

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

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

Speaker Biographies

Arthur Bienenstock, Ph.D., is Professor Emeritus of Photon Science, Special Assistant to the President for Federal Research Policy and Director of the Wallenberg Research Link at Stanford University. He received his B.S. and M.S. degrees in Physics from the Polytechnic Institute of Brooklyn, and his Ph.D. degree in Applied Physics from Harvard University in 1962.

His early research involved a broad range of theoretical studies of crystalline solids, with some experimental and theoretical X-ray studies of poorly crystallized and amorphous systems. While still at Harvard, he became increasingly interested in the properties of amorphous materials and gradually shifted towards experimental studies of atomic arrangements in these materials.

This, in turn, led Bienenstock to recognize the great potential of X-ray synchrotron radiation (SR) for studying these arrangements. He turned his attention to the development of SR techniques for analysis of bulk and thin film amorphous materials, as well as to the development of increasingly powerful synchrotron radiation sources as director of the Stanford Synchrotron Radiation Laboratory (SSRL). His responsibilities as SSRL director led him increasingly into science policy and, subsequently, to the Office of Science and Technology Policy.

Mary Sue Coleman (NAM), Ph.D., is President of the Association of American Universities. Prior to joining the AAU, Coleman was president of the University of Michigan from 2002 to July 2014 (where she is now president and professor emerita) and president of the University of Iowa from 1995 to 2002. Long involved with the AAU, Coleman served as chair in 2011-2012. She has led major studies on the consequences of lack of health insurance within the U.S. and erosion of state and federal support for the nation's public research universities.

As a biochemist and faculty member at the University of Kentucky, Dr. Coleman built a distinguished academic career through her teaching and research on the immune system and malignancies. Prior to becoming a university president, Coleman was vice chancellor for research and graduate education at the University of North Carolina, Chapel Hill and provost at the University of New Mexico.

Dr. Coleman earned her undergraduate degree in chemistry from Grinnell College and a Ph.D. in biochemistry from the University of North Carolina at Chapel Hill.

France A. Córdova, Ph.D., was the 14th director of the National Science Foundation (NSF). Her contributions in multi-spectrum research on x-ray and gamma ray sources and space-borne instrumentation have made her an internationally recognized astrophysicist.

She has also previously served as President of Purdue University; Chancellor and Distinguished Professor of Physics at University of California, Riverside; Chancellor and Distinguished Professor of Physics and Astronomy at University of California, Santa Barbara; and chief scientist at NASA.

More recently, Córdova served as chair of the Board of Regents of the Smithsonian Institution and on the board of trustees of Mayo Clinic. She also served as a member of the National Science Board (NSB), where she chaired the Committee on Strategy and Budget. As NSF director, she is an ex officio member of the NSB.

Christine Grady (NAM), M.S.N., Ph.D., is the Chief of Bioethics and Head of the Section on Human Subjects Research at the National Institutes of Health (NIH). Her work is both conceptual and empirical and are primarily in the ethics of clinical research, including informed consent, vulnerability, study design, recruitment, and international research ethics, as well as ethical issues faced by nurses and other health care providers.

She served from 2010-2017 as a Commissioner on the President's Commission for the Study of Bioethical Issues. Her work is known internationally, and she has lectured widely on ethical issues in clinical research and clinical care, HIV disease, and nursing. She is an elected fellow of the Hastings Center and of the American Academy of Nursing, a senior research fellow at the Kennedy Institute of Ethics and an elected member of the National Academy of Medicine.

She holds a B.S. in nursing and biology from Georgetown University, an M.S.N. in community health nursing from Boston College, and a Ph.D. in philosophy from Georgetown University.

She has participated in numerous intergovernmental task forces and is the recipient of several awards.

Michael Lauer, M.D., is the Deputy Director for Extramural Research at the National Institutes of Health (NIH), where he serves as the principal scientific leader and advisor to the Director of the NIH on all matters relating to the substance, quality, and effectiveness of the NIH extramural research program and administration. He received education and training at Rensselaer Polytechnic Institute, Albany Medical College, Harvard Medical School, Harvard School of Public Health, and the National Heart, Lung, and Blood Institute's Framingham Heart Study. He spent 14 years at Cleveland Clinic as Professor of Medicine, Epidemiology, and Biostatistics. During his tenure at the Clinic, he led a federally funded internationally renowned clinical epidemiology program that applied big data from large-scale electronic health platforms to questions regarding the diagnosis and management of cardiovascular disease. From 2007 to 2015 he served as a Division Director at the National Heart, Lung, and Blood Institute (NHLBI), where promoted efforts to leverage big data infrastructure to enable high-efficiency population and clinical research and efforts to adopt a research funding culture that reflected data-driven policy. He has received numerous awards including the NIH Equal Employment Opportunity Award of the Year and the Arthur S. Flemming Award for Exceptional Federal Service in recognition of his efforts to grow a culture of learning and accountability.

M. Peter McPherson, J.D., M.B.A., is President of the Association of Public and Land-grant Universities (APLU), a North American higher education association representing 246 public research universities, land-grant institutions, state university systems, and affiliated organizations, working to advance college access and completion, and bolster university-community engagement.

McPherson served in a variety of positions in the Ford and Reagan administrations. He served as a Special Assistant to President Gerald Ford. In the Reagan administration, he led the United States Agency for International Development (USAID). He later served as Deputy Secretary of the U. S. Department of Treasury. In 1987, he was a principal negotiator in the final weeks of negotiations of the Canadian Free Trade Agreement, the forerunner of the North American Free Trade Agreement.

Immediately before coming to APLU in 2006, he served as President of Michigan State University for 11 years, where his work included vastly increasing study abroad participation, controlling tuition costs, bringing an independent law school to Michigan State, and increasing research.

A tax lawyer by profession, he was also managing partner of the Washington, D.C. office of a large Midwestern law firm. He later served as an Executive Vice President of Bank of America, where his responsibilities included the bank's operations in Canada and Latin America.

He holds a B.A. from Michigan State University, an M.B.A. from Western Michigan State University, and a J.D. from American University.

Suzanne Ortega, Ph.D., is President of the Council of Graduate Schools. Previously, she served as the University of North Carolina Senior Vice President for Academic Affairs. She has also been Executive Vice President and Provost at the University of New Mexico, as well as Vice Provost and Graduate Dean at the University of Washington and University of Missouri.

She holds an M.A. and a Ph.D. in sociology from Vanderbilt University. Her primary research interests are in mental health epidemiology, health services, and race and ethnic relations.

Geraldine “Geri” Richmond, (NAS), Ph.D., is the Presidential Chair in Science and Professor of Chemistry at the University of Oregon where she has been since 1985. She received her undergraduate degree in chemistry from Kansas State University and her Ph.D. in physical chemistry from the University of California, Berkeley. Her educational efforts have focused largely on introductory chemistry and science literacy courses. She has served as director of several University of Oregon undergraduate research programs. Her research examines the chemistry and physics that occurs at complex surfaces that have relevance to important problems in energy production, environmental remediation and atmospheric chemistry. Using a combination of laser-based methods and theoretical simulations her most recent efforts have focused on understanding environmentally important processes at water surfaces.

Claude M. Steele (NAS), Ph.D., is Executive Vice Chancellor and Provost at the University of California, Berkeley. Reporting to and working in close partnership with the Chancellor, the EVCP plays a critical role in developing and implementing UC Berkeley's vision and priorities and is the Chancellor's leading senior executive responsible for their execution and implementation. He is also a Professor in the Department of Psychology and the Graduate School of Education. He is recognized as a leader in the field of social psychology and for his commitment to the systematic application of social science to problems of major societal significance.

EVCP Steele's research focuses on the psychological experience of the individual and, particularly, on the experience of threats to the self and the consequences of those threats. His early work considered the self-image threat, self-affirmation and its role in self-regulation, the academic under-achievement of minority students, and the role of alcohol and drug use in self-regulation processes and social behavior. While at Stanford University, he further developed the theory of stereotype threat, designating a common process through which people from different groups, being threatened by different stereotypes, can have quite different experiences in the same situation. The theory has also been used to understand group differences in performance ranging from the intellectual to the athletic.

H. Holden Thorp, Ph.D., Holden Thorp, a chemist and former provost at Washington University in St. Louis, Editor-in-chief of the *Science*, the family of journals by the Board of Directors of the American Association for the Advancement of Science (AAAS).

Prior to joining Washington University, Thorp spent three decades at the University of North Carolina at Chapel Hill, where he served as its 10th chancellor from 2008 through 2013. A native of the state, he started at the University of North Carolina as an undergraduate student and earned a B.A. in chemistry. He earned a Ph.D. in chemistry in 1989 at the California Institute of Technology and completed postdoctoral work at Yale University.

Over the years, Thorp's research focus has spanned a wide range, from physical inorganic chemistry in his earliest days to efforts in drug development in later years.

Keith R. Yamamoto (NAS, NAM), Ph.D., is Vice Chancellor for Science Policy and Strategy, Director of Precision Medicine, and Professor of Cellular Molecular Pharmacology at University of California, San Francisco.

Dr. Yamamoto oversees strategic planning as well as research activities at UCSF's school of medicine. After earning a Ph.D. at Princeton, he came to UCSF in 1973. He served as chair of the Department of Cellular and Molecular Pharmacology from 1994 to 2003. Dr. Yamamoto is regarded as an international leader in studying the mechanisms of signaling and gene regulation by intracellular receptors.

He has made seminal contributions to understanding the mechanism of action and regulation of the steroid receptor protein. He showed that the glucocorticoid receptor is a site-specific, DNA-binding protein that activates transcription and that its ability to bind DNA is controlled by the binding of hormones. He cloned the gene coding for the receptor and identified domains responsible for DNA and hormone binding.

Jennifer Zeitzer is the Director of the Office of Public Affairs at the Federation of American Societies for Experimental Biology (FASEB). She works with a team of policy analysts, legislative affairs specialists, and the elected leadership of the Federation and its 28 member societies to develop and promote policies to advance biomedical research.

Maria T. Zuber (NAS), Ph.D., is Vice President for Research and E. A. Griswold Professor of Geophysics at Massachusetts Institute of Technology. She holds a B.A. in Astrophysics and Geology from the University of Pennsylvania, as well as a Sc.M. and a Ph.D. in Geophysics from Brown University.

A geophysicist, Dr. Zuber is a world leader in the study of planetary interior structure and deformation. She led the determination of the first high-resolution structural models for the Moon, Mars, and the asteroid Eros. And she has developed a pioneering suite of quantitative models for the interpretation of planetary deformations.