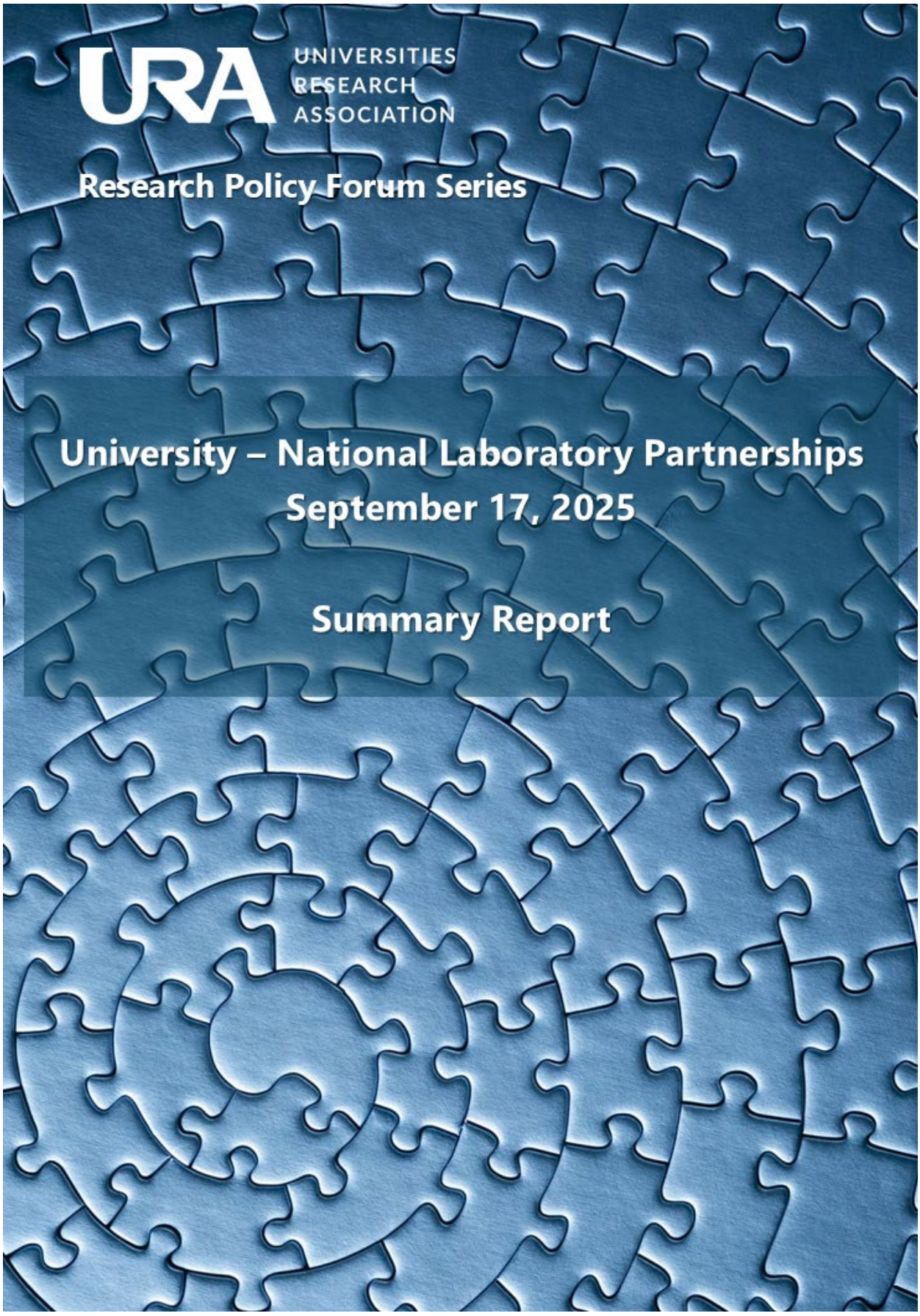
URA
UNIVERSITIES
RESEARCH
ASSOCIATION
Research Policy Forum Series
University – National Laboratory Partnerships
September 17, 2025
Summary Report

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Executive Summary

The September 2025 URA Research Policy Forum continued URA's six-decade tradition of connecting academic excellence with the missions of the national laboratories. Building on the foundation set by the 2020 URA Roundtable on University–National Laboratory Partnerships, the forum revisited the Roundtable's main themes and examined how its recommendations are progressing from vision to implementation. The 2020 Roundtable called for more intentional and structurally supported collaboration models, clearer institutional roles and expectations, stronger workforce pathways, and broader access to world-class research infrastructure, principles that guided the forum's discussions as participants explored how partnerships are evolving beyond ad hoc arrangements into structured, data-driven, and strategically aligned models that leverage the shared strengths of universities and national laboratories.

In this context, the forum emphasized that national laboratories deliver large-scale science and mission-driven innovation. At the same time, universities provide the foundational research, talent development, and disciplinary breadth essential to the nation's scientific enterprise. Programs linking the two, such as joint appointments, user access mechanisms, workforce initiatives, and innovation clusters, illustrate where partnerships become concrete, mutually reinforcing, and transformative.

As addressed by the speakers, effective collaboration requires intentional design, shared governance, and meaningful co-investment in people, infrastructure, and long-term capabilities. Across the forum, participants also pointed to the importance of equitable access to facilities, the need to reduce administrative barriers, the value of inclusive innovation ecosystems, and the growing reliance on metrics to guide partnership effectiveness. These themes directly reflect the Roundtable's strategic vision for resilient, mission-aligned partnerships that enable both institutions to adapt to shifting national priorities.

The forum concluded with a shared understanding: the partnerships shaped today will define the resilience, competitiveness, and diversity of America's research enterprise in the decade ahead. Through trust, coordination, and shared purpose, universities and national laboratories together ensure the nation's capacity to lead in discovery and innovation.

Resources and Links

Presentation Videos: https://ura-hq.org/science-policy-2/forums/univ-natlab-pship-sept-2025-forum-videos/
URA 2020 Roundtable on Effective University–National Laboratory Partnerships: A Look into the Future: https://ura-hq.org/wp-content/uploads/2023/06/Roundtable-Final-Report.pdf

Introduction

The September 2025 Research Policy Forum brought together national laboratory leaders, university executives, and research program directors to reflect on how partnerships across the U.S. research ecosystem are evolving and to explore the opportunities and challenges shaping the next decade of collaboration. Anchored in URA's long history of linking academic excellence with mission-driven national laboratory science, research, and development, the forum examined the practical models, shared challenges, and emerging strategies that are redefining university–national laboratory engagement.

This report provides a consolidated record of the forum's discussions, including an overview of key themes, synthesized insights, and summaries of the individual presentations. The material reflects both the ongoing implementation of the 2020 URA Roundtable recommendations and the sector's growing commitment to intentional, structured, and inclusive partnership models. The next section presents a synthesis of the major ideas shared across all speakers, followed by presentation-specific summaries generated with the support of AI.

Synthesis of Presentations

The forum presentations provided a shared view of an evolving university–national laboratory ecosystem, influenced by shifting national priorities, increasing research demands, and a growing focus on structured collaboration. Despite differences in institutional size, geography, and mission focus, the speakers addressed common challenges and opportunities that span the research community. This summary consolidates those crosscutting insights, reflecting the innovative strategies that are transforming how universities and national laboratories collaborate.

1. Strategic Partnerships Require Structure and Intentionality

- Successful collaborations are not ad hoc; they are built on formal structures like MOUs, joint appointments, embedded partnership managers, and shared governance models.
- Institutions like UT Austin, University of Minnesota, and UT-ORII have dedicated roles (e.g., campus executives, partnership managers) to manage and grow these relationships.
- Sandia's University Partnership Network (SUPN) and UT-ORII's convergent research initiatives are examples of structured, tiered engagement models that align institutional priorities.

2. Dual Investment Models Are Powerful Enablers

- Partnerships thrive when both sides contribute resources. This includes:
    - LDRD or internal lab funding.
    - University or state-level funding (e.g., UT-ORII's $80M state investment).
    - Shared infrastructure and personnel (e.g., joint hires, co-located staff).

- These dual investments allow for joint hiring, seed funding, and the development of scalable research programs.

3. Workforce Development Is a Central, Shared Goal

- Nearly every presentation emphasized the importance of building the STEM pipeline—from K–12 outreach to postdoctoral training.
- Programs like SCGSR, PREP, SURF, and institutional internships (e.g., UT-ORII, NIST, Fermilab) are critical for exposing early students to lab environments and recruiting future staff.
- Many institutions are also focused on increasing diversity and inclusion through partnerships with Emerging Research Institutions such as MSIs, HBCUs, and tribal colleges.

4. Joint Appointments and Embedded Personnel Are High-Impact

- Joint appointments (faculty ↔ lab staff) are a cornerstone of deep collaboration.
- These roles enable shared research, teaching, and mentoring, and they often lead to long-term institutional alignment.
- Embedded partnership managers (e.g., Sandia at UT Austin, NREL at UMN) facilitate day-to-day coordination and cultural translation.

5. Geography Matters—But Isn't Destiny

- Proximity to a national laboratory (e.g., UT Knoxville to ORNL) can accelerate collaboration, but remote institutions (e.g., University of Oregon) are finding creative ways to engage through virtual tools, travel support, and strategic targeting of user facilities.
- Regional hubs (e.g., Twin Cities for Sandia, Midwest for NREL) can serve as springboards for broader engagement.

6. Seed Funding and Pilot Projects Drive Long-Term Impact

- Many institutions use small-scale funding (from labs or universities) to initiate collaborations that later grow into major grants or programs.
- Examples include:
    - UT-ORII's CRIs.
    - UMN's NRI–NREL partnership.
    - Sandia's supplemental LDRD investments.
    - NIST's Measurement Science and Engineering grants.

7. Data-Driven Strategy and Metrics Are Becoming Essential

- SNL, in particular, is leading in using dashboards and key performance indicators (KPIs) to track:
    - Hiring by degree and institution.
    - Joint publications and citations.
    - Research expenditures and ROI.
    - Campus visits and engagement.
- These metrics inform strategy, identify underperforming partnerships, and highlight emerging opportunities.

8. Cultural Fluency and Relationship Management Are Critical

- Many speakers emphasized the importance of understanding the different cultures, incentives, and constraints of labs and universities.

- Dedicated staff who can "translate" between these cultures (e.g., UT-ORII's dual-leadership model) are essential for avoiding friction and building trust.

9. Scalability and Replicability Are Emerging Priorities

- Institutions like UT-ORII and Sandia are actively thinking about how to scale their models to include more partners or regions.
- There's growing interest in replicating successful frameworks (e.g., UT-ORII's state-supported model) at other universities.

10. Partnerships Are About More Than Funding

- While financial support is important, the most successful partnerships are built on:
    - Shared vision and strategic alignment.
    - Mutual respect and long-term commitment.
    - Opportunities for students, faculty, and lab staff to grow together.

Summary of Presentations

1. **Fermilab-University Partnerships -** Douglas Glenzinski, Deputy Chief Research Office, Fermi National Accelerator Laboratory

Dr. Glenzinski opened his presentation with an introduction to Fermi National Accelerator Laboratory (Fermilab), a U.S. Department of Energy (DOE) national laboratory located just outside Chicago. Founded nearly 60 years ago by Robert Wilson, Fermilab is the nation's premier particle physics and accelerator laboratory. It operates under the DOE's Office of Science and is one of 10 such laboratories in the U.S. The lab sits on a sprawling 6,800-acre site, notable for its scientific infrastructure and distinctive features, such as sculptures and a herd of American bison, that reflect Fermilab's pioneering spirit.

Fermilab's mission is to explore the mysteries of matter, energy, space, and time through fundamental science. It does this by building and operating large-scale accelerator and experimental facilities, conducting cutting-edge research, and developing new technologies in collaboration with national and international partners, primarily universities. These partnerships are essential to maintaining U.S. scientific and technological competitiveness.

The lab operates the largest proton accelerator complex in the U.S., capable of accelerating protons to 120 GeV and delivering 1 megawatt of beam power. These beams support a suite of experiments that are aligned with national strategic priorities. Fermilab's scientific direction is guided by a decadal planning process led by the DOE and the National Science Foundation (NSF), culminating in the Particle Physics Projects Prioritization Panel (P5) report. This report outlines the top scientific questions and prioritizes the facilities and experiments needed to address them.

Currently, Fermilab is undergoing a $5 billion upgrade to its accelerator and experimental infrastructure, supported by the DOE and Congress. This investment will enable the lab to execute next-generation experiments that align with the HEPAP's strategic goals. The lab is simultaneously operating existing experiments and building new ones, creating a rich environment for collaboration with universities.

Fermilab has a long-standing tradition of international collaboration. The lab hosts two of the world's largest scientific collaborations: the Deep Underground Neutrino Experiment (DUNE) at the Long Base Neutrino Facility (LBNF), with over 1,400 collaborators from 200 institutions, and the U.S. CMS collaboration, part of the larger CMS experiment at CERN. In total, Fermilab supports around a dozen experiments, ranging from active data collection to construction phases, involving hundreds of collaborators globally.

In addition to particle physics, Fermilab is expanding into emerging fields. It hosts one of five National Quantum Science Centers—the Superconducting Quantum Materials and Systems Center—which includes 500 collaborators from 36 institutions, including industry partners. The

goal is to develop world-leading quantum computing technologies that can also advance fundamental science.

University researchers are the primary contributors to these collaborations. They take on specific responsibilities in experiment design, construction, operation, and data analysis. In return, they gain access to facilities and data, which form the basis for scientific publications and discoveries. The scale and complexity of these experiments—such as DUNE, which involves sending a beam of neutrinos 800 miles from Illinois to a detector in South Dakota—necessitate large, coordinated teams.

Fermilab offers three main avenues for university partnerships:

1. **User and Affiliate Badges**: This is the most common form of collaboration. University faculty, postdocs, engineers, and students can gain access to Fermilab's facilities and data through a streamlined process. These collaborations range from large-scale experiments to smaller R&D projects. Remote and on-site participation options are available.
2. **Joint Appointments**: These are more involved partnerships where both Fermilab and a university commit resources to support a shared strategic goal. Joint appointments can be at the faculty, postdoc, or student level and often focus on emerging research areas. They require more detailed planning but can yield significant mutual benefits.
3. **Workforce Development Programs**: Fermilab runs a comprehensive set of internships and apprenticeships aimed at building the STEM workforce. These programs span high school to faculty levels and are designed to be intellectually stimulating and network-rich. About 90% are DOE-funded, but there is room for university co-funded programs. These initiatives help train future scientists, engineers, and technicians, addressing national workforce needs in areas like accelerator science, cryogenics, and microelectronics.

Fermilab has dedicated offices to support these partnerships. The User and Affiliate Engagement Office facilitates access and onboarding, while the Office of Science, Innovation, and Technology Partnerships manages joint appointments. In 2024, Fermilab hosted 4,000 users and affiliates from over 500 institutions in 52 countries.

Challenges in establishing partnerships include aligning research goals, defining roles and responsibilities, and navigating different regulatory environments. National labs operate under stricter rules than universities, particularly in areas like data sharing and work planning. However, with upfront communication and mutual understanding, these challenges can be overcome.

Dr. Glenzinski emphasized that early engagement—whether through internships, postdocs, or faculty collaborations—often leads to long-term relationships with national labs. Many current lab leaders, including himself, began their careers through such programs. He concluded by

expressing Fermilab's strong interest in expanding partnerships with universities, particularly in emerging fields and workforce development.

a. Key Points from the Presentation

Fermilab Overview:
- Premier U.S. particle physics and accelerator lab.
- Operated by the DOE Office of Science.
- Located near Chicago on a 6,800-acre site.

Scientific Mission:
- Explore matter, energy, space, and time.
- Build and operate large-scale accelerators and experiments.
- Collaborate globally, especially with universities.

Strategic Planning:
- Guided by decadal HEPAP reports.
- $5B investment in accelerator upgrades and new experiments.

Major Collaborations:
- DUNE: 1,400+ collaborators, 200 institutions.
- U.S. CMS: 52 U.S. institutions, part of CERN's CMS.
- SQMS Center: 500 collaborators, 36 institutions.

Partnership Models:
- User and Affiliate Badges: Easy access for university researchers.
- Joint Appointments: Shared strategic roles and resources.
- Workforce Development: Internships, apprenticeships, and training.

Support Infrastructure:
- Dedicated offices for user engagement and joint appointments.
- 4,000 users from 500+ institutions in 2024.

Challenges and Opportunities:
- Regulatory differences between labs and universities.
- Need for upfront planning and communication.
- High demand for skills in accelerator science, cryogenics, and AI.

Call to Action:
- Fermilab welcomes new partnerships.
- Opportunities exist in both science and workforce development.

2. **SNL's Academic Programs and the Sandia University Partnership Network -** Jim Redmond, Senior Manager, Academic Programs, Sandia National Laboratories

Jim Redmond, Director of Academic Programs at Sandia National Laboratories, provided a comprehensive overview of Sandia's university engagement strategy, the structure and goals of its academic programs, and the evolving Sandia University Partnership Network (SUPN). Drawing on his 33 years of experience at Sandia, Redmond emphasized the importance of sustained, strategic collaboration with academic institutions to support Sandia's national security mission and workforce development.

a. Organizational Context

Sandia's Academic Programs office resides within the Chief Research Office, led by Doug Cothy and Director Dan Sinars. The office oversees four main areas:

1. **Research Strategy and Accountability**
2. **Research Capabilities (e.g., technical library modernization)**
3. **Partnerships and Academic Programs**
4. **Technology Transfer and Economic Development**

Redmond's team specifically manages:

- The **University Partnership Network (SUPN)**
- **Joint Appointments** (faculty and staff exchanges)
- **Postdoctoral Programs** (supporting ~400 postdocs)
- **Pathways Programs** (focused on workforce development, especially with underrepresented institutions)

b. Why University Partnerships Matter

Redmond outlined three core reasons for university engagement:

1. **Talent Pipeline**: Sustained visibility and engagement are essential for recruiting top-tier talent in critical areas like AI, quantum, microelectronics, and advanced manufacturing.
2. **Collaborative Research**: Universities offer expertise and facilities that extend Sandia's capabilities and accelerate innovation.
3. **Staff Development**: University partnerships enrich Sandia staff through leadership, mentoring, and exposure to cutting-edge research.

c. Sandia University Partnership Network (SUPN)

SUPN is Sandia's structured approach to university engagement, consisting of three tiers:

- **Alliance Partners**: Seven top-tier research universities with deep, strategic engagement.
- **Core Partners**: Institutions with strong regional or national relevance.
- **Associate Partners**: Emerging or specialized institutions, including HBCUs and MSIs.

Selection criteria include:

- Research and academic excellence.
- National reach and diversity.
- Willingness to partner.
- Sandia leadership advocacy.

While SUPN schools account for ~50% of campus hiring and ~60% of research expenditures, Sandia also collaborates with over 90 other institutions.

d. Roles and Resources in SUPN

Each partner institution is supported by:

- A **Campus Executive** (senior Sandia leader).
- A **Deputy Campus Executive**.
- A **Campus Partnership Manager** (CPM), ideally embedded on campus.

Sandia commits:

- **Supplemental LDRD funding** to seed collaborative research.
- **Dedicated staff support** for relationship management and strategy execution.
- **Joint strategy development** with each partner.

The CPM role has evolved due to policy changes—some are now remote or travel-based rather than embedded full-time.

e. Strategic Engagement and Mutual Value

Redmond emphasized the importance of identifying **mutually beneficial value propositions**. For example, one university sought help increasing its U.S. graduate student population. Sandia responded by creating a **graduate school recruiting forum** for its 700+ summer interns, connecting them with partner institutions.

Other engagement strategies include:

- **Sponsoring national security-themed courses**.
- **Mentoring student teams (e.g., Formula SAE)**.
- **Serving on advisory boards and dissertation committees**.

f. Metrics and Data-Driven Strategy

Sandia is increasingly using data to guide its partnership strategy. Key metrics include:

- **Hiring by degree and institution**.
- **Internship participation and alumni tracking**.
- **Research expenditures and scholarly output**.
- **Joint publications and citation impact**.
- **Campus visits and staff engagement**.

For example:

- Alliance and core partners dominate PhD hiring and staff degree affiliations.
- Joint publications with universities are cited **twice as often** as internal-only publications.
- Sandia's 27 SUPN schools collectively represent **$22 billion** in annual research expenditures.

g. Joint Appointments and Faculty Loan Program

Sandia's **Faculty Loan Program** enables joint appointments:

- Faculty can work at Sandia up to 50% of their time.
- Sandia staff can serve as adjuncts or instructors at universities.
- Recently expanded to include **postdocs**, offering teaching experience and affordable staffing for universities.

Currently, Sandia has:

- 22 joint appointment agreements.
- 17 active appointments.
- Plans to expand, despite the legal and administrative complexity.

h. Minority Serving Institution Partnership Program (MSIPP)

Through the NNSA's MSIPP, Sandia has:

- 22 active projects with MSIs and tribal colleges.
- Built new collaborations beyond SUPN.
- Focused on workforce resilience and diversity.

i. Upcoming Changes and Strategic Evolution

To improve efficiency and impact, Sandia is restructuring SUPN:

- **Regional Groupings**: CPMs will oversee multiple institutions in their region, not just alliance partners.
- **Rebranding**: SUPN tiers will be renamed:
  - Alliance → Alliance Partners
  - National/Regional → Core Partners
  - Start HBCUs → Associate Partners
- **Dynamic Membership**: Institutions can move between tiers based on performance and strategic alignment.
- **Capacity Limits**: Due to staffing and funding constraints, SUPN will remain selective and focused.

j. Conclusion

Redmond concluded by reaffirming Sandia's commitment to academic partnerships as a core part of its national laboratory mission. These relationships:

- Support workforce development.
- Advance national security science.
- Enrich Sandia staff and university collaborators alike.

He emphasized that while Sandia cannot partner deeply with every institution, it encourages broad collaboration and is working to make its processes more transparent, data-driven, and impactful.

k. Key Points from the Presentation

SUPN Structure:

- Alliance, Core, and Associate Partners.
- 27 institutions, $22B in combined research expenditures.

Strategic Goals:

- Talent pipeline in critical tech areas.
- Collaborative research acceleration.
- Staff enrichment and retention.

Support Mechanisms:

- Campus Executives and Partnership Managers.
- Supplemental LDRD funding.
- Joint appointments and internships.

Metrics Tracked:

- Hiring by degree and institution.
- Joint publications and citations.
- Research expenditures and ROI.
- Campus visits and staff engagement.

Recent Innovations:

- Graduate school recruiting forum for interns.
- Postdoc joint appointments.
- MSIPP expansion with MSIs and tribal colleges.

Upcoming Changes:

- Regional oversight model.
- Tier rebranding and dynamic membership.
- Capacity limits to maintain quality engagement.

Impact:

- Joint publications cited 2x more than internal ones.
- SUPN schools account for 60% of Sandia's research spend.
- Stronger, more strategic academic partnerships.

3. **University–National Laboratory Partnerships: Perspectives from UT Austin -** Jennifer Lyon Gardner, Deputy Vice President for Research, University of Texas at Austin

Dr. Lyon-Gardner, Deputy Vice President for Research at the University of Texas at Austin (UT Austin), presented an in-depth, on-the-ground perspective of UT Austin's strategic partnership with Sandia National Laboratories. Her talk complemented a broader overview previously given by Sandia's representative, focusing on how the Sandia-University Partnership Network (SUPN) functions from the university side.

a. Institutional Context and History

UT Austin is a major research university with high research expenditures, ranking fourth nationally in Department of Energy (DOE)-funded research. While this ranking predates the formal alliance with Sandia, the partnership has strengthened UT's engagement with national labs. UT has longstanding relationships with 13 national labs and was a founding member of the Oak Ridge Associated Universities.

The Sandia alliance began around the time Dr. Lyon-Gardner assumed her role. It builds on a history of mutual engagement, including benefits like in-state tuition waivers for Sandia staff dependents. The partnership is part of a broader institutional strategy to foster collaboration and increase research capacity.

b. UT Austin's Research Development Office

Dr. Lyon-Gardner's office focuses on institutional capacity building, including:

- Supporting large-scale grant proposals.
- Managing internal competitions and seed funding.
- Facilitating interdisciplinary collaboration.
- Coordinating strategic partnerships like the one with Sandia.

Her team plays a central role in connecting researchers across departments and with external partners, especially in the early stages of collaboration.

c. Partnership Structure and Roles

The Sandia-UT Austin partnership is structured with mirrored roles on both sides:

- **Sandia**: Executive champion, campus executive, and a campus partnership manager (CPM) based in Austin.
- **UT Austin**: Vice President for Research (executive champion), Dr. Lyon-Gardner (campus executive), and a dedicated partnership manager (Thuy).

The CPM's physical presence in Austin has been critical for success, enabling regular engagement, campus navigation, and relationship-building. Faculty liaisons—either based in Austin or Albuquerque, also play a key role in connecting researchers and representing broader academic interests.

d. Partnership Metrics and Scope

In the most recent fiscal year:

- 130 UT researchers engaged with Sandia.
- 2.1 million USD in direct research contracts were awarded.

- Active projects span multiple colleges and departments, not just engineering or natural sciences.

This broad engagement is tracked and supported through formal processes, including a collaboration interest form and regular coordination meetings between the UT and Sandia partnership managers.

e. Strategic Planning and Priority Alignment

Each year, UT and Sandia leadership meet to align on shared research priorities. These meetings include:

- Campus executives and partnership managers.
- Associate deans for research from relevant colleges.
- Industry engagement staff.

For FY26, the shared focus areas are:

- Quantum science.
- Artificial intelligence (AI).
- Advanced manufacturing.

These priorities are chosen based on institutional goals, donor interests, and Sandia's mission needs. The ultimate objective is to build self-sustaining, multifaceted relationships between researchers at both institutions.

f. Engagement Strategies

Several strategies have been developed to foster collaboration:

1. **Targeted Information Sessions**:
    - Separate sessions for UT and Sandia researchers to address institution-specific logistics.
    - Timed to coincide with Sandia's funding cycles (e.g., LDRD calls for ideas).
2. **Researcher Matching**:
    - A web form collects collaboration interests.
    - Partnership managers review submissions weekly and facilitate introductions.
3. **Networking Events**:
    - Thematic workshops (e.g., quantum research) with lightning talks and breakout sessions.
    - "Sandia Day" brings together researchers and students for poster sessions and strategic meetings.
4. **Faculty Liaison Program**:
    - Liaisons help identify new faculty, seminar speakers, and advisory board members.
    - They often accompany colleagues on visits to Sandia and vice versa.
5. **Calendar Synchronization**:
    - UT aligns its outreach and engagement activities with Sandia's annual funding timeline.
    - This ensures timely communication of opportunities and increases proposal submissions.

g. Outcomes and Impact
The partnership has led to:

- Broader college-wide participation beyond traditional STEM fields.
- Increased faculty awareness and engagement with Sandia.
- Joint proposals, including a recent NSF Quantum Leap Challenge Institute submission.
- Joint patent applications and advisory board participation.

While Sandia's direct funding (~$3M/year) is modest relative to UT's $1B+ research enterprise, the partnership is valued for its strategic opportunities and collaborative potential.

h. Lessons Learned and Future Directions
Key insights from UT's experience include:

- **Individual relationships** are the foundation for large-scale collaborations.
- **Faculty liaisons** are most effective when they represent broad institutional interests.
- **Continuity** in liaison roles enhances relationship depth.
- **Strategic timing** of outreach increases engagement and proposal success.

Looking ahead, UT aims to:

- Expand joint funding pursuits.
- Integrate additional sectors (e.g., city government, industry).
- Replicate this partnership model with other national labs.

Dr. Lyon-Gardner concluded by emphasizing that deliberate, relationship-driven collaboration is the most effective path to impactful, long-term partnerships.

i. Key Points from the Presentation

- **UT Austin–Sandia Partnership**:
    - One of seven alliance-level partners in the Sandia-University Partnership Network (SUPN).
    - Built on a long history of mutual engagement.
- **Organizational Structure**:
    - Mirrored roles on both sides: executive champion, campus executive, partnership manager.
    - Faculty liaisons bridge academic and lab communities.
- **Engagement Metrics**:
    - 130 researchers engaged in FY25.
    - $2.1M in direct research contracts.
    - Projects span multiple colleges and disciplines.
- **Strategic Priorities (FY26)**:
    - Quantum science.
    - Artificial intelligence.
    - Advanced manufacturing.
- **Collaboration Mechanisms**:
    - Researcher matching via online form.
    - Thematic networking events and Sandia Day.
    - Calendar alignment with Sandia's funding cycle.
- **Outcomes**:

    - Increased faculty engagement and proposal submissions.
    - Joint NSF proposals and patent applications.
    - Advisory board participation on both sides.
- **Lessons Learned**:
    - Individual PI relationships are key to long-term success.
    - Faculty liaisons should represent broad interests, not just personal research.
    - Strategic timing and continuity enhance impact.
- **Future Goals**:
    - Expand to include city and industry partners.
    - Scale the model to other national labs.

4. **University–National Laboratory Partnerships: Perspectives from the University of Oregon -** Ben McMorran, Federal Lab Partnership Coordinator, University of Oregon

Dr. Ben McMorran, a physics professor and newly appointed Federal Labs Partnership Coordinator at the University of Oregon (UO), presented an insightful overview of how a smaller, geographically remote university can build and expand partnerships with federal laboratories. His talk highlighted UO's existing strengths, current collaborations, and strategic ideas for overcoming barriers to deeper engagement with national labs.

a. Institutional Context

The University of Oregon, located in Eugene, is a mid-sized public research university with approximately 25,000 students and 1,400 graduate students. While Oregon is a relatively small state in terms of population and economy, UO has developed a strong reputation in fundamental sciences, particularly in physics, chemistry, and materials science.
Notably, UO does not have an engineering school—a result of state-level decisions to concentrate engineering programs at Oregon State University and Portland State University. Despite this, UO has built robust applied science programs, especially through its **Knight Campus for Accelerating Scientific Impact**, which focuses on translational research and workforce development.

b. Workforce Development and Graduate Training

UO boasts one of the largest STEM-focused master's programs in the country, with around 100 students annually in fields like:

- Semiconductors
- Optics
- Materials characterization
- Computational biology

These students often complete internships at national labs, with a 98% placement rate, many securing jobs at the labs where they interned. UO also sends undergraduates and PhD students to national labs through summer research programs and fellowships like the DOE's SCGSR.

c. Geographic Challenges and Strategic Positioning

Unlike institutions located near national labs, UO faces logistical challenges due to its distance from major facilities. The closest DOE labs—Lawrence Berkeley National Lab (LBNL) and Pacific Northwest National Lab (PNNL)—are each about an eight-hour drive away. This lack of proximity limits opportunities for frequent in-person collaboration, joint appointments, and spontaneous engagement.
To address this, UO is exploring more strategic, structured approaches to collaboration, including:

- Remote partnerships
- Seed funding for travel and workshops
- Expanded use of user facilities
- Joint research proposals and instrumentation projects

d. Current Collaborations with Federal Labs

Despite its geographic limitations, UO maintains active collaborations with numerous national labs. Dr. McMorran used bibliometric data to illustrate co-authored publications and research partnerships, particularly with:

- **Lawrence Berkeley National Lab (LBNL)**: Strong ties in particle physics, materials science, and use of the Advanced Light Source and National Center for Electron Microscopy.
- **Argonne National Lab (ANL)**: Collaborations in quantum networks, ultrafast imaging, and joint instrumentation projects.
- **Los Alamos and Lawrence Livermore National Labs**: Primarily theoretical and computational collaborations.
- **Oak Ridge National Lab (ORNL)**: Work in nanophase materials and quantum systems.
- **NIST**: Longstanding relationships in metrology and standards development, especially in physics and chemistry.

Dr. McMorran emphasized that many of these collaborations are driven by individual faculty relationships and user proposals, rather than formal institutional partnerships.

e. Examples of Collaborative Research

Several specific projects were highlighted to illustrate the depth and impact of UO's federal lab collaborations:

- **Electron Microscopy at LBNL**: UO researchers developed beam-splitting techniques to enhance imaging resolution, enabling visualization of organic molecules on nanoparticles. This work led to multiple PhD students becoming postdocs and staff scientists at LBNL.
- **X-ray and Nanomagnetism Research at ALS**: UO teams are developing structured X-ray probes for advanced materials characterization.
- **Quantum Research at ORNL and ANL**: Projects include nanomechanical control of NV centers in diamond and quantum networking infrastructure.
- **Joint Instrumentation Proposal**: UO partnered with the University of Chicago and Argonne to secure NSF funding for a state-of-the-art transmission electron microscope, now housed at Argonne.

f. Barriers to Deeper Engagement

Dr. McMorran identified several challenges that limit UO's ability to capitalize on its federal lab relationships fully:

- **Lack of Local Lab Presence**: Makes joint appointments and frequent visits difficult.
- **Funding Limitations**: LDRD funds often cannot be spent at UO, limiting student support.
- **Awareness Gaps**: Many faculty are unaware of user facilities or collaboration mechanisms.
- **Cultural Differences**: Faculty unfamiliar with lab environments may struggle with mission-driven research expectations or collaborative dynamics.

g. Strategies for Expansion

To address these barriers, UO is pursuing several initiatives:

1. **Database of Collaborations**: Documenting successful partnerships to inspire and guide other faculty.
2. **Seed Funding**:
    - For workshops and travel to labs.
    - To incentivize user proposals (e.g., covering travel costs).
3. **Sabbatical and Joint Appointment Programs**: Expanding both incoming and outgoing exchanges.
4. **Student Fellowships**: Increasing SCGSR participation and advocating for earlier-stage graduate student eligibility.
5. **Hosting Workshops**: Bringing lab researchers to campus to explore shared interests and capabilities.

Dr. McMorran also expressed interest in replicating successful models from other institutions, such as UT Austin's structured partnership management system.

h. Vision for the Future

Dr. McMorran concluded with a call to:

- **Expand joint centers** to include more geographically remote institutions.
- **Leverage regional strengths**, such as Oregon's semiconductor industry and green technology ecosystem.
- **Enhance LDRD flexibility** to allow funding to support university-based students and research.
- **Broaden access to fellowships and internships**, especially for early-stage graduate students.

He emphasized that, while UO may be smaller and more remote than some peer institutions, it possesses strong scientific capabilities and a deep commitment to collaboration with federal laboratories.

i. Key Points from the Presentation

- **University Profile**:
    - Mid-sized public university with strong fundamental science programs.
    - No engineering school, but robust applied science and workforce development.
- **Workforce Development**:
    - Large STEM master's program with 98% placement.
    - Active undergraduate and PhD student engagement with national labs.
- **Federal Lab Collaborations**:
    - Active partnerships with LBNL, ANL, ORNL, NIST, and others.
    - Focus areas: materials science, quantum networks, high-energy physics, data science.
- **Challenges**:
    - Geographic distance from labs.
    - Limited ability to receive LDRD funds.
    - Need for greater faculty awareness and cultural alignment.

- **Strategies for Growth**:
    - Build a collaboration database.
    - Offer seed funding for travel and workshops.
    - Expand sabbaticals and joint appointments.
    - Increase SCGSR participation and advocate for earlier eligibility.
- **Vision**:
    - Broaden inclusion in joint centers.
    - Leverage regional industry strengths.
    - Replicate successful partnership models from other universities.

5. **The University of Tennessee - Oak Ridge Innovation Institute -** David Sholl, Executive Director and Vice Provost, University of Tennessee - Oak Ridge Innovation Institute

Dr. David Scholl presented the University of Tennessee–Oak Ridge Innovation Institute (UT-ORII) as a compelling and scalable model for university–national laboratory partnerships. Established in 2020, UT-ORII is a formal collaboration between the University of Tennessee (UT) System and Oak Ridge National Laboratory (ORNL), the largest U.S. Department of Energy (DOE) Office of Science lab. The institute is designed to enhance research, graduate education, and workforce development while contributing to the economic development of Tennessee.

a. Historical Context and Strategic Vision

UT and ORNL have a long-shared history dating back to the Manhattan Project. The creation of graduate programs at UT was originally driven by the presence of ORNL. While the university has long been involved with the lab, it wasn't until the early 2000s that UT became part of the lab's management contract through UT-Battelle.

UT-ORII was established to formalize and expand this relationship. Its strategic goals include:

- Enhancing the reputations of both UT and ORNL.
- Elevating UT's PhD programs.
- Supporting ORNL's STEM workforce pipeline.
- Contributing to Tennessee's economic development.
- Supporting K–12 STEM outreach.
- Serving as a hub for managing complex institutional interactions.

b. Funding Model: Dual Investment for Mutual Benefit

A key enabler of UT-ORII's success is its dual funding structure:

- **$80 million** in forward-funded state support from the Tennessee governor.
- **$10 million/year** in recurring state funds.
- **LDRD (Laboratory Directed Research and Development)** funds from ORNL.

This dual investment model allows UT-ORII to seed collaborative research and education programs. Importantly, the university's financial commitment complements the lab's LDRD resources, enabling joint hiring and program development.

c. Leadership and Organizational Structure

UT-ORII is co-led by individuals with deep experience in both academia and the national lab system:

- Dr. Scholl is a lab employee with a joint appointment as Vice Provost at UT.
- His colleagues Bryn and Sean are long-time UT faculty members who lead the education and research arms, respectively.

This dual-leadership model ensures cultural fluency and operational alignment between the two institutions.

d. Three Pillars of UT-ORII

1. Convergent Research Initiatives (CRIs)

UT-ORII has launched five CRIs, each co-led by UT and ORNL researchers. These initiatives were selected through competitive calls for proposals and focus on areas where both institutions bring complementary strengths:

- **Radiopharmaceutical Therapies**: ORNL's isotope science paired with UT Health Science Center's clinical research capabilities.
- **Manufacturing for Affordable Building Construction**: ORNL's building technologies user facility (BTRIC) combined with UT's expertise in architecture, sociology, and economics.
- **Other CRIs**: Include topics in quantum science, bioeconomy, and advanced materials.

Each CRI is jointly staffed:

- UT hires non-tenure-track research faculty (target: 50 total).
- ORNL hires new staff scientists (target: 50 total).
- About one-third of these hires have been completed to date.

This model ensures that both institutions invest in and benefit from the research.

2. Graduate Education and the Bredesen Center

UT-ORII's flagship educational initiative is the **Bredesen Center**, which offers three interdisciplinary PhD programs:

- Energy Science and Engineering
- Data Science and Engineering
- Genome Science and Technology

Key features:

- The Bredesen Center is a degree-granting academic unit.
- ORNL staff can serve as primary PhD advisors.
- Students have access to ORNL's full research portfolio.

UT-ORII's goal is to have **500 PhD students** engaged with ORNL by 2028. Currently:

- ~220 students are enrolled in the Bredesen Center.
- ~265 students received UT-ORII funding in the last academic year.

UT-ORII provides first-year funding for students, after which advisors (at UT or ORNL) assume financial responsibility.

3. Workforce and Economic Development

UT-ORII supports workforce development through:

- **Internships**: A 10-week summer program hosted by UT-ORII, with 40 students from 28 universities in 2024. Many Bredesen Center students previously interned at ORNL.
- **K–12 Outreach**: Focused on middle school STEM engagement. UT-ORII partners with 4-H to scale outreach across Tennessee's 95 counties. A pilot in 4 counties expanded to 22 and will go statewide next year.

These programs help build the future STEM pipeline and strengthen UT-ORII's relationship with state stakeholders.

e. Joint Appointments and Faculty Leadership

UT-ORII supports a wide range of joint appointments between UT and ORNL:

- Currently ~80 joint appointments exist.

- The **Governor's Chairs Program** is a flagship initiative for senior joint hires.
    - These are high-impact researchers who split time between UT and ORNL.
    - Many are National Academy members and lead major research programs.
    - 5% of UT Knoxville PhD students work with a Governor's Chair.

Four new Governor's Chair searches are underway in:

- Quantum science (2 positions)
- Circular bioeconomy systems
- Nuclear medicine

These appointments are complex to manage but offer exceptional leadership opportunities and institutional impact.

f. Key Points from the Presentation

- **UT-ORII Overview**:
    - Formal partnership between UT System and ORNL.
    - Established in 2020 with $80M in state funding.
    - Mission: research, graduate education, workforce development.
- **Funding Model**:
    - Dual investment from state and ORNL (LDRD).
    - Enables joint hiring and program development.
- **Research Initiatives**:
    - 5 Convergent Research Initiatives (CRIs).
    - Joint hiring of ~100 researchers (50 UT, 50 ORNL).
    - Focus on complementary strengths and economic impact.
- **Graduate Education**:
    - Bredesen Center offers interdisciplinary PhDs.
    - Goal: 500 PhD students engaged with ORNL by 2028.
    - ~220 students currently enrolled.
- **Workforce Development**:
    - Summer internships and K–12 outreach.
    - Partnership with 4-H to scale STEM programs statewide.
- **Joint Appointments**:
    - ~80 active joint appointments.
    - Governor's Chairs are senior, high-impact joint hires.
    - 5% of UTK PhD students work with a Governor's Chair.
- **Scalability and Transferability**:
    - Model is potentially replicable at other universities.
    - Key success factor: state or institutional co-investment.

6. **University-National Laboratory Partnerships: Perspectives from the University of Minnesota -** Shashank Priya, Vice President for Research and Innovation and Rolf Weberg, Executive Director, Natural Resources Research Institute, University of Minnesota

Dr. Shashank Priya and Dr. Rolf Weberg presented a dual-perspective overview of how the University of Minnesota (UMN) has developed and sustained impactful partnerships with national laboratories, particularly Sandia National Laboratories and the National Renewable Energy Laboratory (NREL). Their presentation highlighted institutional strengths, collaborative models, and specific research initiatives that have emerged from these partnerships.

a. UMN's Research Profile and Strategic Strengths

UMN is a major public research university with over 14,000 researchers across five campuses, including more than 7,000 faculty. The university maintains over 70 research labs and facilities, including specialized infrastructure in genomics, imaging, nanofabrication, and advanced manufacturing. With $1.4 billion in annual research expenditures, UMN is a leader in interdisciplinary science, ranked #1 among U.S. public universities by Times Higher Education. UMN's research strengths span a wide range of disciplines, including:

- Ecology and environmental sciences.
- Psychology and medical technology.
- Engineering fields such as hypersonics, microelectronics, and geospatial imaging.

The university's collaborative culture is evident in co-authored publications, co-advised students, and cross-college research centers.

b. Key Research Themes

The presentation focused on three major thematic areas:

1. **Materials and Structures** – Advanced modeling and design of materials for specific applications.
2. **Natural Resource Management** – Sustainable industrial processes and environmental stewardship.
3. **Data Science and AI** – High-performance computing and complex modeling across disciplines.

These themes align with national lab priorities and provide a foundation for strategic partnerships.

c. NRI: Natural Resources Research Institute

Dr. Rolf Weberg introduced the Natural Resources Research Institute (NRI), a state-chartered research institute within UMN. NRI is funded by both the state and the university and is mission-driven to support economic development and environmental stewardship, particularly in Minnesota's resource-rich northern region.

d. NRI's Capabilities and Approach

NRI operates with a systems-based, interdisciplinary model, integrating geologists, engineers, ecosystem scientists, and social scientists into project teams. Its key capabilities include:

- **Industrial-scale process development**: Bridging the "valley of death" from lab-scale to ton-scale production.
- **Mineral and biomass processing**: Including pyrometallurgy, hydrometallurgy, and biocarbon production.
- **Ecosystem monitoring**: Remote sensing, water quality, and biodegradation testing.
- **Community engagement**: Working with tribes, local governments, and industry to ensure public acceptance and relevance.

NRI operates three sites in northern Minnesota, including semi-industrial facilities in Duluth and Coleraine, embedded within mining and forest regions.

e. Partnership with NREL

NRI has developed a strong and growing partnership with the National Renewable Energy Laboratory (NREL). The collaboration is built on complementary strengths:

- **NREL**: Energy systems, grid modeling, AI/ML, and materials science.
- **NRI**: Natural resource processing, industrial scale-up, and regional engagement.

Key features of the partnership include:

- Joint appointments and integrated research teams.
- Five NREL personnel stationed in Minnesota.
- Over $20 million in collaborative awards in the past year.
- Cross-sector collaboration with academia, industry, and other national labs.

f. Midwest Industrial Transformation Initiative

One major outcome of the NREL-NRI partnership is the **Midwest Industrial Transformation Initiative**, which aims to:

- Modernize legacy industries for global competitiveness.
- Expand energy security and supply.
- Focus initially on **advanced iron and steel**, including green steel and iron for batteries and magnets.
- Integrate critical materials, fuels, carbon products, and geologic hydrogen.
- Explore synergies with data centers as energy consumers and heat sources.

This initiative balances technology development with regional engagement, ensuring that innovation is both technically sound and socially accepted.

g. Partnership with Sandia National Laboratories

UMN's partnership with Sandia is long-standing and multifaceted, focused on four key areas:

1. **Cybersecurity**
2. **Hypersonics**
3. **Microelectronics**
4. **Trail Science**

h. Key Elements of the Partnership

- **Faculty Loan Program**: Enabled by an MOU, allowing two-way exchange of faculty and staff.
- **Student Engagement**: Internships and postdoc opportunities at Sandia.
- **Local Presence**: Approximately 30 Sandia employees are based in the Twin Cities.

- **Active Projects**: Over 10 collaborative research projects across ecology, aerospace engineering, and computer science.

UMN hosts regular events like **Sandia Day**, which in 2024 brought 28 Sandia researchers to campus for lab tours, meetings, and new collaboration development.

i. Benefits to Sandia and UMN

- Access to UMN's advanced research infrastructure.
- Participation in advisory boards (e.g., Sandia's Chris Myers on UMN's Technological Leadership Institute board).
- Talent pipeline through student and postdoc exchanges.
- Access to regional industry (17 Fortune 500 companies in the Twin Cities).
- Strategic location for Midwest expansion.

j. Research Highlights

1. **Hypersonics**:
    - Sandia's legacy in hypersonic flight technology complements UMN's Computational Hypersonics Research Laboratory.
    - UMN's US3D simulation tool is widely used for hypersonic system design.
    - Collaboration focuses on advanced CFD and real-time flight behavior prediction.
2. **Cybersecurity**:
    - Joint work on automated systems understanding, risk quantification, and emulation/virtualization (emulitics).
    - Applications range from national infrastructure to university systems.
    - Expansion into medical devices, supply chains, and state-level cybersecurity initiatives.

k. Key Points from the Presentation

- **UMN Research Strengths**:
    - $1.4B in annual research expenditures.
    - Top-ranked in interdisciplinary science and several STEM fields.
- **NRI Capabilities**:
    - Industrial-scale process development.
    - Biomass and mineral processing.
    - Ecosystem monitoring and biodegradation testing.
- **NREL Partnership**:
    - $20M+ in collaborative awards.
    - Joint appointments and integrated teams.
    - Midwest Industrial Transformation Initiative.
- **Sandia Partnership**:
    - Focus areas: cybersecurity, hypersonics, microelectronics, trail science.
    - 30 Sandia staff in Twin Cities.
    - 10+ active research projects.
    - Faculty loan program and student internships.
- **Strategic Benefits**:

    - Access to infrastructure, talent, and industry.
    - Regional expansion opportunities for national labs.
    - Strong community and tribal engagement.
- **Research Impact**:
    - Hypersonic simulation tools and CFD.
    - Cybersecurity risk modeling and emulation.
    - Expansion into medical and supply chain security.

7. **University Partnerships with the National Institute of Standards and Technology -** Kristan Corwin, Chief of the Applied Physics Division, Physical Measurement Laboratory, National Institute of Standards and Technology

Dr. Corwin's presentation provided a comprehensive overview of the National Institute of Standards and Technology (NIST), its mission, history, technical priorities, and the many ways it partners with academic institutions. As the United States' National Metrology Institute (NMI), NIST plays a critical role in ensuring accurate and trusted measurements that underpin commerce, innovation, and national security.

a. NIST's Mission and Historical Context

NIST's mission is to enhance economic security and improve quality of life through measurement science, standards, and technology. It is responsible for disseminating the units of measurement—kilogram, meter, second, ampere, etc.—and has played a pivotal role in redefining these units using modern scientific methods. For example, the kilogram was redefined in 2019 using the Kibble balance, eliminating reliance on physical artifacts.

NIST's roots trace back to the U.S. Constitution, which grants Congress the authority to fix standards of weights and measures. The agency evolved from the Office of Weights and Measures (established in 1824) to the National Bureau of Standards (NBS) in 1901, and finally to NIST in 1988, reflecting its expanded mission in technology and innovation.

A notable moment in NIST's history was the defense of scientific integrity by former director Alan Astin, who refused to override scientific findings under political pressure. His stance, supported by hundreds of scientists and the American Physical Society, became a defining moment in NIST's culture of scientific independence.

b. Structure and Capabilities

NIST employs approximately 3,400 federal staff and 3,500 associates, including graduate students, postdocs, and visiting scientists—many of whom come through university partnerships. The agency operates across two main campuses: Gaithersburg, Maryland, and Boulder, Colorado, with additional collaborative institutes.

NIST is organized into several laboratories, including:

- **Physical Measurement Laboratory (PML)** – where Dr. Corwin works.
- **Materials Measurement Laboratory (MML)**
- **Engineering, Information Technology, and Communications Technology Labs**
- **Center for Neutron Research**, which includes a nuclear reactor for advanced materials research.

PML alone conducts over 13,000 calibrations annually and operates two nanofabrication facilities. The Gaithersburg facility is a user-access model, while the Boulder facility is a captured facility used by NIST scientists and direct collaborators.

c. Technical Priorities and National Relevance

NIST's research aligns with national priorities and emerging technologies, including:

- **Artificial Intelligence (AI)**: Trustworthy AI and neuromorphic hardware.
- **Biotechnology**: Including biomanufacturing.

- **Cybersecurity and Privacy**: Especially post-quantum cryptography.
- **Next-Generation Communications**: Ensuring interoperability for emergency services.
- **Semiconductors**: Including high-bandgap materials and integrated photonics.
- **Quantum Technologies**: NIST has long been a leader in quantum science, contributing to the National Quantum Initiative (NQI) and pioneering work in atomic, molecular, and optical physics.

d. Academic Partnerships and Collaboration Models

NIST collaborates with universities in a variety of ways:

1. **Joint Institutes**:
    - **JILA** (University of Colorado Boulder) and **JQI** (University of Maryland) are long-standing public-private partnerships that have produced Nobel laureates and cutting-edge research.
    - These institutes host hundreds of students and postdocs and serve as engines of innovation in quantum science.
2. **Grants and Funding**:
    - **Precision Measurement Grants** (~$50K) support novel measurement techniques.
    - **Measurement Science and Engineering (MSE) Grants** are larger and mission-driven, though not funded from a dedicated pool—divisions must allocate operational funds.
3. **Collaborative Research**:
    - Joint proposals between NIST scientists and university faculty are common.
    - Students and postdocs may work at NIST through the Visiting Scholars Program or Cooperative Research and Development Agreements (CRADAs), which allow shared resources and responsibilities.
4. **PREP Program**:
    - The Professional Research Experience Program (PREP) is a key mechanism for bringing students and postdocs to NIST.
    - Partner institutions (e.g., University of Colorado Boulder) hire participants who then work at NIST.
    - The program is open to foreign nationals and spans all academic levels.
5. **STEM Education and Workforce Development**:
    - **SURF** (Summer Undergraduate Research Fellowship) is similar to NSF REUs.
    - **Postdoc and Graduate Fellowships** provide early-career research opportunities.
    - **NRC Postdocs** are prestigious two-year federal positions.
    - **Visiting Scientist Agreements** allow unpaid academic collaborations.
    - **Faculty Sabbaticals** and **Pathways Programs** (currently paused due to a federal hiring freeze) offer additional engagement routes.
6. **Technology Transfer and Commercialization**:
    - NIST supports commercialization through CRADAs and streamlined IP agreements.
    - Universities can spin out companies based on joint research and patents.

e. Success Story: Optical Frequency Comb

Dr. Corwin highlighted the development and commercialization of the **optical frequency comb** as a model success story:

- Invented by Nobel laureate Jan Hall at JILA/NIST.
- Advanced by NIST scientists and former NRC postdocs.
- Jointly developed with the University of Colorado and commercialized through **LongPath Technologies**.
- The technology enables precise methane detection and has been deployed at over 500 facilities, removing 40 million cubic feet of methane per system annually.
- LongPath received a $162 million DOE loan to expand nationwide.

This story illustrates the full arc of innovation—from basic research to commercialization—enabled by sustained academic partnerships, joint grants, shared IP, and federal support.

f. Key Points from the Presentation

- **NIST's Core Mission**:
  - U.S. National Metrology Institute.
  - Ensures trusted measurements and supports economic security.
- **Historical Legacy**:
  - Founded in 1901; renamed NIST in 1988.
  - Strong culture of scientific integrity.
- **Organizational Structure**:
  - 6,900+ staff and associates.
  - Major campuses in Maryland and Colorado.
  - Advanced facilities including nanofabs and a neutron reactor.
- **Research Priorities**:
  - AI, quantum tech, semiconductors, cybersecurity, biotech, and communications.
- **Academic Engagement Models**:
  - Joint institutes (e.g., JILA, JQI).
  - Grants (Precision Measurement, MSE).
  - CRADAs and joint proposals.
  - PREP program for students and postdocs.
  - Visiting scientists, sabbaticals, and internships.
- **STEM Pipeline Development**:
  - SURF, postdoc, graduate fellowships, NRC postdocs.
  - Pathways and faculty engagement (pending hiring freeze resolution).
- **Commercialization Success**:
  - Optical frequency comb → LongPath Technologies.
  - Joint IP, CRADA, and DOE funding enabled rapid scale-up.
- **Call to Action**:
  - NIST welcomes new academic partnerships.
  - Opportunities exist across disciplines and career stages.

Forum's Major Takeaways

The 2025 Forum clearly reflected momentum from the 2020 URA Roundtable, showing how the community has moved from strategic advice to practical action. Discussions indicated that structured, scalable partnership models, rooted in shared priorities and transparent governance, are now taking hold across the university and national laboratory system.

Participants highlighted a national move toward intentional, institution-level collaboration. Co-funded initiatives, embedded partnership roles, shared infrastructure, and data-driven performance metrics are increasingly key to maintaining lasting impact and aligning efforts with broader national science and technology needs.

Workforce development remained a central theme across all presentations. Expanding pathways from K–12 through postdoctoral training, strengthening diversity and inclusion, and connecting students to mission-driven environments were seen as essential to maintaining U.S. scientific leadership. These efforts echo and extend the 2020 Roundtable's call for more accessible, experiential, and cross-sector training opportunities.

The forum emphasized that durable partnerships are built on trust, transparency, and a shared purpose. Presenters also addressed the growing reliance on data-informed strategy, the importance of cultural fluency between institutions, and the need for equitable access to facilities and opportunities. Building on the 2020 URA Roundtable's vision, universities and national laboratories are embracing deeper integration, stronger accountability, and a shared commitment to creating a more resilient, innovative, and inclusive research ecosystem poised to meet the scientific challenges of the coming decade.

Appendix: Agenda

URA Research Policy Forum on University–National Laboratory Partnerships

Wednesday, September 17, 2025; 11:00 am – 2:30 pm EDT
via Zoom

Agenda

11:00-11:05am	**Welcome and Goals** *Claudette Rosado-Reyes, Director for Programs and Partnerships, URA*
11:05-11:40am	**Fermilab – University Partnerships** *Douglas Glenzinski, Deputy Chief Research Office,* *Fermi National Accelerator Laboratory*
11:40-12:15pm	**SNL's Academic Programs and the Sandia University Partnership Network** *Jim Redmond, Senior Manager, Academic Programs* *Sandia National Laboratories*
12:15-12:35pm	**University–National Laboratory Partnerships: Perspectives from UT Austin** *Jennifer Lyon Gardner, Deputy Vice President for Research* *University of Texas at Austin*
12:35-12:55pm	**University–National Laboratory Partnerships: Perspectives from the University of Oregon** *Ben McMorran, Federal Lab Partnership Coordinator* *University of Oregon*
12:55-1:30pm	**The University of Tennessee - Oak Ridge Innovation Institute** *David Sholl, Executive Director and Vice Provost, University of Tennessee - Oak Ridge Innovation Institute*
1:30-1:50pm	**University-National Laboratory Partnerships: Perspectives from the University of Minnesota** *Shashank Priya, Vice President for Research and Innovation and Rolf Weberg, Executive Director, Natural Resources Research Institute,* *University of Minnesota*
1:50-2:25pm	**University Partnerships with the National Institute of Standards and Technology** *Kristan Corwin, Chief of the Applied Physics Division, Physical Measurement Laboratory, National Institute of Standards and Technology*
2:25-2:30pm	**Outlook and closing** *David Shultz, Director of URA-SNL Site Office, URA*