

Understanding and Scoping Future Research on Disruptive Innovation: A Workshop

Committee

Kaigham J. Gabriel

Chair

Kaigham (Ken) J. Gabriel is chief executive officer of BioForge, where he leads efforts to advance the development and manufacturing of biologic precision medicines. He also serves on the boards of Trimble, Galvani Bioelectronics, Dover Microsystems, and Seegrid. Previously, he was founding chief operating officer of Wellcome Leap, where he helped launch ten international research programs spanning areas from artificial kidneys to resilient aging. Earlier, he served as president and chief executive officer of Draper, an MIT-affiliated engineering organization, and as corporate vice president and founding co-lead of Google's Advanced Technology and Projects group. He also held senior federal leadership roles as deputy director and acting director of DARPA and was a tenured professor of electrical and computer engineering and robotics at Carnegie Mellon University. His work spans engineering innovation across defense, life sciences, robotics, space systems, and biomedical technologies, including early contributions to microelectromechanical systems (MEMS). He co-founded Akustica, a company focused on digital silicon microphones. Gabriel earned a doctorate in electrical engineering and computer science from the Massachusetts Institute of Technology. He previously served as a member of the National Academies German-American Frontiers of Engineering Organizing Committee.

Mike Alvarez Cohen

Member

Mike Alvarez Cohen is director of innovation ecosystem development at the University of California, Berkeley. In this role, he develops initiatives and agreements that support the commercialization of university innovations and the funding of campus research. He works with faculty, students, startup companies, corporations, entrepreneurs, investors, and attorneys to advance technology transfer and new venture creation. Cohen has worked with hundreds of startups and has led the commercialization of more than 100 innovations across fields including biofuels, medical devices, nanotechnologies, novel materials, photovoltaics, robotics, semiconductors, software, smart grid technologies, wireless sensors, and biomimetic systems. His work focuses on building partnerships and structures that connect academic research with industry and investment communities. He is the author of *Startup Campus: How UC Berkeley Became an Unexpected Leader in Entrepreneurship and Startups* (2025). His honors include the Berkeley Visionary Award (2017) and the UC Berkeley Chancellor's Outstanding Staff Award (2012, 2019, and 2023). Cohen earned an MBA from Harvard University and engineering degrees from Tufts University.

Juan Enriquez

Member

Juan Enriquez is a venture capitalist, author, authority on the impact of life sciences and brain research on business and society, and entrepreneur. Formerly the founding Director of the Harvard Business School's Life Sciences Project and former affiliate with MIT's synthetic neurotechnology lab, he is a Managing Director of Excel Venture Management and a bestselling author on tech trends, disruptive innovations, and their impacts. He works with Fortune 50 and heads of state on transitioning from digital to the language of life. He has authored *As the Future Catches You: How Genomics Will Change Your Life, Work, Health, and Wealth* (1999), *The Untied States of America: Polarization, Fracturing and Our Future* (2005), *Evolving Ourselves* (2015), and *RIGHT/ WRONG: How Technology Transforms Our Ethics* (2020). He served on many boards, including the American Academy of Arts and Sciences, GBH, Boston Science Museum, Questbridge, Cabot, OpenWater, Foodsmart, Synthetic Genomics. He holds a Harvard BA and MBA with honors. He currently serves as a member of the National Academies Strategic Council for Research Excellence, Integrity, and Trust.

Jennifer Gustetic

Member

Jenn Gustetic is a technology innovation and commercialization executive with nearly 20 years of experience accelerating breakthrough technologies from lab to market. She most recently served as deputy associate administrator for management in NASA's Space Technology Mission Directorate and was a member of the Senior Executive Service. During her tenure at NASA, she managed more than \$2 billion in early-stage technology investments across portfolios that included prize competitions, partnerships, and the SBIR/STTR programs. She also served at the White House Office of Science and Technology Policy, where she developed open innovation programs for the federal government. Her professional work centers on technology innovation and commercialization, including portfolio management, cross-sector partnerships, and the development of innovation infrastructure within complex systems. Gustetic has received NASA's Outstanding Leadership Medal (2025) and Exceptional Performance Award (2017), was named to the Fed100 (2024), and was a finalist for the Samuel J. Heyman Service to America Medal (2016). She earned a master's degree in technology policy from the Massachusetts Institute of Technology and a bachelor's degree in aerospace engineering from the University of Florida. She completed a research fellowship at Harvard Kennedy School and the Stanford Graduate School of Business VC Unlocked executive education program.

Bernard S. Meyerson

Member

Joining IBM in 1980, Dr. Meyerson invented Silicon:Germanium technology, founding IBM's highly successful Analog and Mixed Signal business. He has held many executive roles, leading semiconductor development, IBM's strategic alliances, and culminating in his role as IBM's first Chief Innovation Officer. His team led the definition and integration of corporate-wide technical and business strategic initiatives. Dr. Meyerson co-chairs the World Economic Forum's team that provide the annual list of top 10 emerging technologies, serves on the US Board of Directors supporting Japan's STS Forum, and the International Advisory Panel supporting Singapore. Dr. Meyerson, an IBM Fellow, is a Fellow of the American Physical Society, the Institute of Electrical and Electronics Engineers (IEEE), and is a member of the United States National Academy of Engineering. He has received numerous technical and business awards, such as the Lifetime Achievement Award from SEMI, the 2011 Pake Prize of the American Physical Society, selected as the 2014 Turing Lecturer at the Royal Institute. Most recently Dr. Meyerson was granted Singapore's Gov't Medal for Public Service in recognition of his contributions to that nation's science, technology, and society. Dr. Meyerson has served as IBM's Chief Innovation Officer Emeritus since 2020.

Karen E. Nelson

Member

Karen Nelson is chief scientific officer of Thermo Fisher Scientific, where she oversees research and development operations. Previously, she was president of the J. Craig Venter Institute, holding a series of leadership roles including director of the Rockville campus and director of human microbiology and metagenomics in the department of human genomic medicine. Her research has focused on genomics and metagenomics, including leadership of early human metagenomics studies and investigations of the ecology of the gastrointestinal tract in humans and animals. She has authored or co-authored more than 230 peer-reviewed publications, edited three books, and serves as editor in chief of Microbial Ecology. Nelson is a member of the National Academy of Sciences and a fellow of the American Academy of Microbiology, and she has served on the editorial boards of several scientific journals. She earned her undergraduate degree from the University of the West Indies and a PhD in animal science and microbiology from Cornell University. She serves on the National Academies Strategic Council for Research Excellence, Integrity, and Trust and on the Board on Life Sciences.

Barry L. Shoop

Member

Dr. Barry L. Shoop is Dean of Engineering at the Albert Nerken School of Engineering at the Cooper Union for the Advancement of Science and Engineering in Manhattan, NY. In this capacity, he leads the largest of The Cooper Union's schools comprised of eight academic departments supporting an average enrollment of roughly 480 undergraduate and another 70 graduate students. Prior to his current position, he retired as a Brigadier General after a 39-year career in the U.S. Army, with the last 25 years at the U.S. Military Academy at West Point. While at West Point, he served in a number of key leadership roles including Director of the Photonics Research Center, Director of the Electrical Engineering Program and his last position was Professor and Head of the Department of Electrical Engineering and Computer Science. He is a Fellow of the IEEE, OSA, and SPIE. Dr. Shoop has served on the Board of Directors of OSA, ABET, and IEEE and in 2016, Dr. Shoop served as the IEEE President and CEO. In 2019, he was elected to the National Academy of Engineering. Dr. Shoop received a BS degree from the Pennsylvania State University and PhD from Stanford University, both in Electrical Engineering.

Tim Simcoe

Member

Timothy S. Simcoe is the David J. McGrath Professor of Strategy and Innovation and at the Boston University Questrom School of Business. He is a Research Associate at the National Bureau of Economic Research, and a faculty director of BU's Technology Policy Research Initiative. From 2014 to 2015, Dr. Simcoe served as a Senior Economist on the President's Council of Economic Advisers. Professor Simcoe's research focuses on innovation, industry standards, intellectual property, antitrust, and technology policy. He has published in leading economics and management journals, including the American Economic Review and Management Science. Dr. Simcoe serves on several editorial boards and has been a member of panels convened by the National Academies of Science and the National Institute of Standards and Technology. He has consulted and testified as an expert witness in several matters related to antitrust and intellectual property. Dr. Simcoe holds a B.A. in Applied Mathematics from Harvard, along with an M.A. in Economics and a Ph.D. in Business Administration from the University of California, Berkeley.

Cassidy Sugimoto

Member

Sugimoto is Tom and Marie Patton Professor and chair of the Jimmy and Rosalynn Carter School of Public Policy at the Georgia Institute of Technology. Previously, she was professor of informatics at Indiana University and served as program director for the Science of Science and Innovation Policy program at the National Science Foundation. Her research examines the scientific enterprise from a quantitative, macro-level perspective, with particular attention to patterns of globalization and the organization of research systems. Her work addresses trends in scientific production, collaboration, and policy across national and institutional contexts. She earned an undergraduate degree in music performance, a master's degree in library science, and a doctorate in information and library science from the University of North Carolina at Chapel Hill.

Sarah Rovito

Staff Officer