

URA Research Policy Forum
Multi-Institutional Collaborations and Partnerships

May 15, 2024, via teleconference*
11 am – 3 pm EDT

Speakers:

Alicia J. Knoedler, Head, Office of Integrative Activities, National Science Foundation

Luiz DaSilva, Executive Director, Commonwealth Cyber Initiative, Virginia Polytechnic Institute and State University

Peter Dorhout, Vice President for Research, Iowa State University

Kei Koizumi, Principal Deputy Director for Policy, White House Office of Science and Technology Policy

Panelists:

Jenifer Shafer, Associate Director for Technology, U.S. Department of Energy ARPA-E

Matthew Hulver, Vice President, Knowledge Enterprise Initiatives, Arizona State University

Giovanni Piedimonte, Vice President for Research, Tulane University

Jagadeesh Pamulapati, Director, Laboratories and Personnel Office, Under Secretary of Defense for Research and Engineering

* See the agenda appended at the end of the summary report. The summary of comments follows the order of speakers and panelists.

Introduction and Overview

The new series of URA Research Policy Forums opened on May 15, 2024, with the ‘Multi-Institutional Collaborations and Partnerships’ forum. The virtually hosted meeting served the following purposes: 1) gauge the value and importance of multi-institutional collaborations and partnerships; 2) better understand processes for creating and supporting them; and 3) illuminate the challenges and barriers to succeeding with them. Over 53 individuals representing 42 URA national and international member universities and government agencies attended the meeting. In the morning session, the invited speakers acknowledged challenges for the national research community and shared experiences, lessons learned, and success stories in establishing multi-institutional partnerships. The afternoon session focused on the government agency and university views moderated by a panel discussion. URA staff updated the audience on our pilot service to facilitate multi-institutional proposals and summarized the pre-forum survey findings. The participants also learned about federal funding trends and tools to navigate the multi-institutional research landscape. A Question-and-Answer-session followed all presentations and discussions.

This Research Policy Forum is the first in a new series organized as part of the URA Opportunities Network for Research and Research Policy (OptNet). Research Policy Forums offer a unique platform designed to connect our university community to stakeholders in a collaborative environment and to

facilitate the exchange of information, promote evidence-based ideas, and drive informed decision-making to bridge the gap between research and policy.

Forum Summary

The meeting opened with a discussion on the complexities of building and sustaining collaborations and how to navigate and optimize team dynamics and project management in diverse research environments. The concepts of 'temporal diversity' and 'intersectionality' were introduced as critical aspects of team collaboration. Both encompass multifaceted social identities, illustrating how different experiences and expectations impact collaborative efforts.

Funding agencies like the NSF support the development of '[collaboration management plans](#)' to enhance programs and projects' success, as funding opportunities often assume multi-institutional collaboration. To build and strengthen collaborative teams under such plans, the [International Network for the Science of Team Science](#) was recommended as a resource for developing effective collaboration strategies. Additional shared strategies for successful collaboration include transparent resource allocation, aligning deliverables with mission goals, and fostering inclusive engagement. This overall understanding is vital for creating a supportive and productive research environment and fostering inclusive and effective teams. As an example, The CHIPS and Science Act requires that NSF establish a five-year pilot program for awards to research partnerships that involve emerging research institutions and acknowledges the need to identify, foster, and scale up practices that will enhance the likelihood of successful collaborations.

The importance of multi-institutional research projects was discussed in the context of international partnerships for restoring and strengthening science and technology cooperation to address national and global challenges. OSTP has identified several best practices for leveraging science and technology for societal benefit:

- Responsible Use of AI and Emerging Technologies: Ensuring the benefits of AI while minimizing risks.
- Equitable Opportunities in Science and Technology: Promoting inclusivity and accessibility.
- Improving Health Outcomes: Connecting health research to tangible health improvements and outcomes.
- Addressing the Climate Crisis: Coordinated efforts to tackle environmental challenges.
- Economic Competitiveness and Job Creation: Supporting innovation and employment across America.
- Global Security and Stability: Maintaining international leadership through scientific collaboration.
- Strengthening Scientific R&D and Innovation Base: Enhancing the infrastructure for research and development.

Securing consistent funding and support for fundamental science is a clear challenge for implementing these best practices. The need for advocacy and collaboration among the scientific community while harmonizing research security requirements will support the continued investment in research and development and the reduction in administrative burden.

Science policy, legislative support, and innovative approaches to research and development have a critical role in driving progress and fostering a more inclusive, competitive, and collaborative research environment. Policy support for emerging technologies underscores the need for adaptive and responsive strategies in a rapidly evolving research landscape. Legislative initiatives such as the CHIPS and Science Act, for supporting semiconductor manufacturing and fostering regional innovation through multi-institutional partnerships, and the National Artificial Intelligence Research Resource (NAIRR), for democratizing access to AI research capabilities in support of the nation's research and education community and powering responsible AI use, aim to transition research from laboratories to marketplaces, driving innovation and economic growth. Science policy is also a tool for facilitating international collaboration and supporting STEM talent. Policy measures, such as immigration preference for skilled researchers, are a forward-looking strategy to enhance the U.S. research landscape.

Regional partnership initiatives serve as model collaborative efforts demonstrating the importance of building trust, maintaining transparency, and aligning efforts with strategic goals. This was the example of the presentation on the Commonwealth Cyber Initiative that effectively illustrated the power of collaboration in addressing complex challenges by emphasizing the use of metrics to assess the impact and return on investment, an approach that was tailored to different stakeholders' interests. A second example was the creation of the School of Public Health between three universities, the University of Colorado-Denver, Colorado State University, and the University of Northern Colorado. This multi-institutional effort illustrated the importance of strategic leadership, operational coordination, and early faculty engagement in achieving success, relevant to guiding future efforts to build collaborative educational and research programs.

Additional university and agency views were shared during the panel discussion. The panel offered a comprehensive exploration of the complexities involved in multi-institutional partnerships, shared additional experiences, explored solutions, and provided recommendations for maximizing the effectiveness of multi-institutional partnerships. Key topics included partnership initiation, challenges and synergies, funding models, equitable access, and metrics needed for assessing collaboration success.

A set of challenges was highlighted:

- Synergies in complementary technical expertise and resource availability.
- Maintaining awareness of funding opportunities and ensuring the participation of historically underrepresented institutions.
- Need for scalable solutions complementary capabilities, and metrics for assessing impact while leveraging short-term funding.

- Balancing partnerships with for-profit entities and ensuring that academic institutions maintain their mission of unbiased research for societal benefit.

To address these challenges, the following was recommended:

- Successful partnerships often involve diverse stakeholders, each bringing unique capabilities and resources.
- Complementary expertise and infrastructure enhance the potential for impactful outcomes.
- Strategies like extending lead and response times for funding opportunities and seeding initial partnerships can help maintain equitable access, manage resource constraints, and alleviate administrative-associated complexities. Innovative funding models, including co-development with industry and leveraging regional strengths, are essential for addressing large-scale challenges.
- Ensuring equitable access to funding, particularly for historically underrepresented institutions, is critical for fostering diversity and inclusion in research.
- Developing comprehensive metrics supports assessing the impact of collaborations, not only traditional metrics like publications and patents but also broader indicators such as economic impact, workforce development, mission accomplishment, and societal benefits.
- The importance of long-term ROI in addressing societal issues was underscored by the panelists' remarks.
- The panelists also highlighted the delicate balance between academic institutions' missions and the profit-driven motives of industry partners. Ensuring that collaborations align with the core values of academia, such as unbiased research and societal betterment, is essential for maintaining the integrity of academic research.

The future of partnerships will expand to collaborative structures and incorporate multiple types of universities at different research activity levels to perform R&D under consortium models. Agencies have designed innovative ways to get awards and grants on contracts sooner under such partnership agreements. Annual calls for multidisciplinary university initiatives are opened for various topics and basic research areas that allow academic institutions to work together and deliver the work sooner. Agencies are also implementing more of the mentor-protégé approach where program managers support the preparation and review of successful proposals, especially critical for new portfolio performers. The consortia model brings various types of expertise together to solve a challenge.

URA staff captured the value, interest, and current investment in multi-institutional partnerships from our member institutions in a pre-forum survey:

- Over 25 % of academic R&D funding supports multi-institutional partnerships.
- Universities are interested in pursuing partnerships of the following nature: Research Collaborations (100%), Industry (86%), Public-Private (79%), International (79%), Entrepreneurship & Innovation (79%), Education & Training (71%), Partnerships with government agencies and community groups (highlighted as additional comment).

- Institutional goals for multi-institutional partnerships were identified as Research Innovation, Workforce Development, Funding Diversification, Culture Impact.
- Most institutional needs and challenges were centered around lead time to build collaborative relationships, negotiating IP and administrative resources, rewarding partnership activities over individuals, access to funding resources for regional partners including MSIs, and leveraging required sponsorship to enable international collaborations.

Last, URA followed up on the multi-institutional partnerships' proposal facilitation service to members from OptNet. The service benefit will consist of facilitation continuity, from proposal coordination through award execution. URA is a neutral party interested in the success of the national research and education academic community.

Conclusion

URA leadership expressed their appreciation for the opportunity to interact with the group of university and government leaders. Diverse, flexible, and inclusive multi-institutional partnerships are the future and essential to maintaining and strengthening U.S. leadership in advanced technologies.

Agenda

- 11:00-11:05 **Welcome, goals for this Research Policy Forum** - John C. Mester, President and CEO, URA
- 11:05-11:35 ***Acknowledging the challenges for researchers, universities, and the national research community in establishing multi-institutional partnerships*** – Alicia J. Knoedler, Head, Office of Integrative Activities, National Science Foundation
- 11:35-12:05 ***Trends in federal support for multi-institution collaborations and partnerships*** – Kei Koizumi, Principal Deputy Director for Policy, White House Office of Science and Technology Policy (OSTP)
- 12:05-12:25 ***Experiences, successes, and lessons learned creating multi-institution collaborations or partnerships I*** – Luiz DaSilva, Virginia Polytechnic Institute and State University
- 12:25–12:45 ***Experiences, successes, and lessons learned creating multi-institution collaborations or partnerships II*** – Peter Dorhout, Iowa State University
- 12:45-1:00 Break
- 1:00-1:15 ***URA OpNet: A pilot service to help facilitate multi-institutional proposals and grants*** – Dave Schultz, URA
- 1:15-1:30 ***Report on survey of members regarding the types of multi-institutional collaborations and partnerships ongoing and desired*** – Cindy Achat-Mendes, URA
- 1:30-2:30 ***Panel – Shared experiences, perspectives, on multi-institutional partnerships and collaborations*** – moderator Claudette Rosado-Reyes, URA – Jenifer Shafer, DOE ARPA-E, Jagadeesh Pamulapati, DOD, Matthew Hulver, Arizona State University and Giovanni Piedimonte, Tulane University
- 2:30-2:45 **Moderated open discussion among all participants** – Claudette Rosado-Reyes, URA
- 2:45-3:00 **Outlook and closing** – Ted Wackler, Vice President, URA