

Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the Department of Defense

Committee

Maryann P. Feldman

Co-Chair

Maryann P. Feldman is the Watts Professor in the Department of Public Policy at Arizona State University. Feldman was the winner of the Global Award for Entrepreneurship Research for her contributions to the study of the geography of innovation and the role of entrepreneurial activity in the formation of regional industry clusters. Feldman's most recent work explores the emergence of regional entrepreneurial ecosystems. Feldman served as the co-chair of the congressionally mandated National Academies of Sciences, Engineering, and Medicine studies of the SBIR and STTR programs at the Department of Energy, National Institutes of Health, and National Science Foundation.

Scott Stern

Co-Chair

Scott Stern is the David Sarnoff Professor of Management at the MIT Sloan School of Management. Stern explores how innovation and entrepreneurship differ from more traditional economic activities, and the consequences of these differences for strategy and policy. His research in the economics of innovation and entrepreneurship focuses on entrepreneurial strategy, innovation-driven entrepreneurial ecosystems, and innovation policy and management. Recent studies include the impact of clusters on entrepreneurship, the role of institutions in shaping the accumulation of scientific and technical knowledge, and the drivers and consequences of entrepreneurial strategy. Stern started his career at MIT, where he worked from 1995 to 2001. Before returning to MIT in 2009, he held positions as a professor at the Kellogg School of Management and as a Non-Resident Senior Fellow at the Brookings Institution. Stern was the co-founder and director (through 2021) of the Innovation Policy Working Group at the National Bureau of Economic Research. In 2005, he was awarded the Kauffman Prize Medal for Distinguished Research in Entrepreneurship. In 2018, he joined the National Academies of Sciences, Engineering, and Medicine's (NASEM) Board on Science, Technology, and Economic Policy (STEP). He has additionally served and contributed to a number of NASEM committees, including The Future of Supercomputing (2004), Copyright in the Digital Era (2013), and An Assessment of ARPA-E (2017). As well, along with Maryann Feldman, he has served as co-chair of three consensus committees examining the SBIR and STTR programs at Department of Energy, National Institutes of Health, and National Science Foundation, respectively. Stern holds a BA in economics from New York University and a PhD in economics from Stanford University.

Michael J. Andrews

Member

Michael Andrews is an associate professor in the Department of Economics at the University of Maryland Baltimore County (UMBC). He studies the economics of innovation, with research focusing on the role of public investments in developing local innovation ecosystems and on quantifying how social interactions lead to the generation and diffusion of new ideas. Much of his research uses historical data and settings, especially data on historical patents and the history of U.S. higher education. His work has received funding from the Kauffman Foundation and an NSF Doctoral Dissertation Improvement grant. Andrews holds a PhD in economics from the University of Iowa, as well as an MA in economics from the University of Iowa and a BA in economics and BS in supply chain management, both from the University of Maryland. Prior to joining UMBC, he served as a postdoctoral fellow at Northwestern University and at the National Bureau of Economic Research.

Andrea Belz

Member

Andrea Belz is Vice Dean of Transformative Initiatives at the University of Southern California Viterbi School of Engineering, Research Director at the Information Sciences Institute, Director of Translational Strategy for California Defense-Ready Electronics and Microdevices Superhub (California DREAMS), Director of the Center for Research in Space Technologies (CREST), and Professor of Practice in Industrial and Systems Engineering, where she specializes in engineering policy and technology strategy. She has previously served as a Visiting Professor of Engineering at Caltech.

From 2019 to 2022, Belz served as Division Director at the National Science Foundation (NSF), where she oversaw the agency's translational research activities and the launch of the Translational Impacts Division in the new Directorate for Technology, Innovation, and Partnerships. From 2016 to 2019 she served as the inaugural Vice Dean of Technology Innovation and Entrepreneurship at USC Viterbi, following her creation of Innovation Node - Los Angeles (IN-LA), a regional center of excellence for the NSF I-Corps program. Previously she spent ten years serving as a consulting systems engineer at NASA JPL, leading roadmap efforts for the Solar System Exploration Directorate in topics ranging from life detection; electronics for extreme environments; and guidance, navigation, and control systems. She currently serves as President-Elect of the IEEE Technology and Engineering Management (TEMS) Society. She has done multiple startups over the years and served on the board of Caltech spinoff Ondax until its acquisition in 2018.

She holds a PhD in experimental nuclear physics from Caltech, a BS in physics from the University of Maryland at College Park, and an MBA in finance from the Pepperdine Graziadio School of Business.

Janet Bercovitz

Member

Janet Bercovitz joined the Leeds School of Business at the University of Colorado Boulder in Fall 2017 as a Professor of Strategy & Entrepreneurship and was named the Deming Professor of Entrepreneurship in 2019. She previously taught at the Geis College of Business at the University of Illinois at Urbana-Champaign and the Fuqua School of Business at Duke University. Bercovitz's research program consists of two main research streams. The first concentrates on extending understanding of academic entrepreneurship and university-industry technology transfer. The second stream focuses on issues of organizational structure and inter-organizational contractual relationships. Her research has been published in major journals such as Organization Science, Strategic Management Journal, Management Science, Research Policy, and the Journal of Technology Transfer. Bercovitz currently serves on the editorial review boards of the Strategic Management Journal, Strategy Science, and Research Policy. She served on the 5-year leadership team for the TIM (Technology and Innovation Management) Division of the Academy of Management completing her term in August 2023. Bercovitz holds a BS degree in chemistry, an MBA, and a PhD in business and public policy from the University of California, Berkeley.

M. Diane Burton

Member

M. Diane Burton is the Joseph R. Rich '80 Professor in the ILR School at Cornell University where she directs the Institute for Compensation Studies and serves on the advisory board for the Center for Advanced Human Resource Studies. Burton studies employment relations and organizational change in entrepreneurial companies. Her primary research is a major study of high-tech start-ups in Silicon Valley with an emphasis on entrepreneurial teams and executive careers. She led an interdisciplinary research team in a three-year project on the social science of creativity, innovation, and entrepreneurship and was part of an international team studying the career consequences of entrepreneurial employment. Burton earned her undergraduate degree in social and decision sciences at Carnegie Mellon University, an M.Ed. from Harvard University Graduate School of Education and her PhD in organizational sociology at Stanford University.

Ramalingam Chellappa

Member

Professor Rama Chellappa (NAE) is a Bloomberg Distinguished Professor at Johns Hopkins University (JHU). He holds a non-tenured position as a College Park Professor in the department of electrical and computer engineering at the University of Maryland. His research interests are in computer vision, pattern recognition, machine learning and artificial intelligence. He received the 2012 K. S. Fu Prize from the International Association of Pattern Recognition (IAPR). He is a recipient of the Society, Technical Achievement, and Meritorious Service Awards from the IEEE Signal Processing Society, the Technical Achievement and Meritorious Service Awards from the IEEE Computer Society and the Inaugural Leadership Award from the IEEE Biometrics Council. He received the 2020 IEEE Jack S. Kilby Medal for Signal Processing. He is a Fellow of AAAI, AAAS, ACM, AIMBE, IAPR, IEEE, NAI, OSA, and the Washington Academy of Sciences and holds nine patents. He is a member of the National Academies Air Force Studies Board and has previously served on a number of National Academies consensus study committees and workshops. He served as a CEO for two small businesses, ImageCorp and MUKH Technologies, LLC, which received SBIR awards from the Department of Defense. He earned his doctorate in electrical engineering at Purdue University.

Donna Ginther

Member

Donna K. Ginther is the Roy A. Roberts and Regents Distinguished Professor of Economics and the Director of the Institute for Policy and Social Research at the University of Kansas and a Research Associate at the National Bureau of Economic Research. Prior to joining the University of Kansas faculty, she held positions at the Federal Reserve Bank of Atlanta, Washington University and Southern Methodist University. Her major fields of study are scientific labor markets, gender differences in employment outcomes, wage inequality, scientific entrepreneurship, children's educational attainments, and child abuse and neglect. Ginther received her doctorate in economics in 1995, master's degree in economics in 1991, and BA in economics in 1987, all from the University of Wisconsin-Madison.

Jorge Guzman

Member

Jorge Guzman is the Gantcher Associate Professor of Business at Columbia University and a Faculty Research Fellow in the Innovation Program at the National Bureau of Economic Research (NBER). He is the co-founder of the Startup Cartography Project, a project aiming to measure the quality and quantity of entrepreneurship in the United States at any level of granularity. Guzman's research focuses on the measurement of entrepreneurship and the role of entrepreneurship in the economy, including the evolution of economic clusters and their role in enabling startups, entrepreneurial motivations, and entrepreneurial strategy. He was also a leader of the NSF Regional Innovation Engines study group. Guzman was previously the entrepreneurship post-doc at the NBER, and has a PhD and an MBA from the Massachusetts Institute of Technology and a BS in computer engineering from Tec de Monterrey.

Lauren Lanahan

Member

Lauren Lanahan is an Associate Professor of Management and the Inman Research Scholar at the Lundquist College of Business at the University of Oregon. Her research investigates the relationship between institutions and the production of scientific knowledge. She examines outcomes related to innovation, technological change, and economic growth. She has published in a range of outlets including American Economic Review, Organization Science, Research Policy, and the Journal of Policy Analysis and Management. Lanahan received her PhD from the University of North Carolina at Chapel Hill and previously worked at the National Science Foundation in the Division of Social and Economic Sciences. She has served as a committee member on two National Academies of Sciences, Engineering, and Medicine reviews of the SBIR/STTR programs, those of the programs at the Department of Energy and the National Science Foundation.

Ellen M. Lord

Member

Ellen Lord served as the UnderSecretary of Defense for Acquisition and Sustainment from 2017 to 2021 after a 33-year career at Textron, finishing as CEO of Textron Systems, an aerospace and defense business. Lord currently serves as a director for AAR Corporation, Comtech Telecommunications Corporation and Parsons Corporation, is a Senior Fellow at Johns Hopkins University Applied Physics Laboratory, and advises aerospace and defense firms and non-profits as well as serving on several commissions including the congressionally mandated Planning, Programming, Budgeting and Execution Commission. Her expertise lies at the intersection of industry and national security and is known for a focus on streamlining Department of Defense (DoD) acquisition systems in order to accelerate fielding of capability to the warfighter with a focus on software development and cyber hardening systems. Lord was awarded the Department of Defense Medal for Distinguished Public Service. She is an advisor for the Emerging Technologies Institute at the National Defense Industrial Association where she was Vice-Chair prior to joining DoD. Lord also serves on the board of the Naval Institute where she was active while in industry. She has a master's degree in chemistry and undergraduate degrees in chemistry and zoology.

Victor R. McCrary

Member

Victor R. McCrary is vice provost for national security innovation at The Catholic University of America. Previously, he served as vice president for research at the University of the District of Columbia. He has held similar research leadership positions at the Johns Hopkins University Applied Physics Laboratory, Morgan State University, and the National Institute of Standards and Technology (NIST). McCrary served two terms as the national president of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE). He is a Fellow of the American Chemical Society. He received his doctoral degree in chemistry from Howard University in 1986, a master's degree in engineering from the University of Pennsylvania in 1995, and a bachelor's degree in chemistry from The Catholic University of America in 1978. In October 2016, President Barack Obama appointed McCrary to serve on the National Science Board, which oversees the National Science Foundation. In May 2020, he was elected as the Vice-Chair of the National Science Board. On May 4, 2022, McCrary was re-appointed by President Joseph Biden to a six-year term on the National Science Board.

J. Michael McQuade

Member

J. Michael McQuade director of the program on Emerging Technology, Scientific Advancement & Global Policy at Harvard University's John F. Kennedy School of Government. He previously served as special advisor to the president of Carnegie Mellon University (CMU), where he provided strategic advice on the University's research enterprise and advocating for the role that science, technology and innovation play nationally and globally. From 2019 to 2021 he served as the Vice President for Research at CMU.

From 2006 to 2018 McQuade served as Senior Vice President for Science & Technology at United Technologies Corporation where his responsibilities included providing strategic oversight and guidance for research, engineering and development activities throughout the business units of the corporation and at the United Technologies Research Center. McQuade held senior positions with technology development and business management at 3M and Eastman Kodak. He served as Vice President of 3M's Medical Division and President of Eastman Kodak's Health Imaging Business.

McQuade holds PhD, MS and BS degrees in physics from Carnegie Mellon University. He received his PhD in experimental high-energy physics for research performed at the Fermi National Accelerator Laboratory. McQuade has served as a member of the President's Council of Advisors on Science and Technology, the Secretary of Energy Advisory Board, and as a member of the Defense Innovation Board.

Kyle Myers

Member

Kyle Myers is an Assistant Professor in the Technology and Operations Management Unit at the Harvard Business School (HBS). His research revolves around the economics of innovation and lies at the intersection of science, business, and public policy. He served as a committee member on the National Academies of Sciences, Engineering, and Medicine review of the SBIR and STTR programs at the National Institutes of Health. He has a MS in health policy and management and a BS in biology from Penn State University and has a PhD from the Wharton School's Department of Health Care Management and Economics. Prior to joining HBS, he served as a post-doctoral fellow at the National Bureau of Economic Research and worked at the Centers for Disease Control and Prevention.

Arun Seraphin

Member

Arun A. Seraphin is the Executive Director of the Emerging Technologies Institute at the National Defense Industrial Association. In this role, he helps lead a nonpartisan institute focused on technologies that are critical to the future of national defense, and provides research and analyses to inform the development and integration of emerging technologies and policies to support defense missions. Between 2014 and 2021, Seraphin was a Professional Staff Member on the staff of the United States Senate Committee on Armed Services. His areas of responsibility included acquisition policy, funding and policies for the Department of Defense's science and technology programs and information technology systems, technology transition issues, defense laboratories and test ranges, Small Business Innovation Research program, manufacturing programs, test and evaluation programs, and Pentagon management issues. He rejoined the committee staff in 2014, after previously serving there between 2001 and 2010. From 2010 to 2014, Dr. Seraphin served as the Principal Assistant Director for National Security and International Affairs at the White House Office of Science and Technology Policy (OSTP). During this time, he both led (in an Acting capacity) and served as the deputy director of the OSTP National Security and International Affairs division. He was on detail to OSTP from the Defense Advanced Research Projects Agency (DARPA) where he was the Special Assistant for Policy Initiatives to the Director of DARPA. Seraphin has also worked on the United States House of Representatives Committee on Science's Subcommittee on Research and the Institute for Defense Analyses.

Stephanie S. Shipp

Member

Stephanie S. Shipp is Research Professor in the Department of Statistics at Iowa State University. Until recently, in 2024, she was acting director and professor in the Social and Decision Analytics Division of the Biocomplexity Institute at the University of Virginia. From 2007 to 2013, she was a researcher at the Institute for Defense Analyses, Science and Technology Policy Institute, leading research and analysis of U.S. and global advanced manufacturing trends, technology transfer, and federal science and technology program evaluation. From 2000 to 2008, Shipp was a member of the Senior Executive Service and director of the Economic Assessment Office in the Advanced Technology Program at the National Institute of Standards and Technology. She expanded the economic evaluation capacity of that program by inviting and funding collaboration among academic and nonacademic researchers. She began her career at the Federal Reserve Board, followed by leadership positions at the Bureau of Labor Statistics and the Census Bureau. She has served on National Academies of Sciences, Engineering, and Medicine committees, most recently to evaluate the SBIR/STTR programs at the Department of Energy, National Institutes of Health, and National Science Foundation. Shipp earned a PhD in economics from George Washington University.

Rosemarie Ziedonis

Member

Rosemarie Ziedonis is a Professor of Strategy and Innovation at Boston University's Questrom School of Business, where she has also served as Academic Director for Entrepreneurship. She is an Associate Editor at Management Science and a Research Associate at the National Bureau of Economic Research (NBER) Program on Productivity, Innovation, and Entrepreneurship. Her research examines the value and strategic use of intellectual property, and broader aspects of innovation policy and management. Ziedonis has a PhD in business and public policy from the University of California, Berkeley's Haas School of Business and an undergraduate degree in economics from the University of North Carolina, Chapel Hill. Prior to joining Boston University, she served on the faculty at the University of Oregon, the Wharton School, and the University of Michigan's Ross School of Business, where she co-directed the Program for Law, Economics, and Technology.

Gail Cohen

Staff Officer