



## Sandia University Partnerships Network

March 2023

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### Announcements

**NEWLY RELEASED!**

**SANDIA LABS' ACADEMIC PROGRAMS  
COLLABORATION  
REPORT**

2021-2022  
Edition

Discover R&D accomplishments brought about through Sandia's strategic university partnerships.

#### **Special edition: Sandia-University of Illinois Collaboration Report now available**

Illinois' expertise and talent facilitated critical research on projects of national importance, and the [2021-2022 Sandia & University of Illinois \(Illinois\) Collaboration Report flipbook](#) highlights some of these great contributions. You can also read more about programs that provide opportunities for faculty and students in the Faculty Loan Program for Joint Appointments and the Postdoctoral Program Office sections. A link to the flipbook is also on the recently updated [Sandia webpage](#) hosted on Illinois' website.

#### **Arms Control in Domestic and International Security (ACDIS) Seminar Series**

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The upcoming [ACDIS](#) virtual seminar series will feature speakers from Sandia and Illinois on topics related to global security. The Sandia-hosted series will be held bi-weekly on Wednesdays at 1:00 p.m. (CT). All are welcome to attend! Contact [Mallory Stites](#) for additional information.

### **2023 Illini Datathon allows students to tackle real industry problems**

The [2023 Illini Datathon](#) will be held March 24-26, 2023, at the Illinois campus. The Datathon provides teams of two-to-four students with hands-on experience as they tackle a real industry problem. With guidance from industry mentors, students have 36 hours that weekend to address a challenging data problem. Three Sandian statisticians will be participating in the event. These organized workshops teach new skills and allow participants to network with industry professionals. It will be the sixth annual Datathon event run by the Illinois Statistics Department, the Statistics Club, and the fifth supported by Sandia. [Register today!](#)



### **Did you know?**

#### **Illinois/Sandia now able to place joint appointments for faculty members/staff**

A joint appointment is a strategic relationship between a Sandia staff member and Illinois or between an Illinois faculty member and Sandia that allows the individual to perform funded work for the non-employing institution. They are intended to elevate the scientific impact and productivity of researchers at both institutions. The Faculty Loan section in the [2021-2022 Sandia & University of Illinois \(Illinois\) Collaboration Report](#) has additional program details.

For more information about joint appointments, please contact [Brenda Wilson](#) or [Matt Windsor](#).

#### **Sandia meets great potential candidates at Illinois' career fairs**

Sandia attended the two-day Grainger College of Engineering Career Fair from January 31-February 1. This event allowed Sandia to meet potential interns and candidates interested in full-time jobs at the Labs. Career discussions conducted in real-time with outstanding candidates supported student advocacy at Illinois.

#### **Women Empowered in Science, Technology, Engineering, and Math (weSTEM) conference**

The [weSTEM](#) conference, designed to connect graduate student women in STEM with STEM leaders from companies, was held on Saturday, February 11, 2023. The conference was hosted by the Illinois

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chapter of the Graduate Society of Women Engineers to share insights and career path experience. Mallory Stites (Sandia, Illinois campus partnership manager) was invited to speak about her career path to Sandia and led a breakout session with Nicole Jackson (Sandia) about how to be a successful virtual worker. Sandia Recruiter and Illinois Adjunct Professor, Lyndsay Shand, along with Mallory and Nicole, represented Sandia during multiple networking sessions and connected with dozens of STEM graduate students.

### **TracerFIRE (Forensic Incident Response Exercise) event trains students how to respond to cyber-attacks**

Sandia hosted a successful TracerFIRE event at Illinois March 3 - 5, 2023. TracerFIRE, a program developed by Sandia, trains students how to respond to cyber-attacks in an educational and collaborative team environment. Three members of the TracerFIRE team traveled to Illinois to host and run the event. The Illinois Campus Partnership Managers coordinated travel for the TracerFIRE team and worked with the Grainger College of Engineering to recruit about 20 students to participate. A member of the Illinois recruiting team also traveled out on March 3 to hold career discussions with targeted cyber-focused students.



## **Partnership Highlights**

### **Sandia-Illinois encourages research and development collaborations at mini conference**

Illinois Campus Partnership Managers Matt Windsor and Mallory Stites hosted the 2022 Sandia-Illinois Fall Student Mini Conference last September. This key event included a series of talks and a poster session that highlighted students working on projects with Sandia through Sandia's Alliance partnership with Illinois. Illinois alumni and Sandia electrical engineer and computer scientist Chris Jenkins gave the keynote address and discussed his technical work and overall career path. Chris received the

[2022 Black Engineer of the Year Award for Research Leadership](#).

### **Biliana Paskaleva elected Chair of CAEML IUCRC Industry Advisory Board (IAB)**

Biliana Paskaleva (Sandia) was elected Chair of the [Center for Advanced Electronics Through Machine Learning](#) (CAEML) Industry-University Cooperative Research Centers (IUCRC) IAB for the academic year 2023. CAEML, one of the IUCRCs sponsored by the National Science Foundation, is focused on enabling fast, accurate design and verification of microelectronic circuits and systems by

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creating machine learning algorithms to derive models used for electronic design automation. The goal is to reduce design cycle time and radically improve design reliability. This aligns with Sandia's mission to facilitate rapid development and deployment of scalable, rad-aware, low-cost modeling hierarchy at all levels of nuclear deterrence system integration.

### **New Energy Frontier Research Center to be housed at Illinois, includes Sandia partnership**

Sandia, among other institutional collaborators, is partnering on research projects with Illinois' Grainger College of Engineering and the Beckman Institute for Advanced Science and Technology. At [the Energy Frontier Research Center \(EFRC\)](#) for Regenerative Energy-Efficient Manufacturing of Thermoset Polymeric Materials, the research will address fundamental scientific challenges facing manufacturing and end-of-life management of thermoset plastics.

The Sandia team, including Leah Appelhans, Adam Cook, Devin Roach, Sam Leguizamon, and Erik Linde, will focus on integrating novel photochemistries and advanced artificial intelligence and machine learning (AI/ML) enabled printing and process controls to enable state-of-the-art additive manufacturing (AM) of the regenerable polymer thermosets developed within the center. The EFRC collaboration will combine the techniques of photocontrol and frontal polymerization while leveraging Sandia's and other university partners' expertise in advanced printing techniques to facilitate energy-efficient AM of recyclable/regenerable thermoset polymers developed by the synthesis thrust team members of the EFRC.

### **Sandia executive leadership visit Illinois campus to discuss partnership vision**

Sandia's Deputy Chief Research Officer Basil Hassan visited campus on September 8, 2022, along with Campus Executive Amy Halloran. They held multiple leadership meetings to discuss the vision of the Sandia-Illinois partnership. Dr. Hassan also gave the Harry H. Hilton Memorial Lecture, in honor of the late Aerospace Engineering Professor, Dr. Harry Hilton.

### **Illinois Sandia Top Talent Reception (STTaR) recruiting event held in October**

Sandia's Illinois Recruiting team hosted a STTaR event at Illinois on October 24, 2022. Approximately 35 top Illinois Graduate students attended the event, which included dinner, presentations about Sandia and job opportunities, and small group sessions with several Sandia hiring managers. Students also had the opportunities to ask questions about Sandia and the hiring process. Sandia's Illinois recruiting team is staying in contact with these students to be a resource for them as they

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consider career opportunities at Sandia. This is an annual event and students should be strongly encouraged to attend next year!

### **Mechanical Science and Engineering (MechSE) Capstone design competition**

Sandia has sponsored a MechSE Senior Design Capstone since the fall semester of 2021 that allows students to apply their mechanical science and engineering knowledge and create something with specific design parameters and an overall goal. Seven universities are involved in the 2022-2023 Sandia Senior Design Bonanza, with five Illinois students participating and being mentored by Illinois alum Timothy Smith.

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### **Spotlight on People**

#### **Student Spotlight**



Jorge Jimenez is a junior in mechanical engineering and Grainger College of Engineering ARISE scholar. During the summer of 2022, Jorge joined Sandia's Center for Integrated Nanotechnologies (CINT) Summer Research Program at the Advanced Materials Laboratory (AML). This program fosters long-term and new scientific collaborations between CINT and Sandia Alliance universities like Illinois. Jorge was mentored by CINT-affiliated scientists Bryan Kaehr (Sandia) and Holly Golecki (Illinois) on a project that uses materials and soft robots to develop smart, environmentally responsive, and safe microtools. Through the project, he discovered the performance of actuation through both light and temperature and developed various microtools designs. One of his designs involved microscissors created using a Nanoscribe printer on the tip of an optical fiber, which was tested for actuation and cutting. He presented the results at the Fall 2022 Materials Research Society Conference. Jorge's experience at the AML has led him to consider pursuing a master's degree in mechanical engineering.



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