



Annual simulation  
strengthens  
emergency response

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## EMPLOYEE RECOGNITION AWARDS

A complete list of Sandia's 2019 individual, team and Laboratories Director's Award winners

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# B61-12 team reaches milestones in nuclear deterrence mission

By **Michael J. Baker**

Sandia's B61-12 nuclear weapons team has accomplished several milestones, including the gravity bomb's final design review and the first production completion of several components for the life extension program.

"These are tremendous steps forward for the B61-12 Life Extension Program," said Jim Handrock, weapon systems engineering director. "Through the hard work of many individuals, this program has successfully met all major deliverables on the path to providing a modernized nuclear deterrent for the nation. I am very proud of the work that Sandia has done over the years to get to this point."

The B61-12 design was presented for final review by Sandia and Los Alamos national laboratories to an independent peer-review panel of 12 military and civilian experts last fall. The panel met at Sandia and examined electrical, mechanical, thermal and flight-testing data and analysis.

"The review represents a significant milestone for the program and the nuclear weapons complex as a whole," said Jennifer Franklin, a manager on the final design review team. "It is the culmination of all the program design accomplishments to date and gives us confidence that the B61-12 system is ready to proceed forward with final design and production qualification activities."

NNSA lists the final design review as one of the remaining major milestones for the B61-12 Life Extension Program before the first production unit, scheduled for 2020, and complete production in fiscal year 2025.

"The final design review assesses the weapon as a whole and the ability of the system to meet customer requirements," Jennifer said. "A summary of all component-level final designs is provided to ensure previous action items are resolved. The review verifies there are no significant design details in flux, and the design can be reliably produced as defined."

### Refurbishment programs at Sandia

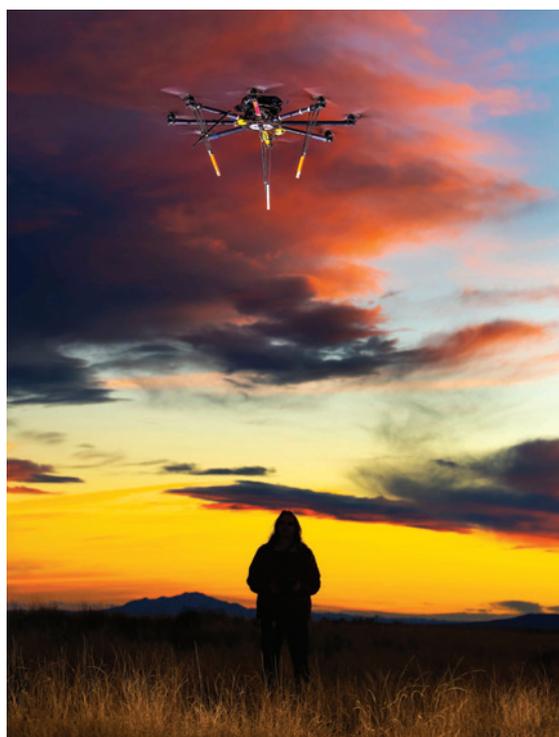
Sandia is the design and engineering lab for nonnuclear components of the nation's nuclear stockpile, including the B61-12. In addition to non-nuclear component development, Sandia serves as the technical integrator for the complete weapon, assuring that the system meets requirements as a whole and not just as individual parts.

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**ACOUSTIC TESTING** — Sandia National Laboratories mechanical engineer Ryan Schultz adjusts a microphone for an acoustic test on a B61-12 system. Several different tests and rigorous computational analysis are used to qualify the B61-12 system and components.

Photo by Randy Montoya



**AUTONOMOUS FLIGHT** — Pilot David Novick flies a drone at dusk. Humans might see their roles throughout aviation and aerospace shift if Sandia can simplify manual tasks with artificial intelligence. Photo by Randy Montoya

# Future hypersonics could be artificially intelligent

Sandia to lead academic coalition to develop autonomy for aerospace

By **Troy Rummler**

A test launch for a hypersonic weapon — a long-range missile that flies a mile per second and faster — takes weeks of planning. So, while the U.S. and other states are racing to deploy hypersonic technologies, it remains uncertain how useful the systems will be against urgent, mobile or evolving threats.

Sandia has made and tested hypersonic vehicles for more than 30 years. The Labs' hypersonics developers think artificial intelligence and autonomy could slash these weeks to minutes for deployed systems.

To prove it, Sandia is forming Autonomy New Mexico, an academic research coalition whose mission is to create artificially intelligent aerospace systems.

"AutonomyNM is a gathering of some of the best minds in autonomous systems technology in a uniquely oriented, collaborative environment," said Michael Burns, associate labs director for national security programs. "We expect it to make important impacts on a number of research areas."

### AI could accelerate flight planning

A hypersonic boost-glide vehicle — the type tested by Sandia — launches into space aboard a rocket, then detaches and uses only its momentum to sail across the upper atmosphere before finally plunging back to Earth and its target.

"At extreme speeds, the flight is incredibly challenging to plan for and program," said Alex Roesler, a senior manager at Sandia who leads the coalition.

— CONTINUED ON PAGE 8

MY SANDIA STORY

Daddy's girl,  
Sandia's community

By **Johann "Yo" Snyder**

"It hurts, Daddy. It hurts."

It was only a few months ago that my youngest daughter sat on the edge of a hospital bed. The IV lines and pumps and who knows what else made her look like she was hooked up to the Matrix. Her eyes clouded with pain, her voice a strained whisper, her body rigid and hurting — I felt my heart breaking.

And yet, I had to help her to keep going, to endure more pain, because that was the road to recovery. The scene was post-operation day two after spinal fusion surgery to correct her scoliosis. For both of us, it was the very epitome of what it meant to have a hard day.

No parent wants to see their child in pain, and what father can ever bear to watch his baby girl cry out like that. Nothing makes that bearable, but some things help hone the jagged edges so it might — just might — be endurable.

Friends and family always help. Faith is a must. However, there's something else that I've discovered since coming to work at Sandia that I appreciate deeply: the Sandia community.

I don't think I ever really thought about, or maybe I just plain didn't realize, how special the community of people who work here really is. It certainly never sunk in that I was now a part of it. But as I endured one of the darkest weeks of my life, watching my daughter suffer in tremendous pain, I came to realize how precious it is to be a member of such a close-knit, caring community. Reflecting back on those tough times has only made that glimmer of insight much more solid.

We do important work here at the Labs. We serve our nation, we make it more secure and we work on technology that will help make it a

better place in the future. We have intense pressure to deliver to tremendously high standards, and to do so on time and on budget. We don't take our work lightly, and we strive to maintain our excellent reputation each and every day.

Yet, despite these all-encompassing demands, it has meant so much to me to know that the priority of family doesn't get buried beneath the rest of the important and the stressful priorities on everyone's to-do lists here. Indeed, despite all the deadlines for all the projects that my fellow Sandians must meet, my family and I received nothing but deep, sincere support — support that obviously came from the heart — throughout that difficult time.

This is what makes the Sandia community so special. In the midst of all the amazing work we do, we never forget the importance of the people who do it, and their families.

There are hundreds of people who call me a tech writer, dozens who work closely with me who call me Johann, but there are only two, just two, people in the entire world who call me daddy. It's meant so much to me to know that our community of Sandia understands that being a daddy sometimes comes before being a tech writer. To have that kind of support, that kind of peace of mind, offered by the community of Sandia made a truly difficult period at least a bit more endurable.

I know that many in this Sandia community in which I'm now so immersed have battled terrible illnesses or deaths of loved ones. I know others face a range

of serious problems that may be invisible to those working alongside them. I wanted to write this column about my own experience as a message to them, so that they can come to a realization like the one that struck me last year — that they are part of something greater, a community of individuals who will be there for them, every time.

Thank you, Sandia, for allowing me to be a part of your community, and for giving me the support and care that great communities provide to their own in their time of need.



**ENJOY THE RIDE** — Johann Snyder stops to ponder life's unexpected twists and turns during a family trip to Disneyland. **Photo by Kay Snyder**

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Sandia aerospace engineer to head national institute

By **Michael J. Baker**



**Basil Hassan**

as president-elect of the institute that represents more than 30,000 individual and 95 corporate members from the aeronautics and space community. He will begin serving a two-year term as president in May 2020.

Basil is a fellow in AIAA and has been an active member for more than 35 years, filling

Members of the American Institute of Aeronautics and Astronautics elected Basil Hassan, a senior manager and engineering program deputy, as the group's next president.

In May, Basil will begin a yearlong stint

various leadership roles, including serving on the institute's board. He received the 2008 AIAA Sustained Service Award.

Basil joined Sandia in 1993 after receiving his doctorate in aerospace engineering from North Carolina State University. As an aerosciences staff member, he researched aerodynamics and aerothermodynamics of high-speed flight vehicles, drag reduction for ground transportation vehicles and high-velocity oxygen fuel thermal sprays.

Beginning in 2002, he has held various management positions, during which he has overseen all aspects of engineering sciences research, development and applications work for a variety of national security programs. In 2003, he supported NASA in determining the cause of the space shuttle Columbia accident, and was part of the team to support the shutdown of the Deepwater Horizon oil well after the spill in 2010.

# Nanomaterials researcher wins mid-career research award

Former postdoctoral student Kaifu Bian also honored for nanowire work

By **Neal Singer**

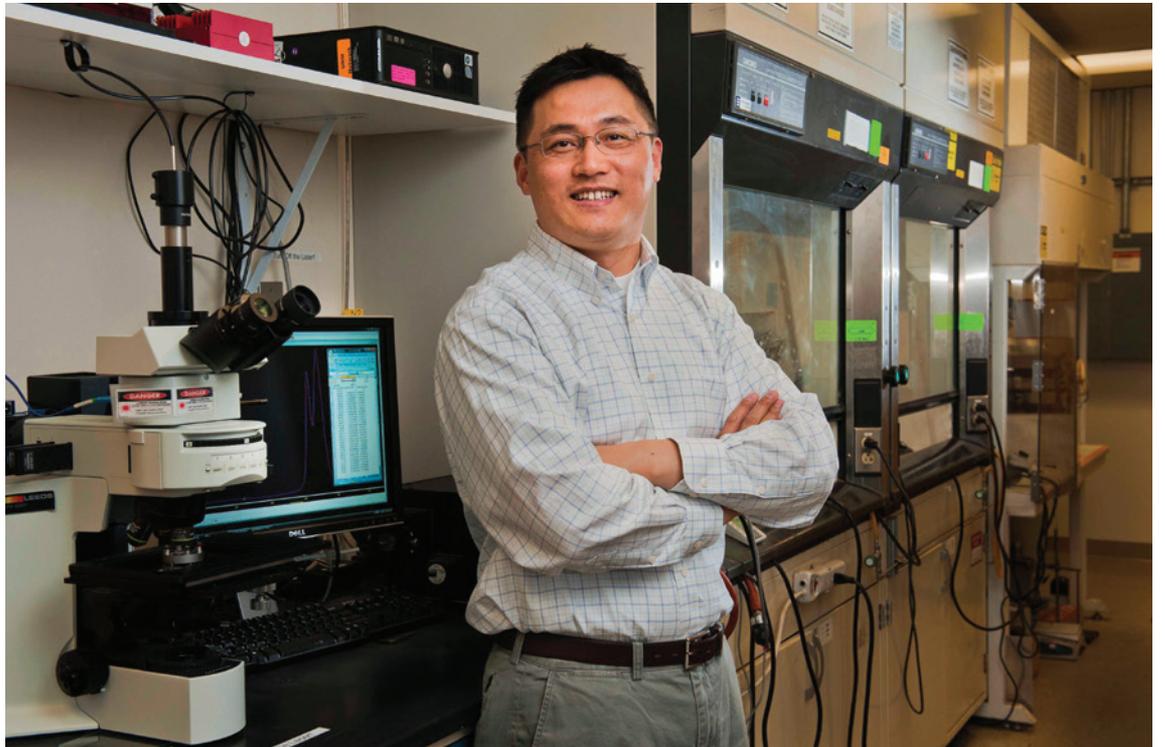
**S**andia National Laboratories materials scientist Hongyou Fan is the sole recipient of this year's Mid-Career Researcher Award from the Materials Research Society, the largest U.S. materials society. The distinction is given midway in a researcher's career for exceptional achievements in materials research and for notable leadership in the field.

Hongyou was chosen for "outstanding contributions in nanoparticle self-assembly of functional nanomaterials."

He is widely recognized for pioneering work that employs stress rather than chemistry — the more conventional approach — to form new materials at the nanoscale. The patented stress-induced assembly method uses mechanical force to change the structure of materials, which has produced nanomaterials with structures and properties not achievable using chemical synthesis methods. The results — often finer, cleaner and more flexible than those produced by chemistry — are easily integrated into industrial manufacturing and leave no harmful byproducts, which can be unfortunate residues of chemical methods.

A distinguished member of Sandia's technical staff and a national laboratory professor at the University of New Mexico, Hongyou is the first U.S. national lab researcher to win the mid-career award, which has been presented annually for the last seven years. Previous winners have been associated with Harvard University, Stanford University, the University of Illinois at Urbana-Champaign and other universities.

In April, Hongyou will receive a \$5,000 cash prize, a trophy and a certificate at the society's meeting in Phoenix.



**MATERIALS MAVEN** — Sandia National Laboratories materials scientist Hongyou Fan received the Materials Research Society's Mid-Career Researcher Award. **Photo by Randy Montoya**

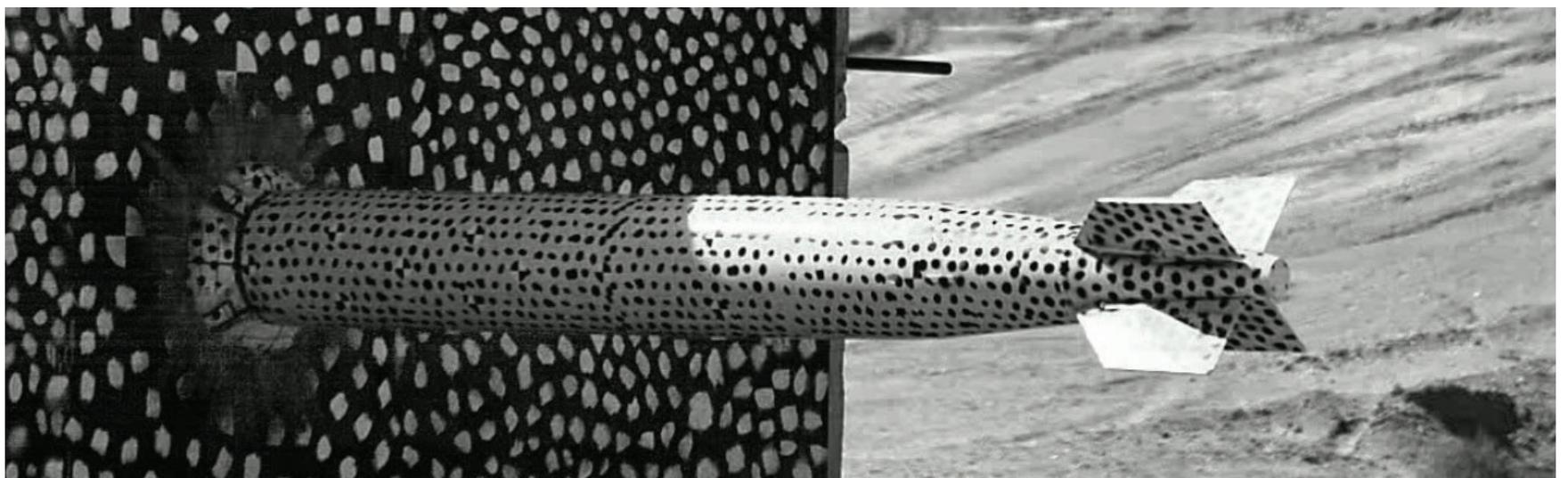
Former Sandia postdoctoral researcher Kaifu Bian, whose work at Sandia was guided by Hongyou, has been awarded the society's Postdoctoral Award "for advancing the understanding of nanoparticle assemblies under stress." According to the society, Kaifu "further advanced the stress-induced synthesis method ... originally invented by Hongyou's group." Kaifu's work led to the fabrication of new semiconductor nanowires with high luminescence that could not be created by traditional synthesis. He is the first Sandia postdoctoral researcher to win the award.

Hongyou is a Materials Research Society and American Physical Society fellow. He has received

the MRS Fred Kavli Distinguished Lectureship Award in Nanoscience, four R&D 100 Awards for the development of technically significant products, two Federal Laboratory Consortium Technology Transfer-Outstanding Technology Development Awards, the University of New Mexico Outstanding Faculty Mentor Award and the Asian American Engineer of the Year Award.

Earlier this year, Hongyou received special recognition from the New Mexico State Legislature for outstanding contributions in science and engineering as a serial innovator.

He received his doctorate in chemical engineering at UNM in 2000. [f](#)



**IMPACT TEST** — A B61-12 test unit slams into a target at the end of Sandia's 10,000-foot rocket sled track in a complex forward ballistics test. The test, which mimicked a high-speed accident, allowed engineers to examine safety features inside the weapon. **Photo courtesy of Sandia National Laboratories**

## B61-12 team milestones

CONTINUED FROM PAGE 1

The B61-12 Life Extension Program will refurbish, reuse or replace all components to extend the bomb's service life by at least 20 years and improve its safety, security and effectiveness.

The first B61 entered service 50 years ago, and over the decades numerous modifications have been made to increase safety and reliability. The B61-12 consolidates and replaces most of the previous variants.

A life extension program allows scientists and engineers to address the aging of nuclear weapons components. Some components are reused by being requalified to go back into a weapon without change. Others that have aged are remanufactured using the original specifications. Sometimes the original technology is no longer available, and Sandia redesigns those parts using modern technology.

While the complete weapon system goes through a rigorous testing and review cycle before its first unit is produced, each component within

the system also goes through a similar process of testing and qualification.

The B61-12 Life Extension Program teams have already produced first units for several components. The milestone marks the end of the design and development process Sandia teams have worked on for seven to eight years for those components.

"That's why it's such a big deal," said Steve Moya, a manager with B61-12 product realization. "These teams have been working on this for the better part of a decade."

Between now and when the weapon system will have its first units produced, Sandia will ready dozens of B61-12 components for production.

"We'll hit a crescendo of activity this spring all the way through September," Steve said.

"All design and development processes are approved, and the components are qualified for high reliability," said Jerry Stoughton, a former product realization manager with the B61-12 program. "They can be produced with the approved processes."

Reaching the first production milestone for a component means it has undergone an extensive set of tests to ensure it always works when authorized and never otherwise.

Impact, vibration, drops, extreme temperatures and massive electrical impulses are just some of the tests conducted to show a component will operate as intended, as part of the overall system.

"They've all been put through the shake, rattle and roll testing," said Jerry, who is now a flight systems project manager. "There are really two conditions for testing, a normal environment and an abnormal environment. Those are both covered with extensive computational analysis and testing."

The pairing of computational analysis and advanced computer algorithms with field testing data, including flight tests at Sandia's Tonopah Test Range, have added a high degree of confidence in the B61-12 design, Jennifer said. "All the evidence comes together — demonstration, analysis and tests — to show that the design meets requirements," she said. [f](#)



Sandia's Employee Recognition Awards were presented earlier this month to 34 individual honorees and 66 teams who made major contributions to mission success. The honorees are nominated by their peers and go through selection by their divisions, with final approval by the associate laboratories directors. The individual winners were recognized in the categories of leadership, exceptional service and technical excellence.

Individual portraits by **Lonnie Anderson**

Team photos by **Norm Johnson**

California (outdoor) photos by **Randy Wong**

# INDIVIDUAL HONOREES



Sabrina Aragon



Carlos Astorga



Tiffany Borges



Jessica Brabson



Andrew Bradley



Ryan Brasure



Andrew Brungard



LouAnn Burnett



Jason Chance



Tom Ciccateri



James W. Daniels



Coby Davis



Loren Gastian



Anthe George



Curtis Gibson



David Hopman



Patty Hough



Rami Katrib



Camron Kouhestani



Chris LaFleur



Judy Lau



Joshua Leckbee



Michael Marquez



Jeff Mitchell



Christopher Nesbit



Therese Ordonez



Yvonne Petrova



Gary Pressly



Nasser Salim



Michael Lane Smith



Samuel Subia



Steven Sweet



Cindy Wright



Jonathan Zimmerman



# EMPLOYEE RECOGNITION AWARDS

## TEAM HONOREES

### DIVISION 1000



ALEGRA Radiation Capabilities

#### ALEGRA Radiation Capabilities

The ALEGRA code was expanded, allowing accurate, 3D, fully coupled radiation hydrodynamic multiphysics simulations of new and complex materials, components and processes in radiation environments, and made compatible with modern transport codes (e.g., SCEPTRE).

#### Annular Core Research Reactor Facility Reactivity Control System Upgrade

The team successfully completed the Reactivity Control System Upgrade project that will ensure continued reliable reactor operation for nuclear weapons program testing and component qualification at the ACRF Facility.

#### Astra Supercomputer

The Astra Supercomputer team procured the world's largest high-performance computing system based on the Arm processor, working on a very aggressive schedule to obtain Sandia's fastest computer, meeting several important programmatic and technical milestones.

#### Building 860 Mechanical Shock and Experimental Impact Mechanics

The team provided outstanding dynamic mechanical testing services in support of multiple programs, including W76, W78, W80, W87, W88, B61, Conventional Prompt Global Strike, Delivery Environments and Advanced Simulation and Computing.

#### Collaborative Design of Thermal Battery Simulation Software

This multidisciplinary team, including experimentalists, computationalists, customers, managers and validation experts, worked across divisions and with the Joint Munitions Program to release TABS v. 5.0, a multi-physics thermal battery simulator.

#### External-facing Unclassified Unlimited Release Publications Database

Sandia's UUR External Publications Database is an external-facing web-based application used to collect, manage and publish Sandia's publicly available research to execute the DOE Order 241.1B mandate to provide public accessibility to scientific and technical information.

#### High-Flux Concentrating Solar Reactor for Testing Advanced Materials Under Extreme Environments

This award was for developing a first-of-its-kind solar reactor, capable of testing materials under high-pressure, high-flux conditions to improve understanding of materials performance. Several technical groups effectively collaborated to deliver a system within technical scope and budget, leading to additional customers.

#### Reapplication Self-Checkout Kiosk

The team improved how customers request and receive items from Reapplication/NM and CA by replacing the time-consuming and manual paper process with efficient electronic self-checkout kiosks. The kiosks save 20 paper reams and 833 labor hours annually.

#### Temperature Diagnostics

This team applied infrared pyrometry measurements on "low temperature" Z dynamic compression experiments, enabling a new class of diagnostics for interrogating material response.

### DIVISION 2000



Fusion Cell: Nuclear Deterrence and Intelligence Collaboration

#### B61-12 System Final Design Review

The System Final Design Review team collaborated with teams internal to Sandia and across the nuclear weapons complex to present the state of design verification with technical excellence.

#### Code Management System

This award recognized the CMS team's outstanding contributions in meeting numerous commitments and exceeding expectations by delivering on several unplanned commitments required in preparation for the CMS Nuclear Explosive Safety Study.

#### Electronic Neutron Generators Product Realization (Design Agency and Production Agency)

The ELNG product realization team successfully completed the 35:0 qualification testing for the B83, B61 Legacy, and B61-12 ELNGs, and released B83 and B61 ELNG Qualification Engineering Releases two months ahead of schedule.

#### Engineering Data Management

This award is for outstanding collaboration in support of Nuclear Deterrence-related product realization activities and for sustained excellence in customer service. The EDM team processed and released more than 49,000 engineering documents between May 2017 and September 2018.

#### Fusion Cell: Nuclear Deterrence and Intelligence Collaboration

The ND Fusion Cell is a collaborative group of Nuclear Enterprise Assurance and Intelligence subject matter experts from Sandia NM and CA that is developing a threat informed workforce and enhanced skillsets across Nuclear Deterrence and Strategic Partnerships Programs mission space.

#### Magnetics Procurement Index Elimination

The Magnetics product realization team established considerable mistake-proofing and decreased cycle time by finding an alternate solution and eliminating the use of the problematic Procurement Index.

#### Magnesium Oxide

The MgO team addressed one of the most significant material availability challenges at the Labs. The team partnered across Sandia and at vendors to execute a strategy to ensure adequate MgO supply for commitments.

#### Mobile Guardian Transporter Vehicle Electronics

This award is for outstanding technical achievements in delivering hardware, firmware and software to support both pre-qualification testing and the Prototype 1 Testbed of the Mobile Guardian Transporter Vehicle Electronics.

#### Plan C

The Plan C team exemplified exceptional collaboration to establish production capability in record time to recover schedule and manufacturability confidence for a critical sub-component.

#### SSMP Weapon Activity Capabilities Writing

This team demonstrated exceptional teamwork in writing 19 weapon activity capability descriptions over four days for the FY19 Stockpile Stewardship and Management Plan to meet critical publishing deadlines.

#### W76-1 Joint Test Assembly-3 Development

The W76-1 JTA3 team, with Los Alamos National Laboratory and Kansas City National Security Campus, completed a re-scoping study Delta-Feasibility Gate Review resulting in the adoption of an architecture that provides a major increase in data for Sandia and Los Alamos.

#### W80-4 Model-Based Definition Project

Applying Model-Based Definition concepts, Design Engineering and W80-4 Systems created and released 3D product definition for a piece part, which represents a major step for improving model quality and manufacturing for nuclear weapon product realization.

#### W88 ALT 370 JT5ALT-12 High Explosive Test Safety Planning

Proactive planning for unique hazards/test led to identification and successful implementation of facility upgrades, new procedures and Work Planning and Controls. Successful collaboration proved pivotal, given the high impact and high consequences of the JT5ALT-12 test.

### DIVISION 3000



Time Away From Work Benefits Proposal

#### Collective Bargaining for MTC and OPEIU Negotiations

In FY18 Sandia's bargaining teams worked with the Metals Trade Council and the Office and Professional Employees International Union, both of which separately voted to ratify the first collective bargaining agreements negotiated between Sandia/NTESS and the unions.

#### Time Away From Work Benefits Proposal

The team identified, benchmarked, analyzed and proposed options for benefit plan designs to comply with prime contract requirements to meet DOE directives and the needs of Sandia's workforce.



## DIVISION 4000



Sandia Total Access Request Tool

### Facilities Management System - Work Coordination and Control Start-up

A key accomplishment of the FMS project is the creation of the Work Coordination and Control team.

### Facilities Management System Implementation

The Facilities Management System implementation team led a concerted effort to implement the new FMS at Sandia.

### Sandia Infrastructure Investment 2040 Strategy

The team created the 2040 strategy and associated summaries — a single vision for major capital investment to the year 2040, based on mission risk, to provide consistent communication within Sandia and to external sponsors.

### Sandia Total Access Request Tool

The development and implementation of START used newly developed common architecture to make the personnel security clearance processes more efficient, reducing clearance processing times, consolidating and integrating cross-organizational systems and thereby substantially reducing resources.

## DIVISION 5000



Application-Specific PBGA Recovery

### Advanced Concepts

During FY18, the Advanced Concepts team performed a unique analysis set supporting a national security Strategic Partnerships Projects customer. The team developed, applied and demonstrated unique modeling and simulation capabilities that enabled important analysis regarding future concepts.

### Application-Specific Plastic Ball Grid Array Recovery

The PBGA team worked closely with stakeholders to overcome numerous technical, logistical and quality challenges and to deliver microelectronics that meet mission needs and maintain schedules.

### Carlsbad Control Electronics

With a very compressed schedule, this team developed an extremely complex control electronics system. The integration and delivery of the custom control electronics showcased the expert technical abilities of the entire team.

### CAVSS Development

The CAVSS Development team successfully designed, built and acceptance-tested a field-ready integrated hardware and software solution in under six months (versus original plan of two years) to meet an urgent national security need.

### DOE Emulated Experiment 1

The Emulated Experiment 1 for DOE executed analysis, testing and demonstration to reduce cybersecurity risk from potential attacks on control systems used in the U.S. electric industry.

### HTS Lombardi Code Yellow Resolution

The core team successfully executed a Labs-level effort for an aggressive six-month recovery to resolve anomalies in a mission critical microfabrication process and completed six-inch wafer production prior to the fab conversion to eight-inch processing.

### Roadrunner

The Roadrunner team provided an exceptional example of collaboration, operating under tight constraints, to scientifically prove that Sandia's Coherent Change Detection capability can have a strategic impact on border security.

### Silicon Fab Operations and Improvement

The SiFab Operations and Improvement team set all-time records for lot moves in FY18 through exceptional teamwork, customer service and operational innovation.

### Smoke Ring Deliveries

A team was rapidly formed to deliver for immediate customer use. The team decomposed a large shipment into easily handled quantities for field operations by a delighted sponsor. Weeks later, same song second verse!

### Sandia Restricted Network/Hydra One-Way Transfer

The Sandia Field Intelligence Element Special Programs and FIE Information Technology Services organizations implemented an OASIS One-Way Transfer Diode between the Sandia Restricted Network and Hydra.

### Conventional Prompt Strike Flight Experiment-1 Project

The FE-1 project team conducted a flight test on Oct. 30, 2017. The flight system launched from the Kauai Test Facility, Kauai, Hawaii. The successful test provided data on hypersonic boost-glide technologies and long-range atmospheric flight.

## DIVISION 6000



Time Dominant Operations Cell

### Ammonium Nitrate Booster

A Sandia technical team recently completed a three-year project, the Ammonium Nitrate Booster, funded by the Combating Terrorism Technical Support Office, the Technical Support Working Group, the Department of Homeland Security, the FBI and industry.

### Disablement Laser

The interagency nuclear emergency response community — NNSA, FBI and Department of Defense — adopted the Disablement Laser as the cornerstone of the new Capability Forward initiative, which brings decisive render safe action to field teams in regional cities nationwide.

### Sidecar and Multiple-hypothesis Signal Integration Enhancement

The Sidecar/MSI project successfully fulfilled a Joint Emergent Operational Need by providing new and partner capabilities to an operational real-time system. The community is also notified in real-time of the threat as it evolves.

### Time Dominant Operations Cell

This cell deployed the first ever operational infrasound detection system so the nation can execute its time-dominant monitoring mission.

### X-Ray Toolkit Version 3

X-Ray Toolkit 3 is an update of Sandia's image processing and analysis tool for emergency responders. XTK has more than 11,000 users across civilian and military bomb squads around the world.

### Y-12 Security Improvement Program - Buried Line Replacement Project

Sandia completed its first design-build project for NNSA at the Y-12 National Security Complex. The project was part of a Security Improvement Program to replace aging critical security infrastructure.

## DIVISION 8000



Joint Technology Demonstrator

### California 4/10 Alternative Work Schedule Pilot

The team successfully conducted a 4/10 Alternative Work Schedule pilot in California. The alternate work schedule was adopted across the Labs.

### Enhanced Geothermal System Collaboration

The collaboration team, working effectively with multiple university and national lab partners, designed, developed and built the Enhanced Geothermal System currently in place at the Homestake Mine in Lead, South Dakota.

### Joint Technology Demonstrator

The Joint Technology Demonstrator team was recognized for its success at collaborating across sites, divisions and centers, as well as with external partners, to mature system-level concepts and realize system-level demonstrations.

### Lab Safety for Student Interns

On its own initiative, technical staff from the chemical, biological, radiological and nuclear defense center partnered with Sandia ES&H professionals to provide student interns a practical laboratory safety program. Team members provided hands-on demonstrations of good lab practices.

### Lodestone Integration

The Lodestone Integration team implemented an operational and critical capability making a positive impact for U.S. warfighters. The team intensely focused on rigorous development, testing and evaluation, resulting in a robust capability.

### Puerto Rico Resilience Analysis

The project team identified potential microgrid locations in Puerto Rico to improve grid resiliency and guide the rebuilding efforts after the devastation of Hurricane Maria. The team successfully delivered on an extremely aggressive timeline.

### Sandia Centralized Computer Builds Depot

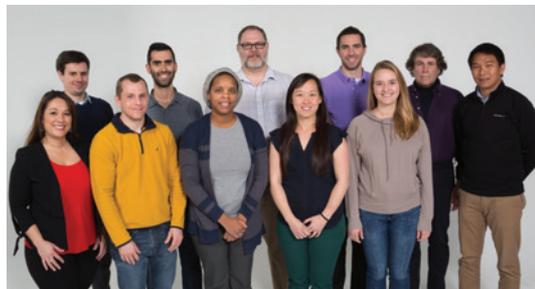
This team worked across Sandia sites to move new computer builds to one centralized location in New Mexico, rather than individually at each site, in order to reduce delivery times to the end user.

# EMPLOYEE RECOGNITION AWARDS

## W80-4 Weapon Design and Cost Report

The W80-4 team completed one of the largest deliverables for the Labs, the Weapon Design and Cost Report, using programmatic processes and tools more advanced than any previous Life Extension Program.

### DIVISION 9000



Additive Manufacturing

## 725-East High-Performance Computing Data Center

Construction of Sandia's new world-class High-Performance Computing Facility was the result of a highly-effective collaboration between centers across divisions 10000, 4000 and 9000. The facility is LEED Gold Certified and features novel energy and water conservation technologies.

## Additive Manufacturing Qualification

This team developed and matured additive manufacturing qualification strategies for current and future systems and parts for insertion into the war reserve stockpile.

## Laboratory Policy System Project

The new Laboratory Policy System represents four years of work to simplify Sandia's policies and processes and launch a user-friendly system, making it easier to find information needed to get work done safely and securely.

## Sage Risk and Issues Process Improvement and Supporting Tool Development and Implementation

The Sage Risk and Issues team identified barriers in organizations adopting a risk-driven approach to performance improvement, then delivered a solution of streamlined processes and easy-to-use tools that substantially improve adoption and increase data accuracy.

## Sandia QAS 1.0

The team was recognized for providing pre-assessment coordination for the NNSA HQ QAS 1.0 assessment in March 2018, earning outstanding assessment results with 10 noteworthy practices, a record for QAS 1.0s.

### DIVISION 10000



Financial Model Simplification

## Financial Model Simplification

The core team developed and implemented a new financial model in FY18, significantly reducing cost pools, overhead rates and internal transactions.

## My Procurements

My Procurements allows Sandia Delegated Representatives, requestors and preparers the ability to see orders in process, including most recent updates, and provides SDRs an aggregate list of their contracts from an easy-to-access Techweb portlet.

## Sandia Centralized Enterprise Computer Depot

This team developed and implemented a consistent, streamlined Corporate Enterprise process for building and deploying new Microsoft Windows computers. A centralized, dedicated "Builds Depot" located in New Mexico performs builds for Sandia's NM/CA/NV geographic locations.

## Subcontractor Risk Assessments

The Supply Chain Risk Management program delivered more than 500 Subcontractor Risk Assessments during FY18, to help missions meet the increasing demand for mature risk management processes and ensure quality goods and services.

## Tiered Accountability

The tiered accountability team helped the Labs develop and deploy tiered accountability by the end of FY18. This deployment saved time and effort getting to solutions in safety, security and mission effectiveness.

### DIVISION 11000



Organizational Conflicts of Interest

## Organizational Conflicts of Interest

The Organizational Conflicts of Interest team implemented a robust OCI Program, which mitigated risk in numerous areas for NTESS, enabling critical mission work to continue and providing NNSA with assurance that NTESS is adequately mitigating OCI risk.

### EXECUTIVE SUPPORT DIVISION



RadResponder Nationwide Drill Series

## Pre-Hire Review Process

This team from Human Resources Staffing, Legal and Counterintelligence crafted, established and implemented a new process to assess and manage risk introduced by individuals being offered permanent employment at Sandia.

## RadResponder Nationwide Drill Series

The team successfully planned and participated in a series of simulated nuclear incident response drills to evaluate RadResponder software for laboratory analysis response functionality.

## LABORATORIES DIRECTOR'S AWARD WINNERS

By **Myles Copeland**

*Each division submits one or more of its winning ERA nominations to be considered for the prestigious Laboratories Director's Award. Labs Director Steve Younger presented the 2019 Director's Award to one individual and two teams whose achievements were judged exceptional.*

### Coby Davis

Coby was recognized for extraordinary leadership in the development of the Stockpile Evaluation Working Group, whose work has led to an integration of Nuclear Deterrence and science and technology across Sandia.

### Conventional Prompt Strike Flight Experiment-1 Project

The team conducted a flight test launched on Oct. 30, 2017, from the Kauai Test Facility, Hawaii. The successful test provided data on hypersonic boost-glide technologies and long-range atmospheric flight.

### Sandia Infrastructure Investment 2040 Strategy

The team created the 2040 Strategy, a single vision for major capital investment to the year 2040, based on mission risk, that provides consistent communication within Sandia and to external sponsors.

## NM Legislature marks impact of Sandia Science and Technology Park

By **Manette Newbold Fisher**

The New Mexico Legislature recently recognized the Sandia Science and Technology Park for 20 years of economic impact.

The honor came through a House Joint Memorial by Rep. Abbas Akhil, D-Albuquerque, and Rep. Jason Harper, R-Rio Rancho, and a Senate Joint Memorial by Sen. Jim White, R-Albuquerque.

The memorials recognized the park for positively contributing to the local and state economies, for being one of the first research parks developed in connection with a national laboratory and for serving as a model for other laboratories and universities.

The SS&TP is home to 26 buildings and 47 companies and organizations. It provides more than 2,050 jobs. Park officials announced last summer at its 20-year anniversary celebration that it has generated more than \$3.1 billion in economic



**PARK PRAISE** — Sandia manager Jackie Kerby Moore poses with state Sen. Jim White at the Roundhouse. White's memorial honored the economic impact of the Sandia Science and Technology Park. **Photo by Linda von Boetticher**

activity since it was established in 1998, and has paid out more than \$5.4 billion in wages.

Jackie Kerby Moore, Sandia manager of technology and economic development and Linda von Boetticher, program leader for the tech park, were guests at the Roundhouse during presentations of the memorials. [f](#)

## Hypersonics could be A.I.

CONTINUED FROM PAGE 1

In theory, artificial intelligence could generate a hypersonic flight plan in minutes for human review and approval, and in milliseconds a semi-autonomous vehicle could self-correct in flight to compensate for unexpected flight conditions or a change in the target's location. A human monitoring the flight could regain control by turning off the course-correcting function at any time.

Autonomous technologies, such as self-driving cars, are designed to perform complicated tasks without human intervention. They require a broad range of technologies that work in tandem, including advanced computing, artificial intelligence and machine-learning algorithms, sensors, navigation systems and robotics.

The Sandia-led collaboration integrates leading expertise from throughout the country in these areas with its own knowledge in high-performance flight vehicles. Sandia makes hypersonic glide vehicles for research purposes and operates a hypersonic wind tunnel.

The academic collaborators represent the Georgia Institute of Technology; Purdue University; the University of Illinois, Urbana-Champaign; the University of New Mexico; Stanford University; Texas A&M University; The University of Texas at Austin; and Utah State University.

### AutonomyNM assembles for first conference

The coalition converged last week on the University of New Mexico campus for its first

general meeting. For two days, members presented experimental results, proposed new ideas and discussed progress toward their shared goals.

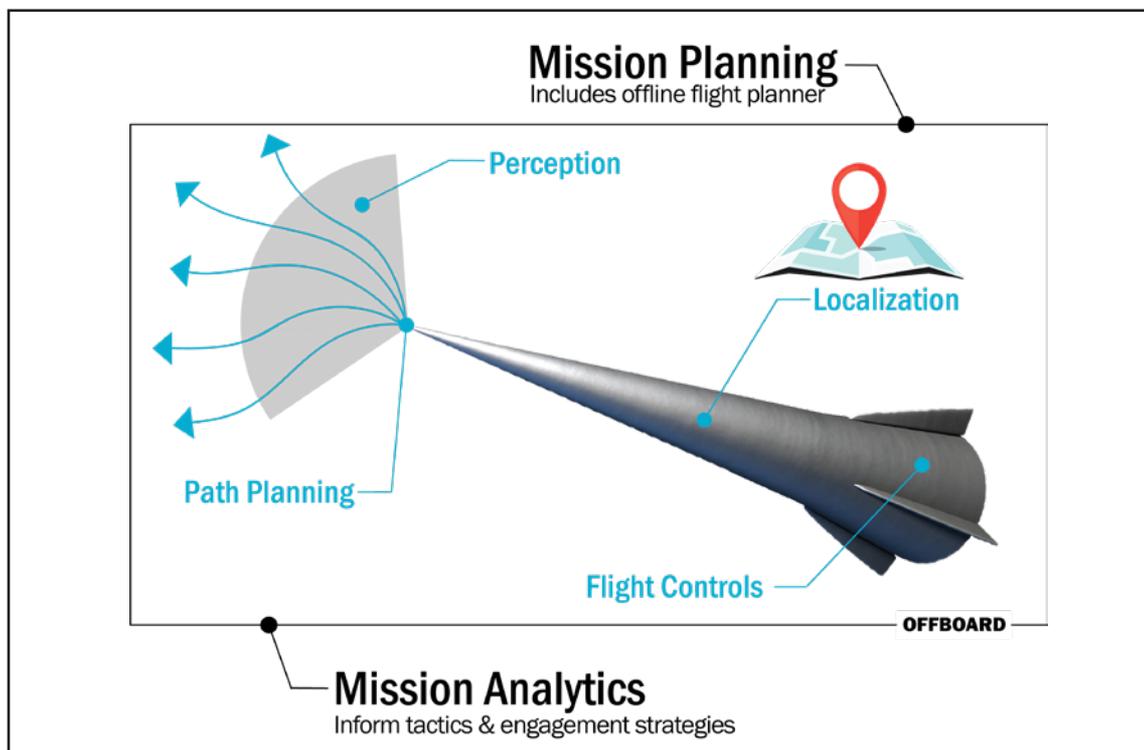
"The research objectives of AutonomyNM are similar to those being studied for self-driving cars and other autonomous system technologies, and we're building off that groundwork," Alex said. "Unfortunately, you can't put an algorithm developed for a car into a high-speed aircraft, so we're working with our partners to create new technologies for a new application."

AutonomyNM's broader ambitions are to serve as a wellspring for other industries by developing ideas that could lead to safer, more efficient robots in, for example, autonomous transportation, manufacturing, space or agriculture. If the group reaches its goals, it will have created computing algorithms that compress 12 hours of calculations into a single millisecond, all on a small, onboard computer.

Sandia is aiming to complete the foundational technologies of new autonomous flight systems by 2024. In addition to hypersonic flight systems, AutonomyNM plans to explore other applications of autonomy in aerospace, emphasizing solutions to national security challenges.

AutonomyNM is partly patterned after similar collaborations formed by other government agencies, like the Defense Department. The Sandia-led organization differs in its focus on academic partnerships and its objective to develop autonomy customized for hypersonic flight.

Funding for AutonomyNM research is provided by Sandia's Laboratory Directed Research and Development and Academic Alliance programs. [f](#)



**ON-BOARD AND OFF-BOARD** — A diverse set of technologies to be developed at Sandia National Laboratories could strengthen future hypersonic and other autonomous systems. **Image by Hannah Stangebye**

## Sandia lends expertise to hydrogen center

By **Sarah Jewel Johnson**

Sandia is building on longstanding partnerships to help found a new global center focused on safety and best practices for the use of hydrogen in the global energy transition.

The American Institute of Chemical Engineers, in partnership with Pacific Northwest National Laboratory, recently launched the Center for Hydrogen Safety.

As a founding member, Sandia will build additional partnerships with members from many countries to identify innovative tools, resources and information about traditional hydrogen applications and hydrogen as a fuel source.

The new center stems from a decade-long partnership between the DOE's Fuel Cell Technology Office and the safety panel. The CHS will enable global collaboration, leverage expertise from the panel and offer a long-term, sustainable hydrogen safety resource to stakeholders, said Chris LaFleur, Sandia's program lead for hydrogen safety, codes and standards.

The panel reviews DOE research projects on hydrogen technology development. The new CHS will expand the panel's role to the review of research, products and facilities from many fields and funding sources, in addition to DOE research and projects.

With the help of founding members such as Sandia, the CHS will provide access to educational products, safety resources, hydrogen safety guidelines, conferences, accredited first responder training and safety evaluations by the panel.

The new center also will boost access to Sandia's Hydrogen Risk Assessment Model, a software toolkit that uses deterministic and probabilistic models to quantify accident scenarios, predict physical effects and define hydrogen hazard impacts on structures and people, based on hydrogen behavior physics and flame properties.

"We can now share Sandia's hydrogen safety knowledge with a lot of people," Chris said.

More information about the Center for Hydrogen Safety is available online at [aiche.org/CHS](http://aiche.org/CHS). [f](#)

**ONE ALBUQUE RQUE** ABQ volunteers

**It's National Volunteer Month**

The City of Albuquerque has new volunteer opportunities available at [www.cabq.gov/abq-volunteers](http://www.cabq.gov/abq-volunteers)



**THAT'S A BIG 4-0** — Materials scientist Olivia Underwood recently was inducted in the 2019 class of Albuquerque Business First's 40 Under Forty. "Being the change that I want to see and having great mentors have all contributed to me staying at the top of my game," she said. **Photo by Randy Montoya**

## Materials scientist joins 2019 class of 40 Under Forty honorees

By **Valerie Alba**

It's only April, but 2019 is shaping up to be a big year of professional recognition for materials scientist Olivia Underwood. She recently was named to this year's class of Albuquerque Business First's 40 Under Forty honorees.

Now in its 18th year, 40 Under Forty honors young professionals from around New Mexico. Community leaders judge nominations submitted by the public, evaluating the nominees on their professional achievement, leadership and community involvement, according to the program's website. The top 40 nominees are profiled in Albuquerque Business First and recognized at a dinner ceremony in May.

"This award confirms that my hard work has been validated by my community, peers and Albuquerque Business First," Olivia said.

With bachelor's and master's degrees in

metallurgical engineering from the University of Alabama in Tuscaloosa and a doctorate in materials science from the University of Alabama in Huntsville, Olivia is a first-generation college graduate. In 2015, she became the first African-American to earn a materials science doctorate at the Huntsville campus.

Olivia started at Sandia as a postdoctoral appointee, and now as a product realization team lead, she manages the technical and programmatic aspects for components throughout the product lifecycle.

Olivia has a passion for inspiring students to pursue science, technology, engineering and math studies and careers. She volunteers as an instructor with Sandia's Hands-On, Minds-On Technologies program, an initiative of the Black Leadership Committee that sparks middle and high school students' interest in STEM through hands-on activities. She's also the outreach co-chair of the Sandia Women's Action Network, and last year she established the Dr. Olivia D. Underwood Scholarship

at her alma mater, Bibb County High School in Alabama, to help female African-American students pursue STEM degrees.

Olivia's work has drawn the attention of other organizations as well. This year she has received the 2019 Black Engineer of the Year Award as Science Spectrum Trailblazer, and the 2019 Frank Crossley Diversity Award from the Minerals, Metals and Materials Society.

"My goal is to always leave every person and space that I encounter better than I found them," she said. "My focus areas for the future are to help to ensure that we have a more inclusive environment at the lab, to improve the onboarding process, to increase the number of minorities in the science, technology, engineering and mathematics field and to also change the face of STEM."

Sandia employees frequently appear on the 40 Under Forty list. Previous honorees include Valerie Peyton, manager of Travel and Treasury Services; procurement managers Jake Sena and James Burt; Fabian Aragon, business management manager; Isaac Romero, senior manager; Katie Esquibel, project controller; Kenneth Armijo, energy researcher; Rafael Antonio Gonzalez, operations manager; and Jonathan Madison, materials scientist. <#>

## Sandia leader recognized for STEM mentoring

By **Luke Frank**



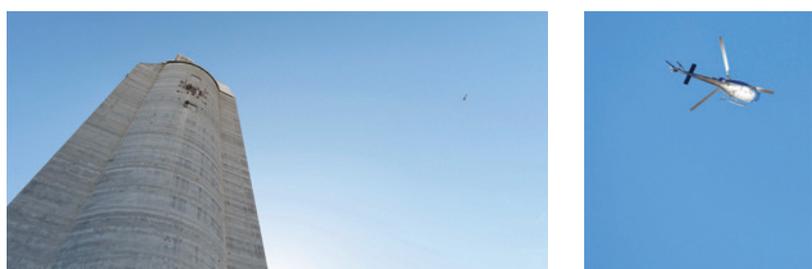
**STEM MENTOR** — Amy Halloran shows off one of Sandia's solar research projects. Amy's mentoring activities were recognized by the New Mexico Technology Council. **Photo by Randy Montoya**

Amy Halloran, senior manager in renewable energy, was recently honored with the annual Women in Technology award by the New Mexico Technology Council.

The council gives the award annually to outstanding women making a difference in science, technology, engineering and math fields in the state. Halloran, who has a master's in civil and environmental engineering from the University of Illinois, was recognized specifically for her work mentoring numerous professional women who work in STEM fields in program management.

All Women in Technology honorees have found ways to give back to their communities and mentor other women along the way, according to the council. Throughout her 30-year career, Amy has actively mentored and advocated for women in tech fields. At Sandia, she has actively recruited, hired and mentored numerous technical women into the Labs, the council added. <#>

## Testing solar irradiance



Photos By **Randy Montoya**

Last year, Sandia's National Solar Thermal Test Facility brought in a helicopter to collect data on the strength and direction of light reflected from the concentrating solar power field at the solar tower. Labs engineer Cliff Ho and Cianan Sims of Sims Industries have developed a new software, the Tower Illuminance Model, that simulates a field of heliostats and lets users interactively calculate irradiance, glare hazard and potential hazards to birds caused by concentrated sunlight. Solar glare and avian hazards are an important concern for concentrating solar installations, and the new software validated in the solar tower tests lets users select a range of aiming strategies and field configurations and then navigate the simulated airspace above the heliostat field in real time to identify configurations that help mitigate the hazards. [fb](#)

## Sandia, NMSU ink research deal

by **Troy Rummler**

Sandia signed a memorandum of understanding with New Mexico State University on April 10 that outlines how the institutions intend to collaborate for the next decade. The agreement seeks to foster research in areas of national security, including water, energy and critical infrastructure.

It also provides Sandia with professional development opportunities and cultivates a pool of NMSU grads as potential job candidates. More than 700 NMSU alumni work at Sandia. "NMSU is a great engineering school, and we're a great engineering lab, so I think that partnership is really natural," said Susan Seestrom, associate labs director and chief research officer, who signed the memo on behalf of Sandia. NMSU chancellor Dan Arvizu, a former Sandia manager and former director of the National Renewable Energy Laboratory, represented the university. Dan Sanchez, technology partnerships program manager at the NNSA Sandia Field Office, spoke at the ceremony, emphasizing the importance of partnership among government, academia and industry. The MOU replaces one that extended over five years and recently expired. [fb](#)



**AGGIE AGGREGATION** — Sandia and New Mexico State University will continue their research collaboration under a renewed memorandum. At the signing were (left to right) Sandia's Jaime Moya and Susan Seestrom; Dan Arvizu of NMSU; and Dan Sanchez of NNSA's Sandia Field Office. **Photo by Lonnie Anderson**

## SANDIA CLASSIFIED ADS

### AD SUBMISSION GUIDELINES

**AD SUBMISSION DEADLINE:** Friday noon before the week of publication unless changed by holiday.  
**Questions to Michelle Fleming at 505-844-4902.**

**Submit by one of the following methods:**

- **EMAIL:** Michelle Fleming (classads@sandia.gov)
- **FAX:** 505-844-0645
- **MAIL:** MS1468 (Dept. 3651)
- **INTERNAL WEB:** Click on the News Tab at the top of the Techweb homepage. At the bottom of the NewsCenter page, click the "Submit a Classified Ad" button and complete the form.

*Due to space constraints, ads will be printed on a first-come, first-served basis.*

### MISCELLANEOUS

**FINE CHINA**, set & glass hutch, 12-pcs. (minus 1 dessert plate), never used, no cracks/scratches, \$200 ea. OBO. Gallegos, 505-238-6522.

**WASHER & DRYER**, 2 yrs. old, \$500; TV hutch, large, nice, \$100; walnut dresser, \$35; antique clock, \$35; new recumbent exercise bike, \$900. Miller, 505-514-8744.

**POCKET WATCH**, Hamilton, model 925 1899, side stem, elk inlay, good condition, but well used. Ginn, 505-506-7680.

**DINING TABLE**, wood, w/8 chairs (2 boxed), \$900; Fuji 52 cm carbon fiber road bike, \$1,000; hanging lamps, \$40 & \$65; photos available. Robertson, 505-688-3721.

**WHEELS**, Gold Inkei, RPF1, 17x9 +45mm offset, 5x100 bolt pattern, Michelin Pilot Super Sport tires, call for photos, \$800. Prock, 505-261-7932.

**MODERN SOFA**, taupe, \$300. DuBay, 505-268-0307.

**TEXTURE SPRAYER**, Wagner Power Tex, used for 1 small job, \$59. Stubblefield, 505-263-3468.

**MOVING SALE:** furniture, washer/dryer, small tools, gas grill, artwork, much more, April 27, 508 Sparrow Hawk Ct SE, 87123. Baczek, 505-450-7895.

**WEATHER STATION**, radio-controlled, Ascot, type 60108, w/remote sensor, pristine condition, \$22. Wagner, 505-504-8783.

### TRANSPORTATION

'78 **OLDSMOBILE TORONADO BROUGHAM**, coupe, 35K miles, stored, purchased new, loaded, cruise control, sunray tinted windows, owner manual. Brunacini, 505-883-2557.

'99 **INFINITI QX4**, 4WD, ~160K miles, 2-tone white, original owner, \$1,400. Prasad, 505-389-7467.

'14 **NISSAN LEAF**, red, 40.5K miles, great for daily commute, good condition, just replaced w/ Model 3, \$8,500. Dinge, 505-818-8933.

'08 **HONDA CIVIC**, 149K miles, black, good condition, \$4,200 OBO. Ashton, 480-259-9446.

'12 **FORD FUSION**, beautiful leather, heated auto-adjust seats & side mirrors, red, 110K miles, great car, \$6,900. Glen, 505-321-9727.

'03 **CHEVY 1500 REGENCY TRUCK**, PW, PL, tilt, AC, cruise, bed liner, Tonneau cover, \$7,400 OBO. Calzada, 505-401-0224.

'13 **MERCEDES ML 350 SUV**, AWD, driver assist, heated leather seats, brand new tires/brakes, 74K miles, Craigslist: 6854875608. Chavez, 505-410-8688.

'17 **TOYOTA TACOMA SPORT**, 4x4, long bed, 21K miles, excellent condition, \$33,000. Gonzalez, 505-480-4889.

'13 **MAZDA CX-5**, AWD, top trim level, navigation, moonroof, silver, 81K miles, good condition, \$11,250. Alvin, cdvalvin@gmail.com.

'06 **LINCOLN ZEPHYR**, 4-dr., AT, champagne, fantastic condition, Bluebook \$6,000, asking \$5,500 or make offer. Torres, 505-401-6900.

'15 **NISSAN LEAF SL**, all electric w/charger, loaded, no smokers, garaged, excellent commuter/student car, 57K miles, \$10,000. Harrington, 505-296-8208.

'14 **F150**, supercab, long bed, Craigslist: 6864791216, excellent condition, must see, \$19,900 OBO. Potter, 505-610-9933.

'14 **TOYOTA CAMRY SE**, 4-dr., white, clean, 53K miles, good condition, \$11,900. Alvin, 505-358-5225.

'00 **FORD F150**, manual, 2WD, 90K miles, \$3,800 OBO; '17 Honda CBR 300, garage kept, \$3,300 OBO. Rankin, 505-507-4287.

'14 **MUSTANG CONVERTIBLE**, Pony & comfort pkgs., 6-spd., AT, only 27K miles, no kids/pets/smokers, always garaged, \$14,500. Lifke, 505-382-9448.

'88 **TOYOTA PICKUP**, 4x4, newly rebuilt 22RE, ridge runner, flatbed, Line X coated, \$8,900. Valdez, 505-699-9522.

'04 **CHEVY TAHOE**, 4WD, black, gray interior, cloth seats, 177K miles, great mechanical condition, \$4,450. Kissock, 505-507-0820.

'08 **INFINITI G35 SEDAN**, sun roof, leather interior, white, 116K miles, \$4,500 OBO. Akinnikawe, 505-550-7305.

'05 **VOLVO XC70**, 170K miles, great condition, \$3,500. Edensburn, 505-869-2911.

### RECREATION

**VINTAGE TRAILS BIKE**, 1979 Montesa COTA 348T, totally refurbished, w/many new & reproduction parts, details & photos on request, \$1,300 or reasonable offer. Dawson, 505-281-1235

'08 **FOUR WINDS SIESTA M-24SA**, Mercedes diesel B+/C class RV, garaged, sleeps 5, slide, 18K miles, great condition, \$49,000 OBO. King, 505-250-4426.

'95 **HONDA GOLDWING SE**, garage kept, 83K miles, runs great, KBB value \$4,750 OBO. Sanchez, 505-720-2340.

'07 **WINNEBAGO ADVENTURER MOTORHOME**, 36-ft., Sleep Number bed, non-smoker, many upgrades, excellent condition, \$55,900. Shannon, 505-270-7610.

'17 **SYLVAN SPORT GO**, Ultralight pop-up camper, sleeps 4, barely used, \$7,800 OBO. Orlando, 505-321-0302.

'14 **HARLEY-DAVIDSON FLSTC103**, 4.5K miles, loaded, extras, \$13,000. Lewis, 505-286-7780.

**JAMES MOUNTAIN BIKES**, men's & women's, 3-1/2 yrs., excellent condition, \$250 & \$300; Thule double stack storage rack, \$75. Goodrich, 505-263-9168.

**FISHING BOAT & TRAILER**, Lowe V1257, w/Honda motor, 2-hp, 4-stroke, & Johnson motor, 9.9-hp, more, like new, \$2,800. Rea, 505-328-6328.

### REAL ESTATE

**2-ACRE BUILDING LOT**, Sandia Park, gorgeous, borders open space, level, fenced, utilities, ready-to-build, \$120,000 owner financed. George, 505-507-1306.

**2-BDR. TOWNHOUSE**, 2-1/2 baths, 1-car garage, gated community, Coors & I-40, great views, city & mountain, coming soon, \$145,000. Sandoval, 505-980-5329.

### WANTED

**HOST INTERNATIONAL HIGH SCHOOL STUDENT**, w/AFS. Hiebert-Dodd, 505-296-1158.

**STEP AEROBIC PLATFORM**, w/risers. Krapcha, 505-307-4956.

### AD RULES

1. Limit 18 words, including last name and home phone (web or email address counts as two or three words, depending on length).
2. Include organization and full name with ad submission.
3. Submit ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. One ad per issue.
6. The same ad may not run more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active Sandia members of the workforce and retired Sandians only.
10. Housing listed for sale is available without regard to race, creed, color or national origin.
11. Work wanted ads are limited to student-aged children of employees.
12. We reserve the right not to publish any ad that may be considered offensive or in poor taste.

**Mileposts**



*New Mexico photos by Michelle Fleming  
California photos by Randy Wong*



Walt Gill 35



Cory Ottesen 35



Bobby Rush 35



Charles J.E. Montoya 30



Randy Peterson 30



Patty Smith 30



Amy Tapia 30



Ginger Hernandez 25



Becky Krauss 25



Lori Montano-Martinez 25



Jean Pena 25



Sylvia Saltzstein 25



Greg Tipton 25



David Chacon 20



Frank Dempsey 20



Shawn Garcia 20



Adam Green 20



Dina Howell 20



Rich Jepsen 20



MaryAnn Monia-Archibeque 20



Renee Mueller 20



Jacquelyn Rambo 20



Brian Rigdon 20



Amy C. Sun 20



John Van Scyoc 20



Ana Baca 15



Robin Brown 15



Dennis De Smet 15



Daniel Garcia 15



Lisa Garcia 15



George Hoskison 15



Margaret Jaramillo 15



Antonia Litts 15



Steven Neff 15



Neeta Rattan 15



Steve Rudisell 15



Ann Marie Ryder 15



Ben Schenkman 15



Krista Smith 15



Amy Sundermier 15



## Annual Sandia simulation strengthens emergency response

By **Luke Frank**

Photos By **Randy Montoya**

Scores of Labs employees in Albuquerque, joined by outside emergency response personnel, were immersed in a simulated crisis April 17 as part of the annual emergency management full-scale exercise.

Under the guise of an explosion involving radioactive material at the Annular Core Research Reactor in Tech Area V, Sandia's Emergency Operations Center was activated, and every level of response tested: from initial evacuations and medical response through getting information to the Labs workforce and the public.

Adding a dose of realism, responders dressed out in full personal protective equipment, and victims were made up in moulage to simulate injuries. A rare New Mexico rainstorm provided an unexpected twist to the exercise, creating impromptu access challenges.

"These annual exercises are specially designed to target current response procedures and improve our future responses," said Ben Huff, emergency preparedness manager. "Throughout this event, evaluators from Sandia and outside federal agencies took copious notes that will enable us to really drill down on the efficacy of our policies and protocols, and compliance with the DOE order covering the comprehensive emergency management system. Front to back, it's quite an experience." [f](#)





## Annual Sandia simulation strengthens emergency response

By **Luke Frank**

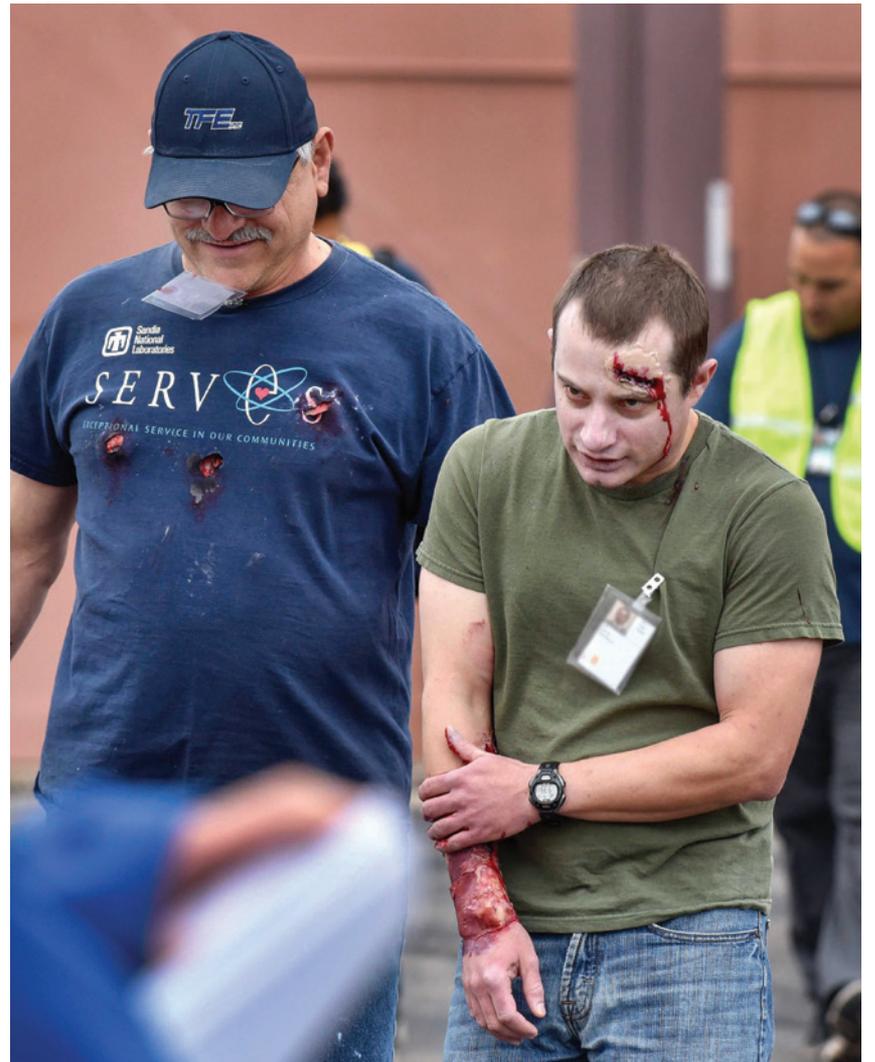
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