NNSA University Consortia

HELPING TO DEVELOP THE NEXT GENERATION OF NONPROLIFERATION PROFESSIONALS

The NNSA's Office of Defense Nuclear Nonproliferation Research and Development (DNN R&D) sponsors university consortia to develop our nation's technical capabilities and human capital to improve the detection, identification, and characterization of foreign nuclear weapons development programs; diversion of special nuclear materials; and nuclear detonations. Each consortium is led by a university with several different collaborators, including other universities and national laboratory partners.

Through linking basic research at universities with the capabilities of national laboratories, the NNSA consortia are helping to advance nuclear science and security goals while training the next generation of future scientific leaders that will help protect the world from weapons of mass destruction.

### CONSORTIUM FOR NUCLEAR FORENSICS

Key Research Areas
- Rapid turnaround forensics
- Advanced analytical techniques
- Ultrasensitive measurements
- Signature discovery
- Prompt effects and measurements

Highlight
The University of Florida (lead) hosted the 2025 University Program Review the first week of June. The review is the annual gathering of all NA22 consortia enabling students to share their research and network with one another.

PNNL POC:
Dr. Lori Metz

ETI² — Enabling Technologies and Innovation 2.0

University Partner
National Laboratory Partner
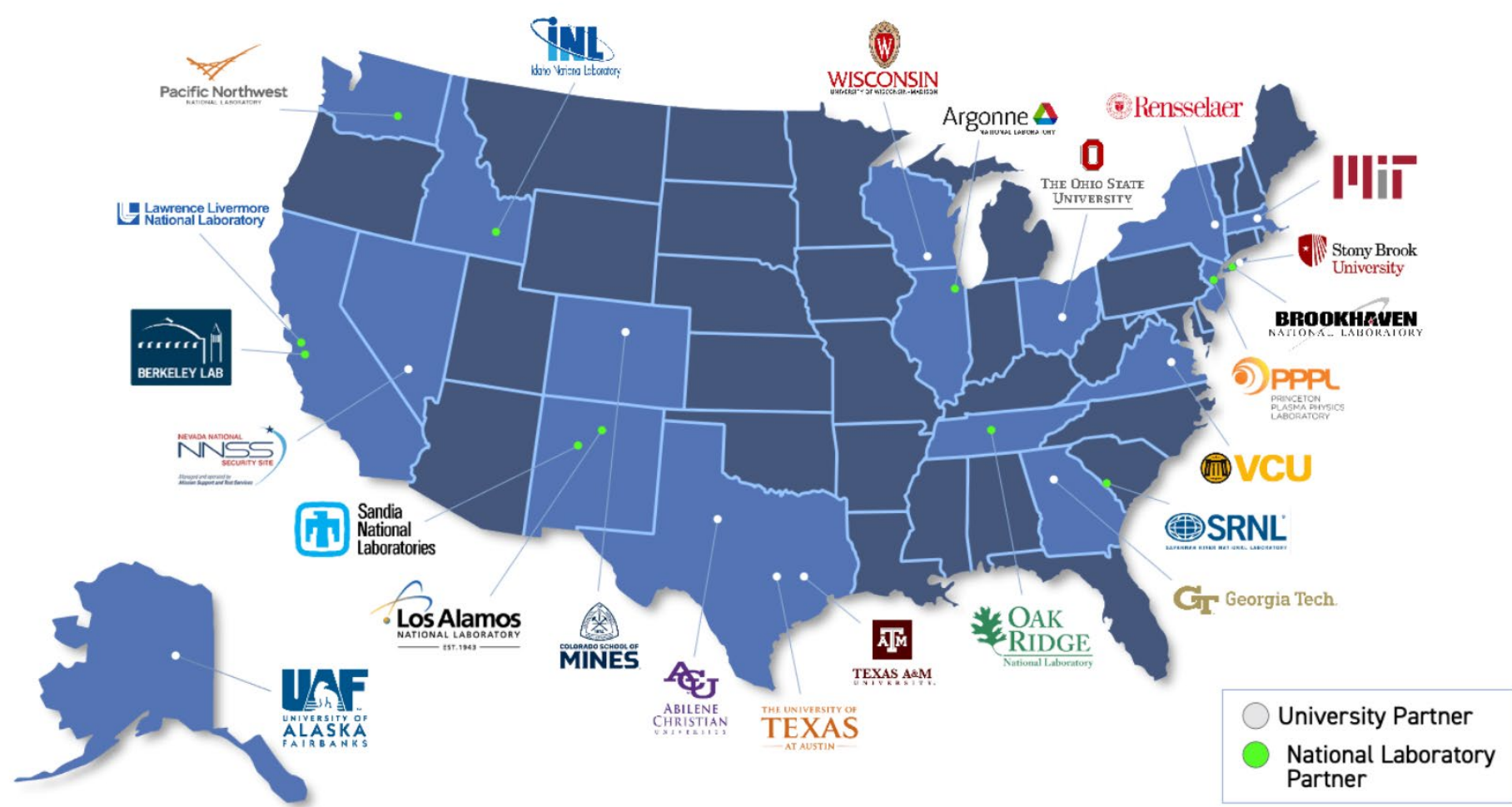
Key Research Areas
- Data science and digital technology
- Emerging technologies
- Precision environmental analysis
- Cross-cutting Area 1: novel radiation detectors & algorithms
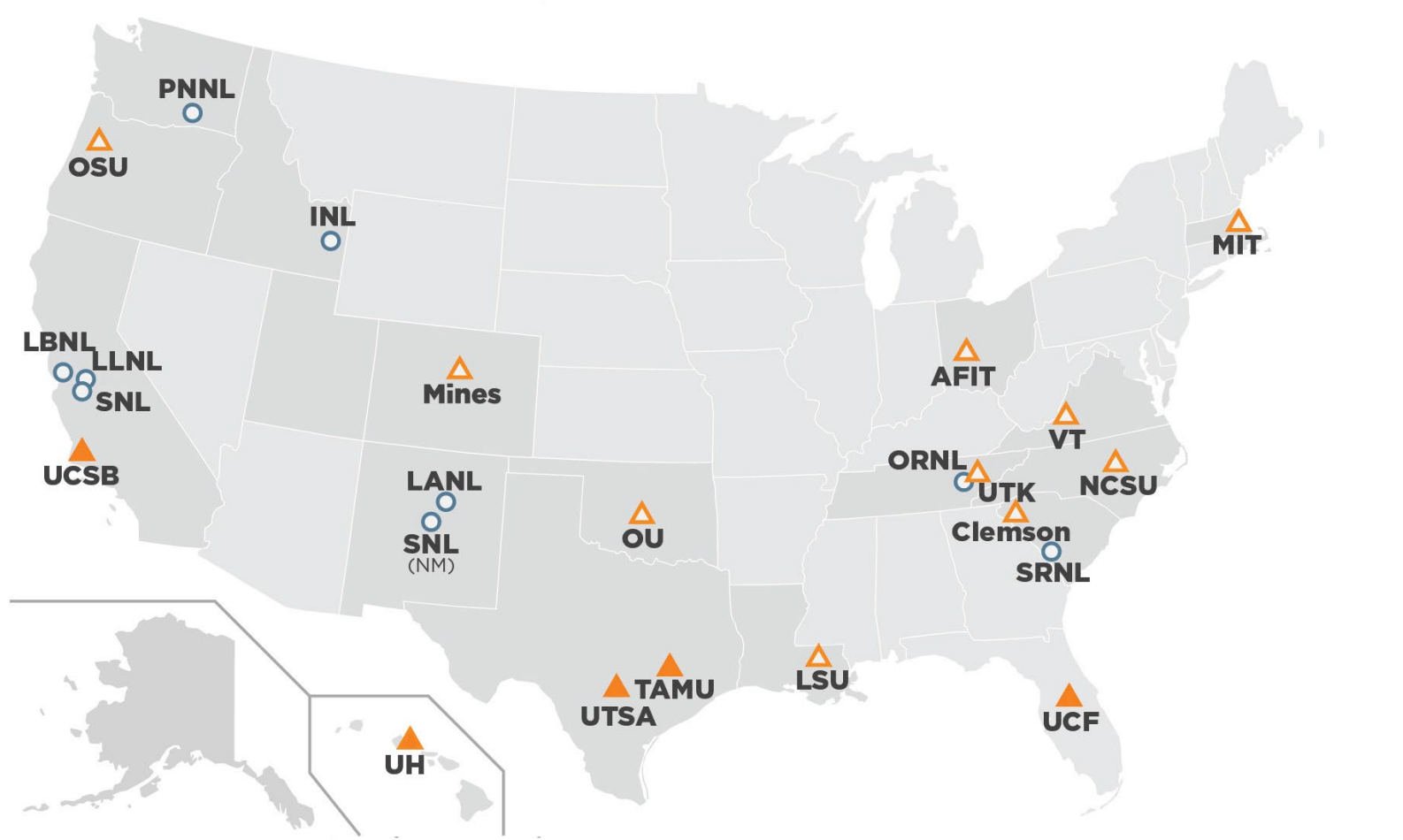- Cross-cutting Area 2: testbeds & digital twins

Highlight
PNNL's Dr. Vered Shaffer, nuclear engineer, presented a talk to the ETI 2.0 Cross Cutting Seminar, titled "Why Am I Being Regulated? The History and Context of Nuclear Regulations." The talk provided a brief look at the nuclear regulatory history for the U.S. Nuclear Regulatory Commission and the Department of Energy.

PNNL POC:
Dr. Robert Brigantic

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dnn TecH — Enabling Capabilities in Technology

Partner Institutions

University Partner
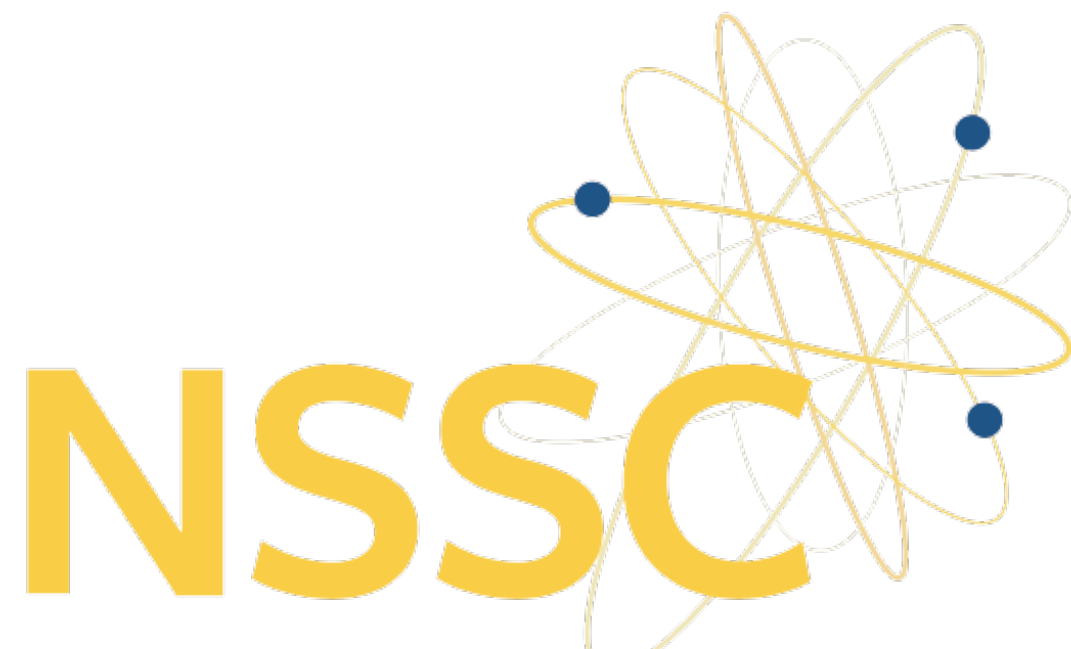National Laboratory Partner

Key Research Areas
- Detection, characterization, and response methodologies, and tools
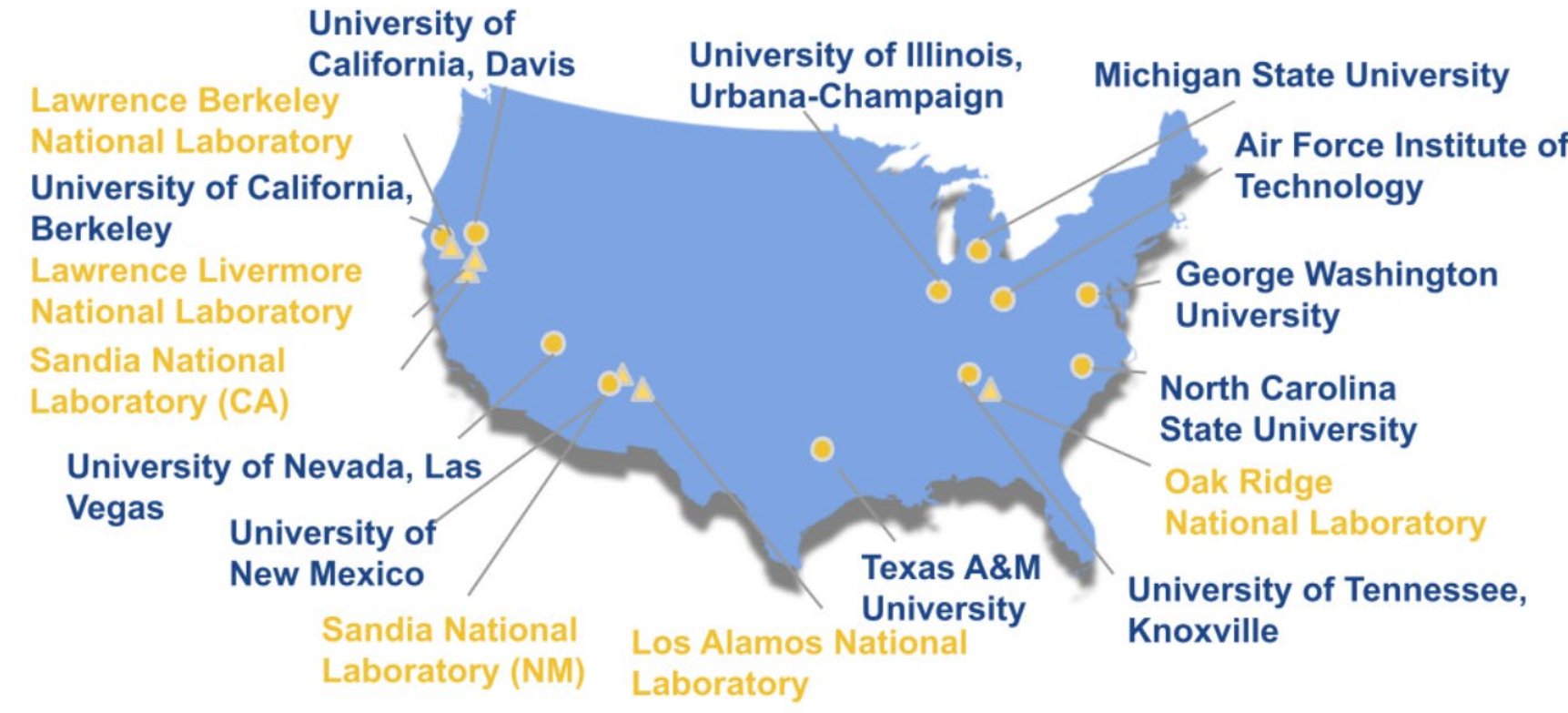- Data science for nuclear nonproliferation
- Education and training

Highlight
Earlier this year, professors from various universities in the TecH Consortium visited PNNL. The professors toured several facilities including RPL, the SUL [pictured above], the Interdiction Technology & Integration Laboratory, and EMSL [virtually]) to learn about PNNL's unique capabilities that can be used to enhance their R&D.

PNNL POC:
Dr. Allen Seifert

NSSC — Nuclear Science and Security Consortium

Partner Institutions

University of California, Davis
University of Illinois, Urbana-Champaign
Michigan State University
Lawrence Berkeley National Laboratory
University of California, Berkeley
Air Force Institute of Technology
George Washington University
Lawrence Livermore National Laboratory
Sandia National Laboratory (CA)
North Carolina State University
University of Nevada, Las Vegas
Oak Ridge National Laboratory
University of New Mexico
Texas A&M University
University of Tennessee, Knoxville
Sandia National Laboratory (NM)
Los Alamos National Laboratory

Key Research Areas
- Nuclear physics, nuclear chemistry, nuclear material science
- Computing and optimization in nuclear applications
- Education in nuclear science, technology, and policy

Highlight
The NSSC recently submitted a renewal proposal to the NNSA with PNNL listed as a collaborating DOE laboratory, enabling connections with more than 28 PNNL scientists across five different focus areas during the next five years.
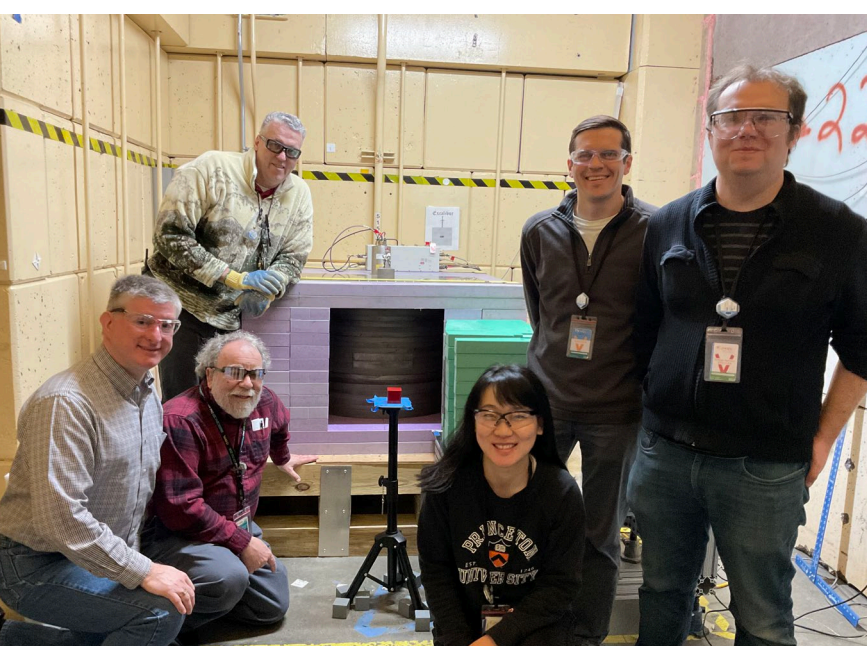
PNNL POC:
Dr. Grey Batie

Learn more about how PNNL supports these consortia

Pacific Northwest
NATIONAL LABORATORY

www.pnnl.gov

Additional Highlight
Princeton University's Jihye Jeon, a PhD student, won the Best National Laboratory Collaboration Award during the 2025 DNN R&D University Program Review. She was recognized for her research on "Authenticatable Fissile Material Measurements" with mentors from PNNL and Princeton Plasma Physics Laboratory (PPPL).

From left, the team included Erik Gilson (PPPL), Rob Goldston (PPPL), Bob Hitchner (PPPL), Jeon, Andy Gilbert (PNNL), and Chris Jackson (PNNL).