

URA Research Policy Forum International Research Partnerships

September 18, 2024, via teleconference*
11 am – 2:30 pm EDT

Speakers:

Linda Horton, Associate Director (Acting), Office of Nuclear Physics, Office of Science, U.S. Department of Energy

Charlotte Lindberg Warakaulle, Director for International Relations, European Organization for Nuclear Research (CERN)

Christin Kjelland, Senior Advisor, Office of Science and Technology Cooperation, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State

Quinton Johnson, Assistant Vice Chancellor for Research Compliance, University of North Carolina at Chapel Hill

Gregory Strouse, Senior Advisor to the Associate Director for Laboratory Programs and Research Security Director, National Institute of Standards and Technology

Michael Moloney, Chief Executive Officer, American Institute of Physics

Panelists:

Chaouki Abdallah, President, Lebanese American University, former Vice President for Research, Georgia Institute of Technology

Cole Donovan, International Affairs Specialist, Office of Space Commerce, National Oceanic and Atmospheric Administration, formerly Assistant Director for Research Security and Infrastructure, White House Office of Science and Technology Policy (OSTP)

Jessica Robin, Deputy Office Head, Office of International Science and Engineering, National Science Foundation

* See the agenda appended at the end of the summary report.

Introduction

This report summarizes the results of a **Policy Forum on International Research Partnerships** held by Universities Research Association, Inc. (URA) on September 18, 2024. The forum brought together 50+ participants from universities, government officials, leading research institutions, and policymakers. The goal of the forum was to hear about ongoing efforts and programs to build mutually beneficial multilateral alliances to advance global research programs, which are critical for addressing global challenges such as climate change, energy security, biodiversity decline, economic growth, and sustainability.

In his welcoming remarks, John Mester, the President and CEO of URA, emphasized the need for international research collaborations, citing that no single nation can address global challenges alone. He highlighted that global cooperation enables the sharing of infrastructure, resources, expertise, and talent, ultimately fostering large-scale, transdisciplinary work.

Global Challenges and the Importance of International Collaboration

The invited speakers underscored the strategic importance of international research. Global collaborations are vital for scientific advancement and for fostering economic growth, national security, and democracy. These collaborations are facilitated and formalized through umbrella agreements to

ensure research can be conducted across borders and benefit from access to global research facilities, data, and expertise. Science was highlighted as a mechanism to foster diplomatic relations (science for diplomacy) and support scientific progress through diplomatic means (diplomacy for science). The U.S. government, for example, prioritizes international scientific cooperation in legislation designed to invest in research and development, science and technology, and the workforce of the future as means to strengthen national security.

Challenges and Opportunities in International Research

The forum highlighted the efforts of national governments, research institutions, and scientific societies to communicate and uphold standards of responsible research conduct under the shared goal of building a framework that supports international partnerships while safeguarding intellectual property rights and national security.

Despite the benefits, significant challenges in international collaborations persist due to geopolitical tensions, differences in research regulations, cultural preferences, and security concerns. The American Institute for Physics CEO, for example, highlighted the balance researchers must strike between maintaining open scientific cooperation and addressing national security issues. This is becoming increasingly complex due to divergent global policies on data sharing and intellectual property. One of the main goals of research security is to ensure that researchers maintain control over their innovations before publication. While science thrives on collaboration, it must be protected from exploitation in today's increasingly complex global landscape. Administrative frameworks like National Security Presidential Memorandum-33 (NSPM-33) provide valuable insights into how research institutions can navigate these challenges and put policies in place that safeguard research. The current NIST framework, which aligns with legislative initiatives, showed how the institution has adapted to the growing need for structured research security processes.

Key Principles and Values for International Cooperation

The core principles that guide successful international cooperation—integrity, transparency, and reciprocity—were reiterated, with a call for policies that remove unnecessary barriers, particularly in areas like travel and visa restrictions for early career scientists.

Integrity: Scientists are expected to adhere to professional values and principles that ensure a fair, open, and trusted research environment for maintaining the credibility and impact of scientific work across borders.

Transparency: Open science relies on transparency among all partners, including disclosure of funding sources, the individuals and organizations involved, and any requirements for information sharing among collaborators and governments.

Reciprocity: International collaboration should be a mutually beneficial process where all parties—whether individuals or institutions—share knowledge, resources, and access to research facilities.

International Cooperation Framework and Mechanisms

Linda Horton (DOE) underscored international collaboration's role in advancing the DOE Office of Science's (SC) mission and global reach, particularly in the fusion energy sciences, and nuclear and high-energy physics fields, with facilities attracting researchers worldwide to drive innovation. Collaborative agreements are a cornerstone of these engagements. SC supports numerous types of collaboration, with mechanisms ranging from informal partnerships, including Memoranda of Understanding, to formal legally

binding agreements. These collaborations can range from government-to-government agreements to more flexible lab-to-lab partnerships, with each level having distinct procedural requirements and challenges.

Establishing formal collaborations can be time consuming, with some agreements taking years to finalize. The process can involve navigating administrative priorities, obtaining community engagement, and ensuring mutual respect for intellectual property and scientific openness. In light of research security, while collaborations are pursued worldwide, engagement with certain countries may require additional oversight.

The Electron-Ion Collider (EIC) project was used as an example of a major global enterprise that relies heavily on international expertise and funding. The EIC, to be located at Brookhaven National Laboratory, involves over 1,500 collaborators from 40 countries. The international contributions, both intellectual and financial, are essential to the project's success.

As described by Charlotte Lindberg Warakaulle, CERN's unique model, born from a post-World War II need for peaceful scientific cooperation, also serves as a framework for global scientific advancement. CERN operates through large international partnerships, with over 17,000 users from more than 110 nations. These collaborations are underpinned by light, non-legally binding agreements like memoranda of understanding, emphasizing consensus and shared goals. The U.S.-CERN relationship, while non-membership based, exemplifies how different nations can contribute significantly to shared goals. The U.S. is the largest single non-member contributor to CERN's research, with over 600 universities engaged. CERN's Future Circular Collider (FCC) project, the proposed successor to the LHC, signals that the organization is poised to continue its leadership in physics, but this can only happen through sustained and expanded international efforts. The project is currently undergoing feasibility studies, and collaboration with the U.S. will be vital.

Research Compliance in the International Context

Compliance can be a major research facilitator when addressed early and with adequate resources, particularly in the international arena. Quinton Johnson from UNC shared a case study as an example of a forward-thinking approach to show how compliance can streamline project implementation and execution and avoid delays when addressed early and systematically. International research can quickly become complex when key regulations such as export controls, trade sanctions, biosecurity laws, and the Foreign Corrupt Practices Act (FCPA) are involved. UNC's approach also includes a centralized data security framework and a three-tier data management system based on sensitivity and complex foreign data-sharing requirements. Universities must proactively plan for risk management and create systems that support researchers, allowing them to focus on their work when managing global research projects. Institutional partnerships and cross-department collaborations are critical for fulfilling such compliance goals effectively.

Panel

The panel discussion revolved around key challenges and strategies in fostering international research partnerships, with a focus on sustainability and alignment with institutional goals.

Key Takeaways:

- Continuous adaptation, transparency, and coordination among agencies, universities, and international partners are needed to navigate challenges effectively, mostly arising from evolving geopolitical dynamics and regulatory hurdles.

- National security concerns need to be balanced with the inherently open nature of academic research by compartmentalizing research to protect intellectual property, particularly in fields like artificial intelligence and quantum computing.
- Sustainable partnerships should be built on shared values and mutual benefits. They must align with institutional missions and have the financial and administrative support to thrive.
- The tension between investigator-driven research and institution-level strategic partnerships was addressed. Many successful large-scale projects, such as the Deep Underground Neutrino Experiment (DUNE), began as investigator-driven initiatives but eventually required institutional and governmental support to scale. These partnerships are facilitated through mechanisms like lead agency agreements, which streamline the process for researchers by coordinating funding and review processes between countries.
- Individual researchers are encouraged to initiate collaborations independently, by leveraging existing agreements between institutions and relying on institutional support when scaling the partnerships. The panelists acknowledged the government's efforts to simplify collaboration processes, particularly with Lead Agency Agreements, which allow joint proposals and reviews between U.S. and international researchers.

Conclusion

The forum concluded with calls to action for continued international cooperation. Participants expressed hope that the discussions would foster new collaborations and lead to policies that better support scientific partnerships worldwide. John Mester reiterated that international collaborations are crucial for addressing the complex, global challenges we face today, and such efforts require the participation of universities, research institutions, governments, and individual scientists.

URA Research Policy Forum: International Research Partnerships

Wednesday, September 18, 2024; 11:00 am – 2:30 pm EDT

- AGENDA -

- 11:00-11:05 am **Welcome, Goals for this Research Policy Forum**
John C. Mester, President and CEO, URA
- 11:05-11:30 am **Benefits and Challenges of International Research Partnerships**
Linda Horton, Associate Director (Acting)-Office of Nuclear Physics, Associate Deputy Director for Science Programs-Office of Science, U.S. Department of Energy
- 11:30 am-11:55 pm **Experiences, Successes, and Lessons Learned in International Collaboration or Partnerships, Perspectives from a World-Class Intergovernmental Research Organization**
Charlotte Lindberg Warakaulle, Director for International Relations, European Organization for Nuclear Research (CERN)
- 11:55-12:20 pm **Fostering Mutually Beneficial International Research, Development, and Innovation Partnerships**
Christin Kjelland, Senior Advisor, Office of Science and Technology Cooperation, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State
- 12:20-12:45 pm **Experiences, Successes, and Lessons Learned in International Collaboration or Partnerships, a Senior Research Officer's Perspective**
Quinton Johnson, Assistant Vice Chancellor for Research Compliance, University of North Carolina at Chapel Hill
- 12:45-1:00 pm **Break**
- 1:00-1:45 pm **Panel – Shared Experiences, Perspectives on International Partnerships and Collaboration**
Jessica Robin, Deputy Office Head, Office of International Science and Engineering, National Science Foundation
Chaouki Abdallah, President, Lebanese American University
Cole Donovan, International Affairs Specialist, Office of Space Commerce, National Oceanic and Atmospheric Administration
Moderator: Claudette Rosado-Reyes, Director for Programs & Partnerships, URA
- 1:45-2:05 pm **Safeguarding International Science: Research Security Framework**
Gregory Strouse, Senior Advisor to the Associate Director for Laboratory Programs and Research Security Director, National Institute of Standards and Technology
- 2:05-2:30 pm **Principles and Policies for International Scientific Collaboration**
Michael Moloney, Chief Executive Officer, American Institute of Physics
- 2:30 pm **Outlook and Closing**
Ted Wackler, Vice President, URA