NATIONAL ACADEMIES Sciences Engineering Medicine

Assessing Research Security Efforts in Higher Education

A Meeting of Experts

National Academy of Sciences Building
Room 125
2101 Constitution Avenue, NW
Washington, DC 20418

September 16-17, 2024

AGENDA

Monday, September 16, 2024

8:30 am *	**Breakfast Available**

9:00 am	**Welcome, Introductions, Purpose of Meeting**

Steven Kendall, Project Director and Senior Program Officer, Policy and Global Affairs Division, National Academies of Sciences, Engineering, and Medicine

Tom Wang, Senior Director, U.S. Science and Innovation Policy, Policy and Global Affairs Division, National Academies of Sciences, Engineering, and Medicine

Kristopher E. Gardner, Director for Science and Technology Protection, Office of Science and Technology Program Protection (S&TPP), Office of the Under Secretary of Defense for Research and Engineering, U.S. Department of Defense

9:15 am	**Research Security Defined**

Framing and Questions:

The NSPM-33 implementation guidance[1] defines research security as "safeguarding the research enterprise against the misappropriation of research and development to the detriment of national or economic security, related violations of research integrity, and foreign government interference."

Given this definition (and considering the types of research security policies and requirements currently in place), when thinking about achieving research security goals:

- How should we think about effectiveness?
- How should we think about the impacts of research security policies and requirements on the U.S. research and innovation ecosystem?
- What *isn't* being considered when we think about research security (where are the holes)?

Speaker:

Kelvin K. Droegemeier, Professor of Atmospheric Science and Special Advisor to the Chancellor for Science and Policy, University of Illinois at Urbana-Champaign *(virtual)*

9:45 am	**Break**

10:00 am	**Ensuring Research Security While Advancing the Progress of Science, Engineering, and Medicine – Perspectives from Federal Funding Agencies**

Scope:

Taking the NSPM-33 implementation guidance definition of research security as our default, *consider what successful research security looks like* (bearing in mind that the *impact* of research security policies and requirements is different than the *effectiveness* of research security policies and requirements).

Questions:

- What can we do/should we be doing to achieve the goals of research security policies and requirements?
- What is your current thinking regarding measurements of the success (or effectiveness) of our research security efforts?
- Beyond policies and requirements, are other mechanisms needed to reach research security goals?
- Are there systemic or unintentional impacts of research security policies that affect the research and innovation ecosystem (e.g., creative ideas that are not being developed?)
- Are we able to distinguish between the *impacts* of research security policies and requirements and the *effectiveness* of research security policies and requirements?
- When making decisions about which research to fund, how does your agency look at risk?

[1] Joint Committee on the Research Environment Subcommittee on Research Security, *Guidance for Implementing National Security Presidential Memorandum 33 (NSPM-33) on National Security Strategy for United States Government-Supported Research and Development*, January 2022, p. 24.

- How does your agency use information collected on research security efforts?
- How are research security policies and requirements affecting the type of research proposals being put forward to your agency?
- What are your expectations regarding the establishment and operation of research security programs outlined in the OSTP *Guidelines for Research Security Programs at Covered Institutions*?[2]

Facilitator:

Steven Kendall, National Academies of Sciences, Engineering, and Medicine

Discussants:

Sara Barber, Science Policy Advisor, Office of the Chief of Research Security Strategy and Policy, National Science Foundation
Jeremy Ison, Senior Advisor for Research Security, Office of Science, U.S. Department of Energy
Michael Lauer, Deputy Director for Extramural Research, National Institutes of Health
Bindu Nair, Director of Basic Research, U.S. Department of Defense

12:00 pm	**Lunch**

1:00 pm	**Institutions of Higher Education: Impacts of Research Security Policies and Requirements on the U.S. Open Research Ecosystem**

Scope:

Consider:

1. the impacts if we *do not* address research security; and
2. the overall impact of research security policies and requirements on an open research ecosystem.

Questions:

- What performance indicators should we pay attention to when measuring the health of the (open) research ecosystem? [These might include entrance rates, startups, patents, publications, impacts on university operations (e.g., "chilling effect" on research), effect of agency denial of a research grant, etc.]
- What are the indicators that the (open) research ecosystem is out of balance?
- How is the research security "overlay" affecting the health of the (open) research ecosystem?
- What are the current (and expected) types of impacts of research security policies and requirements on research and education in higher education institutions?

[2] White House Office of Science and Technology Policy, *Guidelines for Research Security Programs at Covered Institutions*, July 9, 2024.

- How does the impact of research security policies and requirements vary across fields/types of research?

Facilitator:

Tom Wang, National Academies of Sciences, Engineering, and Medicine

Discussants:

Deborah Altenburg, Vice President for Research Policy and Advocacy, Association of Public and Land Grant Universities (APLU)
Toby Smith, Vice President for Policy, Association of American Universities (AAU)
Sarah Spreitzer, Vice President and Chief of Staff, Government Relations, American Council on Education (ACE)
Kevin Wozniak, Director of Research Security and Intellectual Property, Council on Governmental Relations (COGR)

3:00 pm	**Break**

3:15 pm	**The Impacts of Implementing Research Security Policies in Academia**

Scope:

Consider:

1. the challenges of complying with research security policies; and
2. requirements and the capacity of research institutions to comply.

Questions:

- How are academic institutions "doing research security"?
- How are institutions handling the process requirements of research security policies?
- What is being lost when research security policies and requirements are implemented?
- How are research security policies and requirements affecting the type of research proposals being put forward to funding agencies (e.g., numbers of proposals, types of collaboration, choices of co-PIs, etc.)?
- How innovative is the research coming out of academia? How much is fundamental research and how much is "follow-on" science? What creative ideas are not being developed?

Facilitator:

Steven Kendall, National Academies of Sciences, Engineering, and Medicine

Discussants:

Chaouki Abdallah, Professor of Electrical and Computer Engineering, Georgia Institute of Technology

Holly Bante, Associate Vice President, Research Security and Ethics, University of Cincinnati
Dan Engebretson, Vice President for Research and Sponsored Programs, University of South Dakota
Kevin Gamache, Chief Research Security Officer, Texas A&M University System / Academic Security and Counter-Exploitation Program (ASCE)
Mark Haselkorn, Professor of Human Centered Design & Engineering, University of Washington *(virtual)*
Michele Masucci, Vice Chancellor for Research and Economic Development, University System of Maryland
Sonya T. Smith, Executive Director, Research Institute for Tactical Autonomy (RITA), Howard University

5:15 pm	**Adjourn**

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Tuesday, September 17, 2024

8:30 am *	**Breakfast Available**

9:00 am	**Welcome and Summary of Day 1**

Speakers:

National Academies Staff

9:15 am	**Research Security, Economic Security, and National Security**

Scope:

National security, economic security, and research security have become increasingly interlinked:

"Definitions of national security have an important economic dimension and the economy cannot be easily separated from National Security. The relationship between the national security and economic spheres is complex and characterized by many close interconnections and feedback loops."

RAND[3]

[3] Lucia Retter, Erik Frinking, Stijn Hoorens, Alice Lynch, Fook Nederveen, and William Phillips, *Relationships*

"Gaining and maintaining leadership in technology and innovation is set to be a key feature of global competition throughout the twenty-first century. With today's intermingling of economic competitiveness and defense, staying ahead of the technology curve is a cornerstone of national security. The United States, to further its geopolitical interests and maintain a strong domestic economy, must approach every aspect of economic and trade policy through the lens of global technology competition."

Center for Strategic and International Studies[4]

"U.S. leadership in technology innovation is central to the nation's interests, including its security, economic prosperity, and quality of life…Research, training, and teaching conducted in an open environment benefit the United States because they attract research talent, foster creative and innovative conditions for discovery, and speed the development of new ideas and technologies. At the same time, conducting this work in an open environment poses a risk that knowledge, know-how, or results may flow to adversaries as a result of the movement of either information or people."

National Academies of Sciences, Engineering, and Medicine[5]

"Economic security is national security. America is safer when important technology and essential products are produced domestically. Today, our nation's economic prosperity and security are challenged by competitors and adversaries that engage in illegal trade practices, steal intellectual property (IP), and engage in cybercrime."

U.S. Department of Commerce[6]

Consider:

1. the role of research institutions in the innovation ecosystem; and
2. the implications of the national security and economic security interests on the practice of research and on research outputs.

Questions:

- What do we know about the effectiveness and impacts of research security policies and requirements on economic and national security?
- What effects are research security policies and requirements having on innovation?
- How innovative is the research coming out of government and academia? How much is fundamental research and how much is "follow-on" science? What creative ideas are not being developed?

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between the Economy and National Security Analysis and Considerations for Economic Security Policy in the Netherlands, RAND, 2020, p. 94, https://www.rand.org/content/dam/rand/pubs/research_reports/RR4200/RR4287/RAND_RR4287.pdf/.

[4] Thibault Denamiel, Taylar Rajic, William Alan Reinsch, James Andrew Lewis, and Julia Brock, *Beyond Economics: How U.S. Policies Can Undermine National Security Goals*, Center for Strategic and International Studies, May 2024, p. 1, https://csis-website-prod.s3.amazonaws.com/s3fs-public/2024-05/240503_Reinsch_Beyond_Economics_0.pdf?VersionId=_nEz_mgcpHO5ZQMBpzKGuMLSG7uzxfrP.

[5] National Academies of Sciences, Engineering, and Medicine, *Protecting U.S. Technological Advantage*, Washington, DC: The National Academies Press, 2022, p. 1, https://doi.org/10.17226/26647.

[6] U.S. Department of Commerce, Strengthen U.S. Economic and National Security, https://2017-2021.commerce.gov/about/strategic-plan/strengthen-us-economic-and-national-security.html.

Facilitator:

Tom Wang, National Academies of Sciences, Engineering, and Medicine

Discussants:

Patrick Gallagher, Professor, Department of Physics and Astronomy, University of Pittsburgh *(virtual)*
Benjamin F. Jones, Gordon and Llura Gund Family Professor of Entrepreneurship and Professor of Strategy, Northwestern University
Nayantara Hensel, Chief Economist and Senior Advisor, Seaborne Defense *(virtual)*
Caroline Wagner, Professor, John Glenn College of Public Affairs, Ohio State University *(virtual)*
Priscilla Yeon-Vogelheim, Supervisory Intelligence Analyst, Federal Bureau of Investigation

11:15 am	**Break**

11:30 am	**Meeting Takeaways and Next Steps**

Facilitator:

Steven Kendall, National Academies of Sciences, Engineering, and Medicine

Questions:

- What impacts of research security policies and requirements are measurable (or need to be measured)?
- How do we measure them?

Discussants:

Meeting of Experts Participants

12:30 pm	**Adjourn (Boxed Lunches Available)**

***All times U.S. Eastern**