

Committee on Science, Engineering, Medicine, and Public Policy

Committee

Alan I. Leshner

Chair

Alan I. Leshner (NAM) is Chief Executive Officer, Emeritus of the American Association for the Advancement of Science and former Executive Publisher of the journal *Science* and the *Science* family of journals. He served as permanent CEO from December 2001 through February 2015, and then as Interim CEO from July-December 2019. Before joining AAAS, Dr. Leshner was Director of the National Institute on Drug Abuse at the National Institutes of Health. He also served as Deputy Director and Acting Director of the National Institute of Mental Health, and in several roles at the National Science Foundation. Before joining the government, Dr. Leshner was Professor of Psychology at Bucknell University, where he taught and conducted research on the relationship between hormones and behavior. Dr. Leshner is an elected fellow of AAAS, the American Academy of Arts and Sciences, the National Academy of Public Administration, and many others. He is a member and served as Vice Chair of the governing Council of the National Academy of Medicine (formerly the Institute of Medicine) of the National Academies of Sciences, Engineering and Medicine. He served two terms on the National Science Board, appointed first by President Bush and then reappointed by President Obama. Dr. Leshner received Ph.D. and M.S. degrees in physiological psychology from Rutgers University and an A.B. in psychology from Franklin and Marshall College. Dr. Leshner has received many honors and awards, including the Walsh McDermott Medal from the National Academy of Medicine and seven honorary Doctor of Science degrees.

Victor J. Dzau

Ex Officio Member

Victor J. Dzau is the President of the National Academy of Medicine (NAM), formerly the Institute of Medicine (IOM). In addition, he serves as Chair of the IOM Division Committee of the National Academies of Sciences, Engineering, and Medicine. Dr. Dzau has made a significant impact on medicine through his seminal research in cardiovascular medicine and genetics, pioneering the discipline of vascular medicine, and leadership in health care innovation. In his role as a leader in health care, Dr. Dzau has led efforts in health care innovation. His vision is for academic health sciences centers to lead the transformation of medicine through innovation, translation, and globalization. In addition to his work with the IOM, Dr. Dzau is currently a member of the Board of Directors of the Singapore Health System, Governing Board of Duke-National University of Singapore Graduate Medical School, and Senior Health Policy Advisor to Her Highness Sheikha Moza (Chair of the Qatar Foundation). He is also on the Board of Health Governors of the World Economic Forum and chaired its Global Agenda Council on Personalized and Precision Medicine. He is Chancellor Emeritus for Health Affairs and James B. Duke Professor of Medicine at Duke University and the past President and CEO of the Duke University Health System. Previously, Dr. Dzau was the Hersey Professor of Theory and Practice of Medicine and Chairman of Medicine at Harvard Medical School's Brigham and Women's Hospital, as well as Chairman of the Department of Medicine at Stanford University.

Tsu-Jae K. Liu

Ex Officio Member

Tsu-Jae Liu is the President of the National Academy of Engineering (NAE). A distinguished engineer and academic leader, she earned her B.S., M.S., and Ph.D. in electrical engineering from Stanford University. In 1996 she joined the faculty of the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley, where she has served in various administrative leadership positions, most recently as Dean of the College of Engineering from July 2018 through June 2025.

Liu is renowned for her contributions in the field of microelectronics, which include co-developing the FinFET transistor design that is used in all leading-edge computer chips and smartphones today. She has authored over 550 publications and holds 97 U.S. patents. Her recognitions include the DARPA Significant Technical Achievement Award and the IEEE Electron Devices Society Education Award.

Liu is a Fellow of the IEEE and the National Academy of Inventors, and was inducted into the U.S. National Academy of Engineering in 2017. She has served on the Boards of Directors for Intel Corporation and MaxLinear Inc., and has contributed nationally as an advocate for domestic microelectronics workforce development and as a member of advisory committees for NSF, NIST, and PCAST.

Marcia McNutt

Ex Officio Member

Marcia McNutt (NAS/NAE) is a geophysicist and president of the National Academy of Sciences. From 2013 to 2016, she served as editor-in-chief of the Science family of journals. Prior to joining Science, she was director of the U.S. Geological Survey (USGS) from 2009 to 2013. During her tenure, the USGS responded to a number of major disasters, including earthquakes in Haiti, Chile, and Japan, and the Deepwater Horizon oil spill. McNutt led a team of government scientists and engineers at BP headquarters in Houston who helped contain the oil and cap the well. She directed the flow rate technical group that estimated the rate of oil discharge during the spill's active phase. For her contributions, she was awarded the U.S. Coast Guard's Meritorious Service Medal.

Before joining the USGS, McNutt served as president and chief executive officer of the Monterey Bay Aquarium Research Institute (MBARI), in Moss Landing, California. During her time at MBARI, the institution became a leader in developing biological and chemical sensors for remote ocean deployment, installed the first deep-sea cabled observatory in U.S. waters, and advanced the integration of artificial intelligence into autonomous underwater vehicles for complex undersea missions.

Dr. McNutt began her academic career at the Massachusetts Institute of Technology (MIT), where she was the E.A. Griswold Professor of Geophysics and directed the Joint Program in Oceanography/Applied Ocean Science & Engineering, jointly offered by MIT and the Woods Hole Oceanographic Institution. Her research area is the dynamics of the upper mantle and lithosphere on geologic time scales, work that has taken her to distant continents and oceans for field observations. She is a veteran of more than a dozen deep-sea expeditions, on most of which she was chief or co-chief scientist.

Dr. McNutt received a BA in physics from Colorado College and her PhD in earth sciences at the Scripps Institution of Oceanography. Her honors include membership in the American Philosophical Society and the American Academy of Arts and Sciences. She holds honorary doctoral degrees from the Colorado College, the University of Minnesota, Monmouth University, and the Colorado School of Mines. In 1988, she was awarded the American Geophysical Union's Macelwane Medal for research accomplishments by a young scientist, and she received the Maurice Ewing Medal in 2007 for her contributions to deep-sea exploration.

Dr. McNutt served as president of the American Geophysical Union (AGU) from 2000 to 2002. She was chair of the Board of Governors for Joint Oceanographic Institutions, responsible for operating the International Ocean Discovery Program's vessel JOIDES Resolution and associated research programs. She is a fellow of AGU, the Geological Society of America, American Association for the Advancement of Science, and International Association of Geodesy.

Anjan Bose

Member

Anjan Bose (NAE) is a Regents Professor and Distinguished Professor of Electric Power Engineering at Washington State University. He has over 35 years of experience in industry and academia as an engineer, educator, and administrator. He holds the endowed Distinguished Professorship in Power Engineering and is the Site Director of the NSF-sponsored Power System Engineering Research Center. From 1998-2005 he served as the Dean of the College of Engineering and Architecture. From 1993-1998, he was the School of Electrical Engineering and Computer Science Director. A Fellow of the IEEE, he was the recipient of the Outstanding Power Engineering Educator Award (1994), the Third Millennium Medal (2000), and the IEEE's Herman Halperin Electric Transmission & Distribution Award (2006). He has been recognized as a distinguished alumnus of the Indian Institute of Technology, Kharagpur, (2005) and the College of Engineering at Iowa State University (1993). During 2011-2013, Prof. Bose served as Senior Advisor to the US Department of Energy, coordinating all DOE activities on grid modernization.

Karen B. DeSalvo

Member

Dr. Karen DeSalvo (NAM) is Chief Health Officer at Google where she leads the company's health strategy and the team that provides health expertise to guide Google in creating exceptional health products and services, and discoveries and research to help everyone, everywhere live a healthy life. She and her team also provide medical leadership for employee health. Her career has focused on improving health and eliminating disparities in leadership roles in medicine, public health, and information technology. Before joining Google, Dr. DeSalvo served as National Coordinator for Health Information Technology and Assistant Secretary for Health (Acting) in the Obama Administration where she drove policy aimed at establishing a more consumer-oriented, transparent, and value-based health system. Prior to her federal service, Dr DeSalvo was the New Orleans Health Commissioner following Hurricane Katrina. She was previously Vice Dean for Community Affairs and Health Policy at the Tulane School of Medicine where she was a practicing internal medicine physician, educator, researcher, and leader. Dr. DeSalvo is co-founder of the National Alliance to Impact the Social Determinants of Health and serves on the Council of the National Academy of Medicine. She is a member of the Welltower Board of Directors and she is currently serving on the WHO Commission on Social Connection. Dr. DeSalvo previously served on the Medicare Payment Advisory Commission and the Humana Board of Directors.

Kelvin Droegemeier

Member

Kelvin Droegemeier is Professor of Atmospheric Sciences and Special Advisor to the Chancellor for Science and Policy at the University of Illinois Urbana-Champaign (UIUC). He formerly was Regents' Professor of Meteorology, Weathernews Chair, and Roger and Sherry Teigen Presidential Professor at the University of Oklahoma (OU), where he served for nearly a decade as Vice President for Research. Before joining UIUC in August 2023, he was at OU for 38 years and co-founded and directed one of National Science Foundation's (NSF's) first Science and Technology Centers. He served two 6-year terms on the National Science Board, the last four years as Vice Chairman, nominated first by President George W. Bush and then by Barack Obama and confirmed both times by the U.S. Senate. He also served for two years as Oklahoma Cabinet Secretary of Science and Technology. Most recently, Dr. Droegemeier served for two years as Director of The White House Office of Science and Technology Policy (OSTP) and Science Advisor to the President. For two and a half months during this time, he also served as Acting Director of NSF. His research involves numerical simulation and prediction of high-impact local weather, and the assimilation of data into storm-resolving models. He is a Fellow of the American Meteorological Society and the American Association for the Advancement of Science, and has published more than 80 referred journal articles and over 200 conference publications.

José J. Escarce

Member

José J. Escarce (NAM), M.D., Ph.D., is a distinguished Professor of Medicine in the David Geffen School of Medicine at UCLA, where he also serves as Vice Chair for Academic Affairs in the Department of Medicine and Distinguished Professor of Health Policy and Management in the UCLA Fielding School of Public Health. Dr. Escarce has published extensively on various topics, including physician behavior, medical technology adoption, racial and socioeconomic differences in health care, and the effects of market forces on access, costs, and quality of care. His research interests and expertise include health economics, managed care, physician behavior, racial and ethnic disparities in medical care, immigrant health, and technological change in medicine. Dr. Escarce is a member of the National Academy of Medicine (NAM) and has served on several NAM committees, including the landmark Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care and the recent Committee on Accounting for SES in Medicare Payment Programs. Dr. Escarce has also served on numerous federal committees and advisory boards, including the National Advisory Council for Health Care Policy, Research, and Evaluation of the Department of Health and Human Services and on the Board of Directors of AcademyHealth. Dr. Escarce is the former Co-Editor-in-Chief of the journal Health Services Research, one of the leading journals in the field. Dr. Escarce graduated from Princeton University, earned a master's degree in physics from Harvard University, and obtained his medical and doctorate degree in health economics from the University of Pennsylvania.

Wendy L. Freedman

Member

Professor Wendy Freedman (NAS) is one of nine named University Professors appointed by the president at the University of Chicago. For eleven years (2003-2014) she served as the Crawford H. Greenewalt Director of the Carnegie Observatories in Pasadena, California. A native of Toronto, Canada, she received her doctorate in astronomy and astrophysics from the University of Toronto in 1984. She received a Carnegie Fellowship at the Observatories in 1984, joined the permanent staff in 1987, and was appointed Director in 2003. From 2003-2015, she served as the founding chair of the Board of Directors for the Giant Magellan Telescope, a 25-m optical telescope scheduled for completion in Chile in the 2030s.

Professor Freedman is an elected member of the National Academy of Sciences, the American Academy of Arts and Sciences and the American Philosophical Society. She is an elected Fellow of The Royal Society, the American Association for the Advancement of Science, and the American Physical Society; and a Legacy Fellow of the American Astronomical Society.

Professor Freedman's awards include the Marc Aaronson Lectureship and Prize, the McGovern Award for her work on cosmology, and the American Philosophical Society's Magellanic Prize. She is one of three co-recipients of the 2009 Gruber Cosmology Prize, and has also been awarded the Dannie Heineman Prize for Astrophysics by the American Institute of Physics and American Astronomical Society.

Her principle research interests are in observational cosmology. Professor Freedman was a principal investigator for a team of thirty astronomers who carried out the Hubble Key Project to measure the current expansion rate of the Universe. Presently her research interests are directed at increasing the accuracy of measurements of the expansion rate and testing whether there is new fundamental early-universe physics. She is Principal Investigator of a new first-cycle program with the James Webb Space Telescope to measure the Hubble constant to percent-level precision.

Mary Lou Guerinot

Member

Dr. Mary Lou Guerinot (NAS) is the Ronald and Deborah Harris Professor in the Sciences in the Department of Biological Sciences at Dartmouth College. In 2016, she was elected to the National Academy of Sciences. Dr. Guerinot pioneered research on metal metabolism in plants through key discoveries of genes involved in major transport processes for minerals such as iron and zinc. Her research is critically important for both agriculture and human nutrition since iron and zinc deficiencies affect billions of humans that rely upon crop-based diets. Dr. Guerinot is also a member of various societies, including the American Association for the Advancement of Science, the American Society for Microbiology, the American Society of Plant Biologists, and the Genetics Society of America. She received her B.S. in Biology from Cornell University, Ph.D. in Biology from Dalhousie University, and completed two Postdoctoral Fellowships at the University of Maryland, College Park, and the DOE-Plant Research Laboratory, Michigan State University.

Kathleen H. Jamieson

Member

Kathleen Hall Jamieson (NAS) is the Elizabeth Ware Packard Professor of Communication at the University of Pennsylvania's Annenberg School for Communication, the Walter and Leonore Annenberg Director of the University's Annenberg Public Policy Center, and the Program Director of the Annenberg Retreat at Sunnylands.

Jamieson has authored or co-authored 16 books, most recently *Cyberwar: How Russian Hackers and Trolls Helped Elect a President* (Oxford University Press, 2018), which won the 2019 R.R. Hawkins Award from the Association of American Publishers and was published in a revised paperback edition by Oxford University Press in June 2020.

Jamieson has won university-wide teaching awards at each of the three universities at which she has taught and has delivered the American Political Science Association's Ithiel de Sola Pool Lecture, the National Communication Association's Arnold Lecture, and the NASEM Division of Behavioral and Social Sciences and Education Henry and Bryna David Lecture. She received the American Political Science Association's Murray Edelman Distinguished Career Award in 1995 for her contributions to the study of political communication. Her paper "Implications of the Demise of 'Fact' in Political Discourse" received the American Philosophical Society's 2016 Henry Allen Moe Prize in the Humanities.

Edward D. Lazowska

Member

Edward D. Lazowska (NAE) is a Professor, and the Bill & Melinda Gates Chair emeritus, in the Paul G. Allen School of Computer Science & Engineering at the University of Washington.

Lazowska's research and teaching concern the design, implementation, and analysis of computing and communication systems, and, more recently, the techniques and technologies of data-intensive discovery. He also has been active on public policy issues, ranging from STEM education to Federal strategies for research and innovation. From 2008-17 he served as the Founding Director of the University of Washington eScience Institute, where he continues as a Senior Data Science Fellow.

Lazowska is a Councilor of the National Academy of Engineering and a Fellow of the American Academy of Arts & Sciences. He serves as a board member or technical advisor for a number of high-tech companies, venture firms, and technology-oriented civic organizations. A long-time advocate for increasing participation in the field, he serves on the Executive Advisory Council of the National Center for Women & Information Technology and on the National Academies Committee on Women in Science, Engineering, and Medicine; he served on the study committee that authored the Academies' 2018 report on the impacts of sexual harassment in academia.

Maureen Lichtveld

Member

Maureen Lichtveld (NAM) is the Dean of the School of Public Health, the Jonas Salk Chair in Population Health, and Professor of Environmental and Occupational Health at the University of Pittsburgh. Her research focuses on environmentally induced disease, health disparities, climate and health, environmental health policy, disaster preparedness, public health systems, and community resilience. Lichtveld serves on the Board and as an incoming co-chair of the Consortium of Universities for Global Health (CUGH) and is a member of the CUGH research and workforce development committees and the climate and health working group. She is a member of the National Academy of Medicine (NAM) and the Johns Hopkins University Society of Scholars and received the Centers for Disease Control and Prevention's environmental health scientist of the year. Lichtveld received an M.D. in public health from Anton de Kom University of Suriname and an M.P.H. from Johns Hopkins University. She is serving or has served on numerous National Academies' boards and committees as chair or member, including the Committee on Progress Towards Human Health and Community Resilience in the Gulf of Mexico Region, the Advisory Committee for the Climate Communications Initiative, the Board on Global Health, the Resilient America Roundtable, and NAM's planning committee on Climate and Health. She is also a member of the NAM's Leadership Council and serves in a leadership role in NAM's Special Interest Group on Climate and Health.

Sudip S. Parikh

Member

Sudip S. Parikh became the 19th chief executive officer of the American Association for the Advancement of Science (AAAS) and executive publisher of the Science family of journals in January 2020. Dr. Parikh has spent two decades at the nexus of science, policy, and business. Immediately prior to joining AAAS, Dr. Parikh was senior vice president and managing director at DIA Global, a neutral, multidisciplinary organization bringing together regulators, industry, academia, patients, and other stakeholders interested in healthcare product development. Prior to DIA, Dr. Parikh was general manager of the Health and Consumer Solutions business unit and vice president at Battelle, a multibillion-dollar research and development organization. From 2001 to 2009, Dr. Parikh served as science advisor and professional staff to the United States Senate Appropriations Committee, where he was responsible for negotiating budgets for the National Institutes of Health (NIH), Centers for Disease Control and Prevention, Agency for Healthcare Research and Quality, Biomedical Advanced Research and Development Authority, and other scientific and health agencies. An active member of the scientific advocacy community, Dr. Parikh serves as a board member and officer for several impactful organizations, including Research!America, Friends of Cancer Research, and ACT for NIH. He has received multiple public service awards, including recognition from the American Association of Immunologists, the National AIDS Alliance, the Coalition for Health Services Research, and the Juvenile Diabetes Research Foundation. Early in his career, Dr. Parikh was a Presidential Management Intern at the NIH. He was awarded a National Science Foundation Graduate Research Fellowship while earning his Ph.D. in macromolecular structure and chemistry from the Scripps Research Institute in La Jolla, California. Dr. Parikh completed undergraduate studies at the University of North Carolina at Chapel Hill, first as a journalism major before switching into materials science.

Ellen M. Pawlikowski

Member

General (Ret.) Ellen M. Pawlikowski, USAF (NAE), is an independent consultant providing expertise to industry and academia on strategic planning, program management, acquisition and logistics, and research and development. She is a retired general from the United States Air Force. Her interest and expertise lie in the leadership and management of large technical programs and organizations successfully transitioning technology for applications in national security. She serves on the public boards of the Raytheon Company, RPM International, Inc., Velo3D, and the nonprofit board of Stanford Research Institute (SRI) International. In her last military assignment, she served as Air Force Materiel Command (AFMC) commander at the Wright-Patterson Air Force Base in Ohio. The command employs some 80,000 people and manages \$60 billion annually, executing the critical mission of warfighter support through research and development, life cycle systems management, test and evaluation, installation support, depot maintenance, and supply chain management. General Pawlikowski's career has spanned various technical direction, leadership, and staff positions. She commanded five times as a general officer, the Military Satellite Communications Systems Directorate (MILSATCOM) Systems Wing, the Air Force element of the National Reconnaissance Office, the Air Force Research Laboratory, the Space and Missile Systems Center, and AFMC. She was also the program director and executive officer for several multibillion-dollar weapon system acquisitions. General Pawlikowski is nationally recognized for her leadership and technical management acumen. She is a fellow of the American Institute of Aeronautics and Astronautics and a National Academy of Engineering member. She remains active in the science and technology community. She has a Ph.D. in chemical engineering from the University of California, Berkeley, and a B.S. in chemical engineering from the New Jersey Institute of Technology, Newark.

Levi T. Thompson

Member

Dr. Levi Thompson (NAE) is dean of the College of Engineering at the University of South Florida. Dean Thompson earned his B.ChE. from the University of Delaware, and M.S.E. degrees in Chemical Engineering and Nuclear Engineering, and a Ph.D. in Chemical Engineering from the University of Michigan. He served as dean of the University of Delaware College of Engineering from 2018 to 2024. Prior to joining the University of Delaware, he was a faculty member at the University of Michigan where he served as Associate Dean for Undergraduate Education and Director of the Hydrogen Energy Technology Laboratory.

In his previous leadership positions, Thompson oversaw initiatives to expand student access and success, increase enrollment and revenue, as well as strengthen research activities. His efforts helped the College of Engineering at the University of Delaware significantly increase enrollment, double research expenditures, and achieve its highest-ever U.S. News & World Report ranking, breaking into the Top 25 among public universities.

His scholarly research on nanostructured materials for catalytic and energy storage applications is described in more than 150 publications and has generated 14 patents, several of which have been licensed. He is a member of the National Academy of Engineering, a Fellow of the AIChE and recipient of awards including the NSF Presidential Young Investigator Award, McBride Distinguished Lectureship, Union Carbide Innovation Recognition Award, and Michiganian of the Year Award for his research, entrepreneurship, and teaching.

Thompson co-founded T/J Technologies, a developer of nanomaterials for advanced batteries that was acquired by A123 Systems, and Inmatech, a developer of low cost, high energy density supercapacitors for automotive and military applications.

Ruth J. Williams

Member

Ruth J. Williams (NAS) is a Distinguished Professor of the Graduate Division at the University of California, San Diego (UCSD). She is also a Distinguished Professor of Mathematics Emerita and former holder of the Charles Lee Powell Chair in Mathematics I. She is a mathematician who works in probability theory, especially on stochastic processes and their applications. Her current research includes the study of stochastic models of complex networks, for example, those arising in Internet congestion control and systems biology.

Williams studied mathematics at the University of Melbourne where she earned her Bachelor of Science (Honours) and Master of Science degrees. She then studied at Stanford University where she earned her Ph.D. degree in Mathematics. She had a postdoc at the Courant Institute of Mathematical Sciences in New York before taking up a position as an Assistant Professor at the University of California, San Diego (UCSD). She has remained at UCSD during her career.

Tom Wang

Staff Officer