

**Reopening US Research Universities:
Confronting Long-Standing Challenges and Imagining Novel Solutions**

An Exploratory Virtual Workshop Hosted by

**The Committee on Science, Engineering, Medicine and Public Policy (COSEMPUP),
National Academies of Sciences, Engineering, and Medicine**

**July 21, 2020
12:00 – 5:00 P.M. EDT**

Research universities are among our nation's greatest assets, attracting the best and brightest students and researchers from the U.S. and abroad. They are a crucial component of the research enterprise, educating the future scientific, technological, and medical workforce, conducting cutting-edge scientific and engineering research, operating research hospitals, and driving economic development in their communities and nationwide.

Research universities and medical centers are playing a critical role in the fight against COVID-19 and are essential to our capability to address global crises that arise in the future. In recent decades, however, these institutions have faced increasing challenges. The pandemic has both sharpened the focus on these previously identified stresses and posed new challenges. This is especially true for public research institutions that are facing sizeable budget cuts, hiring freezes, decreased enrollment both from US students and international students, while having very limited endowments to cushion against these challenges. How will the research laboratory look in the future? How will young investigators be integrated into an evolving workforce? How will education, training, mentoring, and career paths change for graduate students, early career faculty, and senior faculty? How will the focus on COVID-19 research impact researchers in other fields? How do we balance the need for rapid solutions to global health crises while preserving the integrity of the research enterprise and protecting public safety? Will scientific communication through publication, collaboration, and engagement be transformed to provide a more open and accessible exchange of ideas and knowledge or will it be constrained and limited going forward? Are there new models of collaboration to be fostered? Many barriers to data and information sharing fell as the pandemic unfolded, can these new approaches be part of a new model? What lessons can we draw from the COVID-19 experience to catalyze new models for the conduct of research and the training and education of the next generation of researchers? As we slowly reopen our research universities, we have a unique opportunity to shore up the strengths of these institutions while shaping anew a research ecosystem designed to meet future challenges.

This workshop will explore the key questions the research enterprise must address to build a more effective and resilient 21st century research university.

AGENDA

12:00 Welcome and Opening Remarks

Alan Leshner, Chair, COSEMPUP and CEO Emeritus, American Association for the Advancement of Science

Marcia McNutt,* President, National Academy of Sciences

12:10 The Current Situation

Moderator: **Victor J. Dzau**,* President, National Academy of Medicine

Views from Academia

Speakers:

Mary Sue Coleman, President, Association of American Universities

M. Peter McPherson, President, Association of Public and Land-Grant Universities

A View from the Federal Government

Speaker:

Michael Lauer, Deputy Director for Extramural Research, National Institutes of Health

12:35 Moderated Discussion with Speakers

12:50 Overview of Sessions

Alan Leshner, Chair, COSEMPUP and CEO Emeritus, American Association for the Advancement of Science

12:55 Session One: Education/Training/Career Paths/Equity

Moderator: **Juanita L. Merchant**,* Professor of Medicine, University of Arizona College of Medicine, Tucson

Topic 1-1: Careers for young scientists: Imagining a career trajectory that supports excellence in research and teaching

Speaker: **Jennifer Zeitzer**, Director, Office of Public Affairs, Federation of American Societies for Experimental Biology

Topic 1-2: Realigning the relationship between research and education

Speaker: **Frances Ligler**,* Lampe Distinguished Professor of Biomedical Engineering, North Carolina State University/University of North Carolina-Chapel Hill

Topic 1-3: New models for graduate education and mentoring

Speaker: **Suzanne Ortega**, President, Council of Graduate Schools

Topic 1-4: Increasing diversity, equity, and inclusion

Speaker: **Claude M. Steele**, Lucie Stern Professor Emeritus of Psychology, Stanford University

1:35 Discussion

2:00 Break

2:15 Session Two: Trustworthiness of the Research Enterprise – Challenges to Research Integrity and Public Trust

Moderator: **Susan M. Wolf**,* McKnight Presidential Professor of Law, Medicine & Public Policy and Faegre Baker Daniels Professor of Law, University of Minnesota Law School and Medical School

Topic 2-1: Conduct of research in a pandemic – Maintaining ethics and integrity under pressure

Speaker: **Christine Grady**, Chief of Bioethics and Head, Section on Human Subjects Research, NIH Clinical Center

Topic 2-2: Trust and transformation in scientific communication – Open access, preprints, rapid review, publishing preliminary data, retractions

Speaker: **Holden Thorp**, Editor-in-Chief, *Science*

2:35 Discussion

2:55 Session Three: International Collaboration/Coordination/Access

Moderator: **John Hildebrand**,* Regents Professor, University of Arizona

Topic 3-1: Foreign students and U.S. universities

Speaker: **Geraldine Richmond**, Presidential Chair in Science and Professor of Chemistry, University of Oregon

Topic 3-2: International research at U.S. universities

Speaker: **Maria Zuber**, E. A. Griswold Professor of Geophysics and Vice President for Research, Massachusetts Institute of Technology

Topic 3-3: The future of international collaboration

Speaker: **Arthur Bienenstock**, Professor of Photon Science, Emeritus and Special Assistant to the President for Federal Research Policy, Stanford University

3:25 Discussion

3:45 Session Four: The Academic Research Environment and Federal Support for Research

Moderator: **Michael S. Witherell**,* Professor and Director, Lawrence Berkeley National Laboratory

Topic 4-1: The academic research environment – Designing the academic research enterprise of the future

Speaker: **Keith R. Yamamoto**, Vice Chancellor for Science Policy and Strategy, University of California, San Francisco

Topic 4-2: Federal support for research – Creating a research portfolio to meet the needs of the nation

Speaker: **France Córdova**, Director, National Science Foundation (retired)

4:05 Discussion

4:25 Concluding Roundtable with Session Moderators

Moderator: **John Anderson**,* President, National Academy of Engineering

Speakers:

Juanita L. Merchant,* Professor of Medicine, University of Arizona College of Medicine, Tucson

Susan M. Wolf,* McKnight Presidential Professor of Law, Medicine & Public Policy and Faegre Baker Daniels Professor of Law, University of Minnesota Law School and Medical School

John Hildebrand,* Regents Professor, University of Arizona

Michael S. Witherell,* Professor and Director, Lawrence Berkley National Laboratory

4:55 A Way Forward

Alan Leshner, Chair, COSEMPUP and CEO Emeritus, American Association for the Advancement of Science

5:00 Adjourn

*Member of the Committee on Science, Engineering, Medicine, and Public Policy