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## Sandia scores back-to-back blood drive victory

PUBLISHED SINCE 1949

Over 300 donors work together to donate 465 units of blood

By Kylie Engleman

n the spirit of friendly competition, Sandia and Los Alamos national laboratories faced off last month to collect the most blood donations in honor of World Blood Day. Following Sandia's victory last year, when it topped the leaderboard with 183 units of blood compared to Los Alamos' 180, staff from both labs turned up the heat. This year, Sandia collected 250 units of blood, and Los Alamos a total of 215 units, showcasing the dedication of both labs to this vital cause.

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**ALL-STAR DONORS** — Labs Director Laura McGill, left, chats with Jeanette Burmester, a Sandian who has donated 28 gallons of blood in her lifetime, during the blood drive on June 24.

Photo by David Lienemann

# Making it happen



BEST IN CLASS — Seventy team members received an NNSA award certificate in recognition of their contribution.

Photo by David Lienemann

### Sandia named NNSA "Security Team of the Year"

#### By Lynn Moore

andia Labs and the Sandia Field Office were awarded the 2024 NNSA Randy D. Putt Security Team of the Year Award for their successful planning and execution of the secondever International Atomic Energy Agency International Physical Protection Advisory Service Mission hosted by the United States, the first for DOE, NNSA and Sandia. This prestigious award was presented by Lew Monroe, NNSA associate administrator and chief for the Office of Defense Nuclear Security, who noted that "the decision [to select Sandia for this mission] went all the way up to the Office of the President" and that "Sandia met every standard at the international level."

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Managed by NTESS LLC for the National Nuclear Security Administration

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Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

Published on alternate Thursdays by Communications, MS 1468

LAB NEWS ONLINE: sandia.gov/LabNews

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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.

## Keeping pace through partnership

Sandia and KCNSC co-host the 2025 Production Integration Summit

By Justin Griffin and Whitney Lacy

n testimony to the Senate Armed Services Committee earlier this year, Adm. Samuel Paparo, commander of U.S. Indo-Pacific Command, issued a concise statement applicable to all national security work in the face of a rapidly evolving global threat dynamic:

"The coin of the realm in the 21st century is speed. Who does things faster wins."

This statement resonates throughout nuclear security enterprise design and production agencies, including Sandia, where speed and efficiency are valuable byproducts of strong partnership.

The 2025 Production Integration Summit, hosted by Sandia in partnership with the Kansas City National Security Campus, marked a significant milestone in ongoing efforts to further enhance production integration and collaboration across the enterprise.



ACCELERATING PRODUCTION — Steve Girrens, associate Labs director for Nuclear Deterrence Components and Production, provided opening remarks at the 2025 Production Integration Summit. Photo by Justin Griffin

#### Ahead of emerging threat

In his opening remarks for the third Summit over the past five years, Steve Girrens, associate Laboratories director for Nuclear Deterrence Components and Production, laid out the overarching goal for the event.

"We're gathered here to accelerate product realization and improve production capability responsiveness and resilience," he said.

This year's summit convened experts, stakeholders and leaders from across the enterprise to do that by evaluating focus area activities, exploring emerging opportunities and threats and validating priorities for future initiatives. With a focus on perceived value to production, the summit aimed to foster collaboration and innovation amid evolving challenges, including manufacturing capacity constraints.

Rob McKay, director of the NNSA Office of Stockpile Modernization, said, "There are emerging threats where we can foresee advancements in technology for which we can — and must — keep pace."

#### Combining initiatives, improving efficiencies

Evoking a key theme of partnership, McKay asked attendees early in the event, "How can we better combine our initiatives to improve efficiencies?" This question served as a rally cry for the discussions that followed.

Speakers discussed applying new techniques for faster production and how to insert new technologies into existing capabilities, incorporating perspectives on ongoing challenges and the long-term roadmap for infrastructure, such as how to

navigate around decades-old facilities and equipment.

Echoing one of Sandia's two big goals to "lead in modern engineering," the summit offered discussion around the manufacturing digital thread, which is intended to provide a seamless flow of digital informa-



**BETTER TOGETHER** — Cross-enterprise attendees of the 2025 Production Integration Summit. **Photo by Bret Latter** 

tion across the product lifecycle and serve as a primary or authoritative source of truth. Attendees considered how to create more visibility on progress and how to escalate continued barriers and recommend innovative solutions.

## An avenue toward stronger relationships

After a packed two days, 80-plus attendees left the event with renewed focus on their shared production mission and energized from the prospect of new opportunities to work together.

"It is important for our folks across our labs, plants and sites come together in person and work through our most complex production challenges," Steve said. "We know we will succeed, and we know we can go faster — but the boots-on-the-ground work hinges on transparency and trust. And the Production Integration Summit continues to provide a clear avenue toward strengthening the relationships that matter most."

And when speed and efficiency matter, those relationships reign paramount.

# Pioneering trusted microelectronics for national security

By Andrea Mackay

andia plays a crucial role in developing reliable and secure electronic components, known as microelectronics, that are vital to U.S. nuclear deterrence strategy.

Just as a car needs a dependable engine to function properly, weapons systems rely on trustworthy microelectronics to operate effectively. By providing trusted microelectronics, Sandia helps maintain the integrity of the nuclear deterrent, which underpins U.S. defense strategy and reduces allies' need to acquire nuclear weapons.

"Sandia's microelectronics are vital to the country's national defense strategy," Microsystems Engineering, Science and Applications Director Reno Sanchez said. "National defense relies on the nuclear deterrent, and nuclear deterrence relies on Sandia's microelectronics."

Sandia's commitment to advancing microelectronics is



**LEADING EDGE** — Labs Director Laura McGill discusses Labs priorities, including microelectronics and systems integration, with a journalist following a news conference on May 14.

Photo by Craig Fritz

reflected in its infrastructure and collaborative efforts across various specialized facilities. From the MESA complex to the Center for Integrated Nanotechnologies and the Counterfeit Detection Center, work at each facility is critical to the mission. Coupled with state-of-the-art testing facilities, including the Annular Core Research Reactor and Z, Saturn and HERMES pulsed-power facilities, Sandia is positioned to develop and validate cutting-edge microelectronic technologies that meet the demands of national security.

Sandia's MESA complex specializes in design and manufacturing of custom microelectronic components tailored to the needs of nuclear deterrence. These components are engineered to perform in extreme conditions and offer power, reliability and radiation hardness necessary for high-consequence systems. MESA functions as a specialized U.S. government foundry, producing advanced microsystems that cannot be manufactured in the commercial sector due to strict security requirements and low production volumes. This ensures the country's defense systems are equipped with the most reliable technology available.

"MESA is unique in that it is the nation's only source of trusted strategic rad-hardened microelectronics, and it meets the rigorous demands of our nation's defense system," Labs Director Laura McGill said during a news conference on May 14.

Sandia's expertise spans the entire microelectronics lifecycle, from research and design to manufacturing and testing. Sandia's commitment to innovation is further strengthened by its partnerships with industry, academia and government, creating a virtuous cycle that enhances national security. Funding from the federal CHIPS and Science Act bolstered these efforts, supporting advancements in semiconductor technologies and strengthening the U.S. semiconductor supply chain.

Sandia leads in quantum computing, collaborating with prestigious institutions such as Tufts and Duke universities to develop technologies. Sandia furthers initiatives like the Quantum New Mexico Institute and the Elevate Quantum Tech Hub to foster a robust regional innovation ecosystem.

Sandia operates the Center for Integrated Nanotechnologies, a collaborative facility



MESA COMPLEX — The Microsystems Engineering, Science and Applications complex integrates numerous scientific disciplines to produce functional, robust, integrated microsystems. This facility represents the center of Sandia's investment in microsystems research, development and prototyping activities.

Photo by Bill Doty

with Los Alamos National Laboratory. This center specializes in atomic-precision lithography, focused ion-beam implantation and the synthesis of optical and electronic materials, positioning Sandia at the forefront of nanotechnology and quantum science. This facility enhances Sandia's ability to develop advanced microelectronic components that meet the stringent requirements of national security.

To further ensure the integrity of microelectronics beyond those it produces, Sandia established the Counterfeit Detection Center. Work at this center relies on Sandia's deep understanding of microelectronic design to assess components at micro and macro levels, detecting counterfeits and verifying the microelectronics supply. Sponsors use Sandia's expertise and facilities to identify potential vulnerabilities and counter cyber threats, ensuring that all microelectronic systems function as intended and maintain the highest standards of reliability.

Looking ahead, the DOE Office of Science has announced the establishment of three new microelectronics science research centers. Among these, the Microelectronics Energy Efficiency Research Center for Advanced Technologies, or MEERCAT, will focus on energy efficiency by exploring solutions that bridge sensing, edge processing, artificial intelligence and high-performance computing. Sandia will be a founding member of MEERCAT and will lead one of eight energy efficiency-related research projects within the center.

"By leveraging Sandia's unique facilities and expertise, we are committed to delivering trusted microelectronics that support our national security," Deborah Frincke, associate Labs director of National Security Programs, said. "From supporting the nuclear deterrent with trusted solutions to pioneering innovations in quantum computing, photonics, microelectromechanical systems, heterojunction bipolar transistors, non-volatile memories, hypersonics, advanced radar and other cutting-edge technologies, Sandia is dedicated to ensuring our nation's future security."

As Sandia continues to lead the way in microelectronics innovation, it remains committed to providing the trusted solutions that strengthen U.S. defense strategy and safeguard the nation's future.

"We will continue to invest in these tools, the processes and our people that regularly produce new patents in these technologies and keep our deterrent at the leading edge," Laura said during the news conference.

Visit Sandia's website for more information about microelectronics initiatives.

#### **Blood drive**

**CONTINUED FROM PAGE 1** 

This year, both labs registered 86 first-time donors to participate in the event. In total, 378 donors took part, surpassing last year's turnout by 38 and marking the largest participation in the history of the competition. From these donors, a total of 465 units of blood were collected, exceeding last year's total by 102 units.

At Sandia, one exceptional donor stood out: Jeanette Burmester, who has donated an impressive 28 gallons of blood throughout her life. She joined Labs Director Laura McGill as they gave blood in support of Sandia's mission to give back to the community and save lives.

"Wow, what an incredible outcome. I want to extend a heartfelt thanks on behalf of Community Involvement to everyone

for collaborating to achieve such amazing results that will positively impact our community," Lorena Esparza Aguirre, Sandia blood drive team member wrote. "This success reflects Sandia's culture of giving and commitment to making a difference."

The annual competi-

tion between the two labs

community.

continues to strengthen
the mission of giving back
to the community while
fostering a spirit of collaboration and camaraderie.
Each year, the labs strive to boost donor
participation and exceed the previous
year's number of blood donations,

increasing their positive impact on the



the mission of giving back to the community while fostering a spirit of collab.

EVERY DROP COUNTS — Vitalant staff member Revea Geuss prepares Megan McCarthy for a blood draw at Steve Schiff Auditorium on June 24.

Photo by David Lienemann

Although the blood drive competition occurs only in June, Sandia hosts blood drives twice a month, providing every employee with the opportunity to donate. Upcoming blood drive dates are announced in the Sandia Daily News.

#### NNSA award

**CONTINUED FROM PAGE 1** 

Safeguards and Security Director
Samantha Flores accepted the award on
behalf of 70 dedicated individuals from
the Sandia Field Office, Safeguards
and Security, Global Security, Nuclear
Facility Operations, Cyber Security and
Emergency Management. In addition,
individual participants received NNSA
certificates in recognition of their contributions. Sandia Field Office Deputy Manager
David Pugh attended and made remarks,
underscoring the collaborative effort that
led to this remarkable achievement.

#### **IPPAS Mission program**

The IPPAS Mission program, launched in 1995, aims to assist nations in strengthening their national nuclear security procedures, systems and measures. The missions provide peer advice on implementing international instruments, along with International Atomic Energy Agency guidance on the protection of nuclear and other radioactive material and associated facilities.





**EXCEPTIONAL WORK** — Lew Monroe, NNSA associate administrator and chief for the Office of Defense Nuclear Security, left, presents the award to Samantha Flores, Sandia Safeguards and Security director and chief security officer, on behalf of the Sandia and Sandia Field Office team.

Photo by David Lienemann

The U.S. mission, hosted in Gaithersburg, Maryland, and at Sandia New Mexico, occurred in early 2024 and focused on reviewing the DOE-NNSA nuclear security enterprise and its implementation at the Sandia Pulsed Reactor Facility - Critical Experiments. The nine-person visiting IPPAS team was led by Kathleen Heppell-Masys, vice president of Nuclear Operations Oversight at Atomic Energy of Canada Limited, and included international nuclear security experts from Finland, Poland, Japan, Czech Republic, Australia, United Kingdom, Argentina and Switzerland.

#### Honoring a hero

The Randy D. Putt Security Team of the Year Award honors the life of Putt, who served DOE and NNSA for over 30 years as a security police officer, Special Response team captain, National Training Center firearms instructor and range manager, and Safeguards and Security training manager. Putt was an inspiring and personable force within the nuclear security enterprise and a mentor and role model to many. The award in his name recognizes outstanding and meritorious achievements supporting NNSA's security and protection mission.

#### **Teaming for excellence**

The Sandia Labs and Sandia Field Office team successfully navigated the intricate requirements within the IPPAS guidelines, encompassing 17 areas related to security management and physical protection systems. To prepare for the two-week event featuring information sessions and guided facility tours, they developed an extensive project plan to coordinate logistics, conducted thorough self-assessments and comprehensive briefings, and developed an Advanced Information Package deemed "best-in-class" by the IPPAS team, demonstrating deep understanding of the regulatory framework and commitment to compliance. The team began planning a year in advance, and the experience from start to finish was a once-in-a-career opportunity for

those involved.

The award letter commended the team's "mastery of project management principles" and "commitment to excellence," saying their efforts "strengthened bilateral cooperation with international partners, contributing to a shared goal of peaceful nuclear energy use and reducing the threat of nuclear terrorism." A specific outcome of the mission was the identifica-

tion of two Good Practices related to Sandia's security culture and processes, which Monroe stated are being "infused across the international community."



**PUTT FAMILY** — The Randy D. Putt Security Team of the Year Award honors the life of Putt, who served DOE and NNSA for over 30 years. The Putt family attended the award ceremony.

Photo by David Lienemann

On his official memo to Sandia Field
Office Manager Daryl Hauck, Monroe
included a handwritten note: "SNL is helping
to lead our security program; this award
shows they're making it happen!"

### **Acting NNSA chief, Joint Chiefs vice chair tour Labs**



Z TOUR — Sandia
Pulsed Power Sciences
Director Greg Rochau,
left, leads a tour of
the Z Pulsed Power
facility for NNSA
Acting Administrator
Teresa Robbins on June
30. Robbins also toured
the Microsystems Engineering, Science and
Applications complex
during her visit.

Photo by Craig Fritz



#### GOOD COMPANY —

From left, Sandia Field Office Manager Daryl Hauck, NNSA Acting Administrator Teresa Robbins, Vice Chairman of the Joint Chiefs of Staff Adm. Christopher Grady. Sandia Labs Director Laura McGill, Sandia Deputy Labs Director Rita Gonzales and Sandia Chief of Staff Carl Rhinehart attended briefings and toured the Counterfeit Detection Center and Hypersonics Gallery during Robbins and Grady's visit June

**Photo by Craig Fritz** 

# Five Sandians 'goal' the distance

#### By Katherine Beherec

abs Director Laura McGill and Deputy Labs Director David Gibson chatted with five staff members about making moves on Sandia's two big goals — leading in modern engineering and accelerating innovation — during Goal the Distance on July 1.

"These goals are more important than ever. There are world events going on right now that give us every reason to be more focused on our mission — leaning into innovation, helping our national leaders understand the capabilities that we can bring to the forefront," Laura said. "And, with the modern engineering goal, it's important that we deliver that capability as effectively and efficiently as possible."

#### Single source of truth

Laura interviewed Enabling Capabilities Senior Manager Rob Brown and Digital Engineering Transformation Senior Manager Shawn Dirk about the path to digital



**BETTER TOOLS** — Shawn Dirk, senior manager of Digital Engineering Transformation, left, explains the benefits of digital engineering tools with Labs Director Laura McGill during Goal the Distance at Steve Schiff Auditorium. **Photo by Craig Fritz** 

engineering at the Labs.

Rob spoke about using model-based systems engineering tools to develop a

single source of truth. In his experience with this type of program, the tool efficiently documented and communicated information to new team members, industry partners and government partners, so that everyone was in full alignment.

Shawn echoed these benefits. "If we're working from the same source of truth of data, we're not making mistakes, we're able to operate faster, we're able to partner faster," he said. "We are able to do our job as a systems integrator and field solutions at pace for the nation."

Laura Jacobs, who works on the Advanced Simulation and Computing-funded Thermal Battery Design and Development team, discussed her team's work developing a suite of tools that can be installed on any engineer's desktop computer to review and iterate on designs quickly. She and her team are developing a tool that will incorporate data from production to improve future models.

#### **Innovation acceleration**

David presented results from recent surveys about perspectives on innovation at the Labs. Staff who reported that they can do their jobs and field solutions at pace for the nation increased from 73% to 84%. Staff who reported that their manager rewards risk-taking to drive innovation increased from 50% to 58%.

"The increase was probably a little more aggressive than I anticipated. I think it means managers are feeling comfortable setting the environment for their staff to take

CIJI TURE SHIFT — Deputy Labs Director David Gibson, left, and Labs

**CULTURE SHIFT** — Deputy Labs Director David Gibson, left, and Labs Director Laura McGill reflect on achievements in accelerating innovation during the Goal the Distance event. **Photo by Craig Fritz** 

risk-based approaches, and staff members are starting to really buy into it," David said.

Director of Monitoring Systems and Technology Jamey Bond reflected on the Unleash Excellence tool that collects ideas from the workforce on ways to cut red tape. The top-voted idea was to improve search engines on Sandia internal websites, so this

> became a priority for his development team. He suggested that broadened access to metagroups could aid staff in accessing the information they need when they need it.

Microsystems Engineering, Science and Applications Director, Reno Sanchez reported that the performance of Sandia's microelectronics meets today's mission needs, but those needs are always evolving. Sandia needs to develop solutions that continue to work in extreme environments and offer a higher level of computational performance. MESA formed a multidisciplinary team of experts of varied levels and types of experience to generate solutions to these

challenges. One solution was to develop a microelectronics device that contains "chiplets" from different semiconductor suppliers that provide both survivability and high-computational power to address future mission needs.

Reno explained this technology is "kind of like your brain stem and your brain. Your brain stem can do simple computation, but its main purpose is survivability — to regulate many essential bodily functions, including breathing, heart rate, blood pressure and sleep-wake cycles. Your brain is used when you need higher level computation power."

Laura McGill concluded the event encouraging Sandians to exemplify the three behaviors of being purpose-driven, connected and courageous.

"This is more about a culture change than anything. About how we work together, how we think about our problems, how we lean into the opportunities presented to us," Laura said. "One of the privileges we have at a national lab is that the nation comes to us with some of the hardest problems, and that energizes us to lean into things like innovation and embrace new ways of working to make us more effective and efficient."

#### **Innovation Faceoff**

Staff can tune into a friendly competition between six Laboratory Directed Research and Development teams who will highlight their research at the Innovation Faceoff on Aug. 20.



# Big thinking with Al

Story and photo by Diana Hackenburg

ormer chairman of the White House Council on Environmental Quality James Connaughton spoke to an in-person and virtual audience June 25 as part of Sandia's Climate Security Speaker Series.

Connaughton discussed technology solutions that will propel future American energy abundance, as well as how artificial intelligence and public policy can accelerate those innovations. Drawing on classic sci-fi movies, he encouraged Sandians to think both big and small and let go of any assumptions that might limit their contributions to this paradigm shift.

One example he shared of a seemingly small piece of technology with a big impact are LED lights, a technology built on foundational research at Sandia in solid-state lighting. According to Connaughton, LED lights have saved U.S. consumers more than \$2.5 trillion in reduced energy costs.

Connaughton believes Sandia and all the other national laboratories will continue to lead in energy and AI moving forward: "I want to underline just how essential you are to this next generation of devel-opment, not just for the U.S. but for the world."



Sandia's Climate Security Speaker Series hosts external speakers to promote thought, discussion and partnerships that can further enhance our efforts to address climate-related risks to national security.

Employees can find Connaughton's talk on the Climate Security Speaker Series webpage.

# New home for 75th Anniversary exhibit



ACCESSIBLE HISTORY — PJ Miramontes, left, and Alex Mallett set up the Sandia Labs 75th Anniversary exhibit in Steve Schiff Auditorium. Sandia employees and visitors can experience the popular exhibit during events at the auditorium and any time the building is open.

Photo by Craig Fritz



ON DISPLAY — The 75th Anniversary exhibit that opened last year at the National Museum of Nuclear Science & History, designed by a Creative Services team led by Lloyd Wilson, is now permanently on display in the lobby of the Steve Schiff Auditorium.

Photo by Craig Fritz



**COOLARTIFACTS** — More than 44,000 individuals visited the museum while the Sandia exhibit was available. One visitor said, "I liked the history of Sandia. It was a colorful exhibit and showed the importance of Sandia." Another commented, "The Sandia artifacts were cool."

Photo provided by the Nuclear Museum

# Lean summit draws minds from across enterprise



LEAN SOLUTIONS — From left, Sandia administrative professional Sarah Dubroff joins a breakout session with Savannah River Nuclear Solutions staff members Tamia Smalls and Lisa Steed during the Unleash Excellence Summit on June 24-25. The summit invited leaders and staff from across the nuclear security enterprise to rethink their approach to challenges using Lean principles.

Photo by David Lienemann



#### SHARED INSIGHTS —

Savannah River Nuclear Solutions' Blake Leaphart participates in the Unleash Excellence Summit with Lean practitioners from Sandia and other labs. Speakers included Joanna Cooper, Daimler Truck North America general manager; Suzette Johnson, fellow for Lean Agile and Digital Integration at Northrop Grumman Corporation; and Dantar Oosterwal, senior vice president of EFESO Management. Sandia Labs Director Laura McGill, Deputy Labs Director David Gibson and NNSA Office of Stockpile Modernization Director Rob McKay also spoke.

Photo by David Lienemann

## Mileposts

















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Paula Jernigan

Angela Cotinola

Monica Bigney

Ryan Levine

Robert Morrison

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Amanda Wachtel

Recent Retirees







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BACKPACK **JULY 21 – AUG 8** Community Involvement SCHOOL-DRIVE.SANDIA.GOV for donation information and drop off locations