannah River Site, Pantex, the U.S. Air Force, Navy Strategic Systems Programs and the Air Force Nuclear Weapons Center. All graduates have now returned to their home sites.

Labs Director Laura McGill closed the ceremony with words of encouragement.

"You get to serve the nation in ways many will never know, but we will," she said. "Go off and do the critical work that will help to secure our nation."

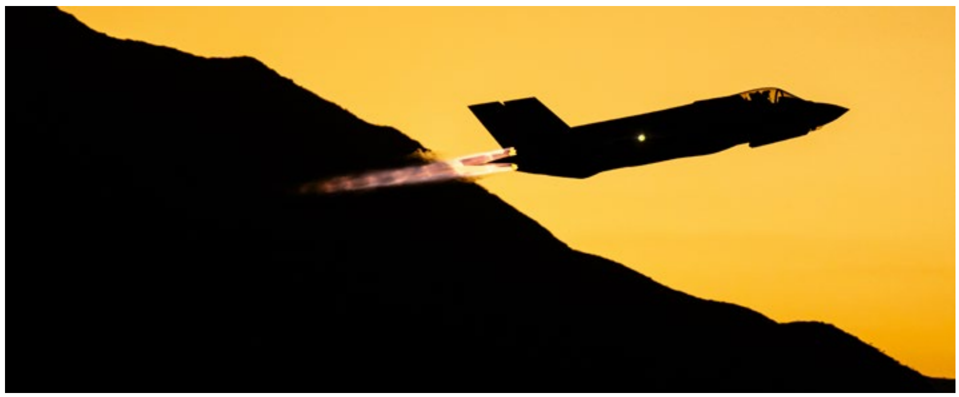
Flight test

CONTINUED FROM PAGE 1

the F-35 aircraft's reliability and accuracy for various missions. As data from these tests is analyzed, it will yield critical insights that support Sandia's mission to advance the frontiers of science and technology and contribute to national security efforts at the Labs.

FINAL CHECK — A Sandian confirms that telemetry is working properly with an F-35 aircraft, equipped with a B61-12 joint test assembly. **Photo by Craig Fritz**

AN INERT B61-12 IS LOADED ON AIRCRAFT
WATCH THE VIDEO



WHEELS UP — An F-35 aircraft, loaded with a B61-12 joint test assembly, departs from Hill Air Force Base on Aug. 20. **Photo by Craig Fritz**

Predicting the (un)knowable

Sandia team develops method to make quantum computing more fruitful

By **Michael Ellis Langley**

Much is still unknown about how quantum computers behave and what they might one day help humans achieve. But one Sandia team is using machine learning to better understand how to use quantum systems more efficiently — and it all comes down to understanding a simple jukebox.

It started with an effort by quantum computing scientists Daniel Hothem, Timothy Proctor and their team to help researchers and others select the right quantum computing solutions.

"We're building models that allow scientists to really understand a quantum computer so they can either make it better or understand what problems it can solve," Daniel said.

The problems with programs

Quantum computers have the potential to tackle complex problems faster and more accurately than the world's best supercomputers. They do so by using physical phenomena, such as laser beams, to manipulate quantum bits of information, like how conventional computers use electricity to manipulate zeros and ones.

But there is a major gap between what a "perfect" quantum computer is theoretically capable of and the performance of current systems. That's because real-world devices experience physical errors that corrupt calculations. Closing that gap is essential if quantum computers are to deliver on their promise.

The main problem: contemporary quantum computers fail — a lot. Timothy likened it to trying to write a document in Word with the program crashing often and unpredictably.

"Imagine typing into a document and Word just crashes," he said. "It quits a lot of the time, and you couldn't predict when that was going to happen. Or maybe the program types a different word than the one you typed, and the only way you'd know is by trying it."

According to Timothy, "physical errors are predominantly why quantum computers fail." Unfortunately, you can't open a quantum computer mid-calculation to see what went wrong. That makes it difficult and expensive to improve the systems, and it raises the stakes for making the right decisions about which programs to run or which research paths to pursue.

A tool that could predict when and why a quantum computer fails by identifying what physical errors are likely to occur could help researchers avoid those mistakes and accelerate development across the DOE enterprise. Daniel and Timothy believe they're building that tool.

Facing the music: tuning the jukebox

So how can a tool predict quantum behavior when the systems themselves are so hard to understand?

According to the team, with the right model, it's possible to learn from the failures and successes of quantum programs running on a device. Daniel explained the concept using a familiar diner relic.

"Imagine you're looking at an old jukebox," he said. "You want to play a record, but you're worried it won't work — after all, it is old. The records may be scratched, the coin feed could be busted or there might be a faulty wire. Before you spend a quarter, you'd like to know if your record will play the way you want it to. Since you don't own the jukebox, you can't just open it up to examine its parts."

One solution: build a digital model of the jukebox using its blueprint. After creating digital versions of the records — say, by taking photos — you could use your model to predict whether a record will play correctly. To make your model accurate, you'd test just a few records on the real jukebox and use the results to refine your model until its predictions matched the real-world outcomes.

In the same way, researchers can build good models of how physical errors in a quantum computer spread and distort the final output.

"People, including scientists at Sandia, have done a lot of work classifying and understanding the impact of different errors inside quantum computers," Daniel said. "If you can identify the specific physical errors in a device and how bad they are, it's straightforward to predict their effect on a quantum computation. The hard part is identifying the right errors in the first place."

The team turned to neural networks for help. In their models, a neural network processes a digital snapshot of a quantum program and predicts which physical errors will occur when it runs on a

QUANTUM THINKERS — Daniel Hothem, left, and Jeremiah Hauth are part of a team that developed a machine-learning method to make quantum computing more efficient, which they liken to improving a jukebox without having to open it.

Photo by Spencer Toy

quantum computer. Those errors are then translated into a mathematical formula that predicts how often the program will succeed.

By training the models on data from successful and failed programs, the team doesn't have to rely heavily on quantum computers. The models learn by proxy.

Returning to the jukebox analogy, the team trains their models by showing them photos of records — programs run by quantum computers — along with their success or failure rates. The models learn to infer information about likely errors from the "photos." They begin to spot important "scratches," judge the quality of the coin feed and assess the state of the wires.

"We tell the models how different errors affect success probabilities — how often a quantum program works," Daniel said. "We also tell them to only focus on the errors we think are most important. This makes our models hyper efficient. By not modeling unimportant errors, our models are way less complicated than the jukebox but remain hyper accurate."

Trying to future-proof quantum computing

That hyper-efficiency is important. As quantum computers become more complex, traditional error-analysis methods must scale with them — but Sandia's models don't.

"Building our models doesn't get that much harder as devices get bigger," Daniel said. "All our other approaches for understanding mistakes inside a quantum computer become impossible to use, or require very limiting assumptions, as systems grow more complex. We're building a technique that will scale with quantum computers."

The team's approach scales more slowly than the computers themselves, making the models easier for programmers and users to work with.

Input and output

That manageable growth in complexity means the models Daniel and Timothy are building could benefit almost everyone in the quantum computing ecosystem.

"Since our models learn about the errors inside the system, programmers can use them to quickly understand what's wrong," Daniel said. "In the real world, our actual models will help engineers and scientists improve their devices."

They could also help researchers outside of computing understand which problems existing quantum systems can realistically solve. For instance, a chemist might use the models to determine whether a quantum computer can successfully run simulations of chemical systems.

As the Sandia team continues refining their models, the potential benefits for quantum computing are significant. By better modeling real-world errors, the team hopes to reduce the time and cost of developing the next generation of quantum systems.

"One of our goals is to help scientists cut down on non-fruitful research directions," Daniel said, emphasizing how their work could streamline research and accelerate the ways scientists can use quantum computers to tackle the world's toughest national security challenges.

Teaching through the lens

Albuquerque Public Schools embarks on new teaching strategy with Sandia's help

By **Kim Vallez Quintana**

"During my first year as superintendent, I visited 100 schools in the city. What I found was an inconsistency in what's being offered and a very evident disconnect among students," APS Superintendent Gabriella Blakey told an audience of Sandians gathered during the Community Engagement Speaker Series.

Her message: "We need to do a better job preparing our students for the real world, but we can't do it alone."

And they won't. Sandia is among hundreds of businesses that Albuquerque Public Schools and United Way hope to engage in a new learning model called the Academies of Albuquerque.

Already launched at Highland, Manzano and Cibola high schools, the program, based on the Ford Next Generation Learning framework, is designed to put students on a more direct learning path based on potential careers.

A PARNTER IN EDUCATION — United Way of North Central New Mexico President and CEO Rodney Prunty explains how United Way is partnering with Albuquerque Public Schools and community organizations to improve education. **Photo by Bret Latter**

Albuquerque Public School administrators refer to it as "teaching through the lens."

Similar to a college structure, students are divided into different academies focused on specialties such as business, engineering, culinary arts and education. They are taught specific skills in a more hands-on environment, with opportunities to earn internships, dual credits and certifications, giving them a head start on their career path after graduation.

Seeing the program in action

Bianca Hill, senior manager of external engagements, saw the model at work first-hand earlier this year in Nashville, Tennessee. She was invited by United Way of North Central New Mexico, which is leading the local partnership.

"We had the chance to visit four different high schools, interact with the students, watch classroom teaching and see in real time how they were teaching core subjects in ways that made sense for their particular pathway," Bianca said. "What we saw were students who were ambassadors for their schools, who had clear relationships with their teachers and were proud of that."

It didn't take much convincing for Bianca to see how Sandia could become a partner.

Sandia support

Sandia and United Way have a long-standing relationship, but this initiative allows Sandia to be more hands-on.

Bianca said Sandia will continue to provide volunteer opportunities in the classroom, hold donation drives and financial support campaigns, but now the Labs will also play a role in curriculum and teaching paths at Albuquerque Public Schools.

"Where we really have an opportunity to shine is showing educators how their curriculum translates to the real world," Bianca said. "If they are using outdated engineering terms or applications, that is an opportunity for us to help bring them up to speed, so they understand what they need to teach in the classroom to prepare those students for tomorrow's necessary skills."

"United Way mobilizes communities to action so that all can thrive," said Rodney Prunty, United Way of North Central New Mexico president and CEO. "If you want qualified people to fill open positions, you have to get in there and get involved. You can't just sit back and hope teachers do it."

Prunty and Blakely emphasized that the program's success depends on a "community connected approach." United Way and Albuquerque Public Schools are working with businesses and organizations across the community to cultivate buy-in to the concept, with a meeting planned for late October to develop next steps.

"WE CAN'T DO IT ALONE" — Albuquerque Public Schools Superintendent Gabriella Blakey speaks to Sandians as part of the Community Engagement Speaker Series, encouraging support of its new educational project Academies of Albuquerque. **Photo by Bret Latter**

The partnership is not only good for students, but good for Sandia.

"We have a lot of career programs right now but nothing sustainable," Blakey said. "We want to keep good students here in New Mexico and not have to hire employees from outside the state. But students don't always know how to connect with industry. We want a better partnership to give students more exposure to possible paths."

How Sandians can help

Any Sandian can get involved. One of the best ways is by participating in the Sandia Gives campaign in November.

"Sandia plays one of the largest roles in our community when it comes to giving," Associate Labs Director Josh Parsons said. "We gave more than $4 million last year alone through United Way."

Sandians can choose specifically where they want to direct their donation dollars. Josh hopes many will consider giving during this year's campaign and choose an initiative called Rising Together, which focuses on improving education outcomes in the community.

"The power of this academies model is that it's a system solution," Josh said. "This is a direct way that we, as a highly educated population, can impact the school system for our families and build the next generation of the workforce. The more we invest in K-12, the better we are at enabling the mission in the community we serve."

That support includes not only financial donations but also the volunteer efforts that Sandia organizes. Bianca said the partnership will shift the Community Involvement team's educational focus a bit to allow for more impactful efforts and expanded volunteer opportunities across Albuquerque.

"This pathway gives Sandia a way to do that," Bianca said. "We are neighbors and members of this community and students' educational success matters to us. We want opportunities for all students so they can step into a career here if they choose."

Offsite Extended Duty Assignments enhance national security efforts

By **Auri Atencio**

Sandia is not just participating in conversations about the nation's most pressing challenges; it's leading the charge. The Offsite Extended Duty Assignment program is a vital initiative that empowers Sandia's workforce to extend their expertise beyond the Labs and into the heart of critical government operations.

Each year, dedicated Sandia professionals are assigned to support high-stakes initiatives for the NNSA, DOE, DOD, Congress, Department of Homeland Security and beyond, providing guidance that aids in safeguarding our nation's security and ensuring the success of essential missions.

Most assignments start with a one-year term and are often renewed, a reflection of the ever-growing demand for specialized expertise in an increasingly complex security landscape. Sandia's commitment to excellence and innovation shines as staff members step into these pivotal roles, ready to make a difference where it matters most.

Day in the life of Joint Staff IPA Justin Fernandez

Sandian Justin Fernandez recently completed an Intergovernmental Personnel Act assignment with the Joint Staff, J-5 Directorate for Strategy, Plans and Policy. As an action officer on the Nuclear Weapons Council, Justin's role positioned him at the forefront of national security, where every decision could have global implications.

Justin served as a subject matter expert and special advisor to the deputy director for Strategic Stability and the vice chairman of the Joint Chiefs of Staff.

"It's not often that you get a combination of technical expertise, strategic acuity and interpersonal skills like the Joint Staff got in Justin," said U.S. Air Force Col. Aaron Baum, division chief of Strategic Deterrence and Nuclear Policy. "He understands adversary and friendly capabilities and can communicate the implications in simple, comprehendible fashion. His quick grasp of the Pentagon's interagency process facilitated the movement of information between key stakeholders — the grease that makes the J5 nuclear cog run smoothly. Throw in Justin's quick wit and you have the formula for an ideal analyst to Dr. Long's team."

With a wealth of knowledge in nuclear weapons, design, development, acquisition processes and strategic threats, Justin's expertise proved indispensable. His work shaped Joint Staff positions and policies that influenced nuclear weapon requirements, sustainment, and modernization of the stockpile, while also crafting strategies to counter weapons of mass destruction.

BACK IN THE BURQUE — Justin Fernandez has returned to Albuquerque after completing an Intergovernmental Personnel Act assignment in Washington, D.C. **Photo by Craig Fritz**

Justin received a bachelor's degree in mechanical engineering from Rutgers University, a master's degree in mechanical engineering from Georgia Institute of Technology and a Graduate Certificate in International Security from Stanford University. His journey reflects the depth of knowledge and experience that Joint Staff Intergovernmental Personnel Act assignees bring to their roles.

Explore the snapshot of a day in the life of a Joint Staff Intergovernmental Personnel Act assignee from Justin's perspective. He highlights the dynamic and impactful nature of the role, showcasing a blend of strategic planning, collaboration and critical thinking that defines Sandia's work.

A look at Justin's day

8:10 a.m. - Morning commute

The day begins with a refreshing bike ride along the scenic trails of Arlington, Virginia, as I make my way to the Pentagon. The brisk morning air and beautiful surroundings make this commute both faster than the metro and more invigorating.

8:30 a.m. - Fuel up

Upon arrival, I head to the Chairman's Mess to grab a coffee. It's one of several dining options available, and it's a perfect way to fuel up for the busy day ahead.

8:45 a.m. - Intel updates

Once I reach my office, I dive into the daily intelligence updates and senior leader briefings. Staying informed is crucial in my role, and these briefings provide valuable insights into current events and strategic priorities.

9 a.m. - ETMS-2 review

Next, I review the Enterprise Task Management System to check the status of coordination, Freedom of Information Act and Mandatory Declassification Review requests. I connect with various departments, including Legal Counsel, Legislative Affairs, Defense Threat Reduction Agency, United States European Command, Joint Staff J-8 and Joint Staff J-3, ensuring that all requests are on track.

9:30 a.m. - Preparing for congressional hearing

I shift my focus to an upcoming congressional hearing for the incoming chairman of the Joint Chiefs of Staff. The chairman's Legislative Affairs Office is tasked with anticipating around 300 questions, including 30 related to nuclear issues that go directly to our team to provide responses. We divide the questions among ourselves to ensure thorough preparation.

11 a.m. - Teleconference with USSTRATCOM

I'm engaged in a secure video teleconference with U.S. Strategic Command. We discuss our positions on the upcoming Nuclear Weapons Council regarding the Requirements and Planning Document. Collaboration is key as we navigate these critical discussions.

Noon - Working lunch

I have a working lunch with a colleague from Nuclear Matters. We delve into the path forward for the Nuclear Weapon Innovation Process, exchanging ideas and strategies to enhance our initiatives.

1:30 p.m. - Executive summary preparation

After lunch, I dedicate time to prepare an executive summary, talking points and a briefing book for the vice chairman meeting scheduled in three days. This requires careful attention to detail and a clear understanding of the topics at hand.

3:30 p.m. - Meeting with deputy director

I meet with the deputy director for Strategic Stability and Rita Gonzales, Sandia deputy Labs director. We discuss the DOD's priorities and recent topics from the Nuclear Weapons Council, ensuring alignment on our strategic objectives.

4:30 p.m. - Review of SLCM-N tasking

As the day winds down, I review consolidated input from Combatant Commands regarding the Nuclear-Armed Sea Launch Cruise Missile tasking, collaborating with the Navy Strategic Systems Programs and Office of the Chief of Naval Operations N5 to ensure we are on the same page.

5:30 p.m. - Closing out the day

I close out my meetings with my Joint Staff Intergovernmental Personnel Act colleagues from Los Alamos and Lawrence Livermore national laboratories. Reflecting on the day's accomplishments, I feel a sense of fulfillment knowing that our efforts contribute to the broader mission of national security.

From early morning bike rides to the Pentagon to engaging in high-stakes discussions with senior leaders and interagency partners, Justin's day demonstrates the commitment and expertise required for his position.

CRITICAL ASSIGNMENT — Sandian Justin Fernandez recently completed an Intergovernmental Personnel Act assignment with the Joint Staff, J-5 Directorate for Strategy, Plans and Policy.
Photo courtesy of Justin Fernandez

CELEBRATION — Justin, center, smiles with DOD colleagues during the Joint Chiefs of Staff chairman inauguration ceremony on Oct. 1, 2023.
Photo courtesy of Justin Fernandez

Read Sandia's policy regarding its status as a Federally Funded Research and Development Center, which supports Offsite Extended Duty Assignments, available on Sandia's policy website.

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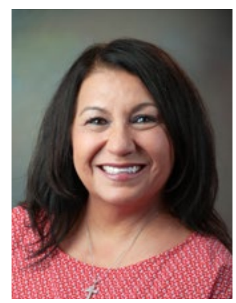
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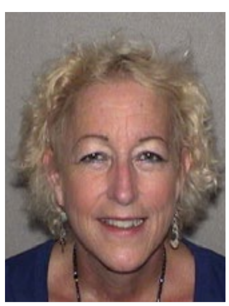
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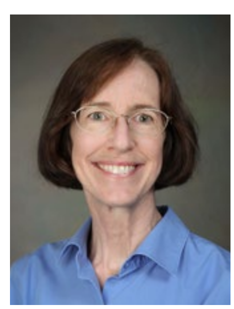
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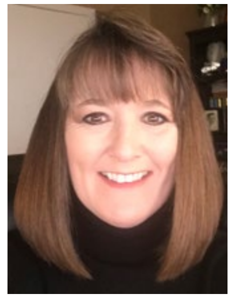
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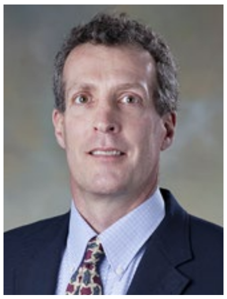
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Retiree Deaths

July 5-September 17, 2025

Richard Craner (age 92)	July 5
Frederick Enote (88)	July 8
Clara Jackson (87)	July 9
Monty Apple (68)	July 11
Douglas Schuler (83)	July 13
George Connor (86)	July 14
Amy Cogswell (77)	July 16
Douglas McGovern (79)	July 21
Esther Moore (98)	July 22
Andrew Ashbacher (63)	July 23
Kathryn Fowler (83)	July 23
Adolfo Bachicha (77)	July 23
Judith Wills (87)	July 24
Nancy Spear (89)	July 26
Donald Morrow (89)	July 31
Madonna Opdahl (80)	August 2
Betty Pierce (84)	August 3
Melba Sue Peters (92)	August 4
James Griffee (71)	August 8
Jerry Letz (82)	August 8
John Formea (102)	August 9
Jimmie Martin (90)	August 16
Richard Toth (89)	August 21
A. McFarland (93)	August 24
James Muir (91)	August 27
Albert Lucero (79)	August 29
Leo Klamerus (96)	September 4
Roy Dickey (84)	September 17