OSTP Engagement with the Academic Research Enterprise

New committee: National Science and Technology Council (NSTC) Joint Committee on the Research Environment (J-CORE)
• Four subcommittees addressing issues critical to the research ecosystem
• Meetings held on May 6 and July 9, 2019

New position: Assistant Director for Academic Engagement
• Focal point for coordinating and addressing issues that impact the academic research ecosystem
Joint Committee Structure

NSTC Committee on Science

NSTC Committee on S&T Enterprise

Rigor and Integrity in Research

Safe, Inclusive Research Environments (SIRE)

Research Security

Reducing Administrative Burden

Research Environment

CoS/CSTE:
- OSTP
- NSF
- NIH
- NIST
- DOE

Members:
- DoD
- NASA
- NSA
Research Environment Definition

**Research Environment** – Professional research settings including but not limited to laboratories, field sites, institutions, classrooms, conferences and workshops, and any location (physical or virtual) where scholarly colleagues interact.
RIGOR AND INTEGRITY
IN RESEARCH

Members: DHS, DOD, DOE, DOT, FDA, NASA, NIH, NSA, NSF, NIST, SI, State, USDA, USGS
RIGOR AND INTEGRITY SCOPE

- Inherent uncertainty, Misinterpretation
- Research Misconduct
- Incentives for Research Volume Over Rigor
- Workforce Imbalance / Hypercompetition
- Conflicts of Interest
- Open Science
  - Standards & Validation for Materials & Methods
  - Training & Messaging
  - Effective Mechanisms for Peer Review
  - Replication Studies & Dissemination of Negative Results

Replicable, Reproducible, Trustworthy Research
RIGOR AND INTEGRITY SUBCOMITTEE

Establish cross-agency principles and priorities

• Assess current and planned agency efforts, reports and recommendations and stakeholder feedback.
  ○ What are the factors that facilitate research rigor and what actions can be taken to promote positive behaviors?

Principles and priorities that institutions could consider to enhance research quality, reproducibility and replicability

• Develop through a collaborative process

Identification and implementation of mechanisms to incentivize reporting of negative research findings
SAFE AND INCLUSIVE RESEARCH ENVIRONMENTS

Members:
DHS, DOC, DOD, DOE, DOI, DOT, HHS, NASA, NSA, NSF, OMB, SI, State, USDA
SUBCOMMITTEE ON SAFE, INCLUSIVE RESEARCH ENVIRONMENTS (SIRE)

Current State:
• Lack of holistic initiatives to address harassment of all forms for funding agencies
• National Academies’ 2018 report Sexual Harassment of Women, discusses persistence of harassment and difficulty retaining victims in academia
• 20% - 50% of female students & more than 50% of female faculty & staff experienced sexually harassing behavior in academia

Areas to Examine:
• Convene agencies to share best practices, challenges, case studies, and lessons learned
• Work with academia and other external stakeholders to understand policy impacts
This Subcommittee aims to promote safer and more inclusive research environments for:

1. Federally-funded research and Federally funded researchers in **Federal facilities** – including government-owned government-operated facilities (GOGOs), and government-owned contractor-operated facilities (GOCOs) including Federally funded research and development centers (FFRDCs)

2. Federally funded research and Federally funded researchers in U.S.-based and International (a) **Academia** (b) **Non-Profits** and (c) **Industry**

Through engagement with stakeholders, the Subcommittee expects its activities to indirectly promote safer and more inclusive research environments for:

3. **Non-Federally funded** research and non-Federally funded researchers in U.S.-based and International (a) Academia (b) Non-Profits and (c) Industry
SUBCOMMITTEE ON RESEARCH SECURITY

Members:
DHS, DOC-NIST, DOC-PTO, DOC, DOE, DOI, DOJ, DOT, HHS-NIH, HHS-FDA, NASA, NSA, NSC, NSF, ODNI, OMB, State, USDA
SUBCOMMITTEE ON RESEARCH SECURITY

Current State
• Growing concern over foreign exploitation of the U.S. open innovation system
• Agency and institution-specific approaches to managing risk

Areas to Examine
• Coordinated approach and adoption of best practices for risk mitigation
• Consistent and coordinated messaging
• Longer-term strategy for balancing engagement and risk without stifling innovation
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

September 16, 2019
Letter to the United States Research Community

Dear Colleagues,

As a fellow researcher and former university vice president for research, I know firsthand that the openness and internationally collaborative nature of the United States research enterprise has been critical to our success in research, and that this success has underpinned our Nation’s prosperity and security. Indeed, the values we cherish as Americans are the ethos of research itself: unity, the freedom to explore new frontiers, the commitment to openness and transparency through the sharing of methods and results, the ability to debate difficult issues thoughtfully and with civility, and the passion to work with and improve the lives of others. By adhering to these values and operating with due regard to principles of integrity— including reciprocity, openness, and transparency—your work has made America the world leader in science and technology. The Nation is indebted to you.

Yet we must not take our research enterprise or its global leadership position for granted. Over the past several years, some nations have exhibited increasingly sophisticated efforts to exploit, influence, and undermine our research activities and environments. As researchers, we must acknowledge the changing geopolitical and international scientific landscape. United States policies and practices must evolve thoughtfully and appropriately to meet current and future challenges. The success of our research enterprise is dependent on everyone upholding the principles of research.

Some of those recent efforts to exploit America’s research enterprise have come through foreign government-sponsored talent recruitment programs. Historically, researchers at United States institutions could in many cases participate in a talent program and simultaneously receive both foreign and United States government support. Under some circumstances, this may still be acceptable. However, it has become clear that features of some talent programs are unacceptable and inconsistent with our research values and research principles. Breaches of research ethics, both within talent programs and more generally, include the failure to disclose required information such as foreign funding, unapproved parallel foreign laboratories (so-called shadow labs), affiliations and appointments, and conflicting financial interests. Other inappropriate behaviors include conducting undisclosed research for foreign governments or companies on United States agency time or with United States agency funding, diversion of intellectual property or other legal rights, and breaches of contract and confidentiality in or surveillance of the peer-review process.

Ultimately, these inappropriate behaviors, whether or not they arise through participation in a foreign talent program, interfere with the allocation of Federal funding in a fair manner based on merit. As a result, these breaches of research security and integrity position others to reap the benefits of your hard work without bearing the associated risks or making the investments borne by American taxpayers and other funders. These activities ultimately undermine the integrity of the research enterprise and, thus, our economic and national security.

As Director of The White House Office of Science and Technology Policy (OSTP), I see a significant opportunity for the Federal Government, research institutions, private companies, non-profit organizations, and law enforcement to come together to ensure the integrity and security of the American research enterprise in light of increasing threats. Striking the right balance between openness and security, using a risk-based framework, is especially important.

OSTP plays a unique role in this multi-sector activity by virtue of its formal authority to convene all research funding agencies on matters of policy through the National Science and Technology Council (NSTC). Both OSTP and NSTC engage other elements of the research enterprise as well, and I write here to apprise you of the structure and progress of OSTP and NSTC activities.

Specifically, on May 6 of this year, NSTC, which I chair on behalf of President Donald J. Trump, formally established the Joint Committee on the Research Environment (JCORE). This top-priority committee contains four sub-committees: research security (the main topic of this letter), safe and inclusive research environments, research rigor and integrity, and coordinating administrative requirements for research. Each sub-committee consists of approximately two dozen top leaders across numerous Federal science, foreign affairs, and security agencies. These sub-committees collaborate on interrelated issues and are making exceptional progress. Additionally, JCORE is working closely with the Congress, the National Academies of Science, Engineering, and Medicine, private companies, non-profit organizations, and professional associations and societies to inform the work of its four sub-committees.

With respect to research security, JCORE is in the process of producing the following white papers:

- Coordinating outreach and engagement with Federal agencies, academic research institutions, companies, non-governmental organizations, researchers, and students. In order to help relay the nature and scope of the challenges America faces, JCORE is assembling an array of examples in which our research enterprise was exploited or compromised.
- Establishing and coordinating disclosure requirements for participation in the federally-funded research enterprise. Unintended or in a central tenet of research integrity and a key mechanism for ensuring compliance with applicable policies and laws.
- Developing best practices for academic research institutions, in collaboration with academic, professional societies, and other organizations.
- Developing methods for identification, assessment, and management of risk in the research enterprise.

During the next few months, OSTP will be holding meetings at academic institutions across the Nation to converse with researchers and students on matters of research security and other topics within JCORE. I hope you will join us in these discussions. Working together, we will ensure that our research environments are safe and inclusive, operate with maximum integrity, protect our research assets in a manner balanced with the openness and international collaboration that have been so critical to our success; and do not undermine researchers, agencies, or institutions with unnecessary administrative work. In doing so, we will ensure America continues to lead the world in science and technology. I look forward to working with you on these important issues!

Sincerely,

Kevin E. Droegemeier
Director
Coordinating Administrative Requirements for Research

Members:
DHS, NIST, NOAA, DOD, DOE, DoED, DOT, EPA, NIH, NASA, NSA, NSF, OMB, USDA, and FDA
Reducing Administrative workload

• Section 201 of the 2017 American Innovation and Competitiveness Act (AICA) directed OMB, in coordination with OSTP, to establish an interagency working group to reduce administrative burdens on federally funded researchers.

• RBM reconvened to execute the Working Group responsibilities. Report submitted to Congress in May 2018.
Reducing Administrative Workload: Current Efforts

Financial Conflict of Interest

American Innovation and Competitiveness Act of 2017: “Post-award administrative costs have increased as Federal research agencies have continued to impose agency-unique...requirements”

21st Century Cures Act – Section 2034 – Reducing Administrative Burden for Researchers:
“...review by research funding agencies of all regulations and policies related to the disclosure of financial conflicts of interest, including the minimum threshold for reporting financial conflicts of interest;”  “make revisions, as appropriate, to harmonize existing policies and reduce administrative burden...”

• Assess variations across federal agencies
• Assess the 2011 revisions to the PHS FCOI regulations
Reducing Administrative Workload: Current Efforts

Grant Application Process

- Preliminary proposals;
- Increased use of “Just in Time”;
- Simplified initial budget proposals;
- Centralized researcher profile database, ORCID data exchange, unique identifiers
- Review of pilot efforts
  - Assessing opportunities to streamline and coordinate agency application requirements
  - Use of SciENcv and ORCID to pre-populate forms
  - Coordinating agency guidance and disclosure requirements associated with research security
OSTP and OMB set R&D Priorities
R&D PRIORITY AREAS

- **American Security**: Advanced military capabilities, critical infrastructure resilience, semiconductors, and critical minerals.

- **Industries of the Future**: Artificial intelligence (AI), quantum information science, 5G connectivity, and advanced manufacturing.

- **Energy and Environmental Leadership**: American energy resources, ocean science and technology, and earth system predictability.

- **Health and Bioeconomic Innovation**: Biomedicine, bioeconomy, and Veteran health and wellness.

- **American Space Exploration and Commercialization**: In-space resource utilization, manufacturing and assembly, fuel storage and management, and advanced space-related power and propulsion capabilities.
CROSS-CUTTING PRIORITY AREAS

• Build and leverage a diverse, highly skilled American workforce
• Create and support research environments that reflect American values
• Support transformative research of high intellectual risk and potentially high reward
• Leverage the power of data
• Build, strengthen, and expand strategic multisector partnerships
Other OSTP Activities

• Comprehensive R&D Assessment and Long-Term Planning
• Multi-Sector Partnerships