

Assessment of the SBIR and STTR Programs at NIH

Committee

Maryann P. Feldman

Co-Chair

Dr. Maryann P. Feldman is the Heninger Distinguished Professor in the Department of Public Policy and Professor of Finance at the Kenan Flagler Business School at the University of North Carolina. Her research and teaching interests focus on the areas of innovation, the commercialization of academic research and the factors that promote technological change and economic growth. From 2014 to 2017, Dr. Feldman held a joint appointment at the National Science Foundation as the Science of Science and Innovation Policy (SciSIP) Program Director. Dr. Feldman's early work revealed that universities were necessary, but not sufficient, for technology-based economic development. These findings launched a new area of investigation into university technology transfer. She has written extensively on processes and mechanisms to commercialize academic research, areas germane to the SBIR/STTR programs.

Dr. Feldman is currently co-chair of the National Academies' Committee on the Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the National Science Foundation. Since 2016, Dr. Feldman has also been a member of the National Academies' Innovation Policy Forum (following a period as an ex officio member), co-chaired the Committee on the Review of the SBIR and STTR Programs at the Department of Energy (2018-2020), and served on the Workshop Steering Committee on Prioritizing and Implementing Improvements to Innovation Indicators (2015-2016). She earned her Ph.D. in economics and management from Carnegie Mellon University.

Scott Stern

Co-Chair

Dr. Scott Stern is the David Sarnoff Professor of Management at the MIT Sloan School of Management. He 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 by Dr. Stern 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, areas relevant to the committee's task.

Dr. Stern is currently co-chair of the National Academies' Committee on the Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the National Science Foundation. His National Academies activity also includes serving on the committee on the Study on the Evaluation of ARPA-e Mission and Goals (2015-2017), chairing the workshop steering committee on Prioritizing and Implementing Improvements to Innovation Indicators (2015-2016), co-chairing the committee on the Review of the SBIR and STTR Programs at the Department of Energy (2018-2020), serving on the committee on the Impact of Copyright Policy on Innovation in the Digital Era (2010-2013), and serving on the committee to study the Future of Supercomputing (2003-2005). He currently serves as co-chair of the National Bureau of Economic Research's Innovation Policy Working Group. Dr. Stern earned his Ph.D. in economics from Stanford University.

Gavi Begtrup

Member

Dr. Gavi Begtrup is chief executive officer at Eccrine Systems, Inc., a company founded in 2013 to commercialize technology and intellectual property covering diagnostic applications in sweat sensor technology. Prior to joining Eccrine in 2014, Dr. Begtrup founded and was principal at Polymath Strategies LLC, where he specialized in technology commercialization and business development for small businesses and supported the Department of Energy in awarding grants and SBIR awards. Prior to Polymath, Dr. Begtrup was CEO of Wave Tech LLC, a technology startup that developed and produced light filters to increase productivity and yield in the algae and agriculture industries.

From 2009 to 2012, Dr. Begtrup was policy advisor for Congresswoman Gabrielle Giffords, and was the 2009-2010 AAAS/Materials Research Society/Optical Society of America Congressional Science Fellow. He also was part of the 2008 Christine Mirzayan Science and Technology Fellowship class at the National Academy of Sciences. Dr. Begtrup received his Ph.D. and M.A. in physics from the University of California, Berkeley and his B.S. in physics, mathematics, and computer science from Western Kentucky University.

Emily Cox Pahnke

Member

Dr. Emily Cox Pahnke is an associate professor of management and organization at the University of Washington's Foster School of Business. Her research focuses on understanding the resources that make ventures successful; specifically, the effects of entrepreneurs' identification and acquisition of resources on venture founding, innovation, and ipos. To study these questions, she uses novel, hand-collected longitudinal datasets and conducts extensive interviews and fieldwork to aid in interpreting the quantitative results. Dr. Pahnke's research contributes by highlighting the boundary conditions under which resources that are typically considered beneficial to ventures—such as venture capital, well-connected partners, or star employees—can be less helpful, or even harmful.

Dr. Pahnke's research has been funded by the receipt of a Schulze Entrepreneurship Professorship and by the Kauffman Foundation and the National Science Foundation. She was the recipient of the Emerging Scholar Award from the Technology and Innovation Management Division of the Academy of Management, the Industry Study Association's best dissertation award and was a finalist for the Technology and Innovation Management Division of the Academy of Management's best dissertation award.

Dr. Pahnke holds a Ph.D. in management science and engineering and a M.A. in sociology from Stanford University, and M.B.A (finance) and B.S. (botany) degrees from Brigham Young University.

Joshua S. Graff Zivin

Member

Dr. Joshua Graff Zivin is professor of economics at UC San Diego (UCSD), where he holds faculty positions in the School of Global Policy & Strategy and the Department of Economics. He is also the Director of the Center on Global Transformation and a Research Associate at the National Bureau of Economic Research (NBER). Prior to joining UCSD, he was an Associate Professor of Economics in the Mailman School of Public Health and the School of International and Public Affairs at Columbia University, where he served as the Director of the Ph.D. Program in Sustainable Development.

Professor Graff Zivin has published numerous articles on a wide range of topics in top economic, policy, and medical journals. His research interests are broad and include the areas of environmental, health, development, and innovation economics. Policy relevance serves as a guiding force behind all of this work.

Amol Joshi

Member

Dr. Amol Joshi is associate professor of management at Wake Forest University. Previously, Dr. Joshi was an assistant professor of strategy and entrepreneurship at Oregon State University's College of Business. Dr. Joshi's work focuses on technology entrepreneurship, and has included an investigation of the impact of workforce diversity at agencies awarding SBIR and STTR grants and the likelihood of minority and women technology entrepreneurs receiving awards. Dr. Joshi's work also examines how inventors create and commercialize new products and technologies, and the problems associated with managing innovation across organizational boundaries.

Dr. Joshi has extensive experience in the private sector as a research engineer, a business manager, inventor, and entrepreneur, and has invented several commercialized products and worked at venture-backed startup firms and high-growth public companies across many industries throughout the United States and the world. Dr. Joshi has also trained teams of scientific researchers across the world on the best practices for spinning-off and launching new ventures from university and government research labs. Dr. Joshi serves as a member of the National Academies' Committee on the Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the National Science Foundation, and previously served as a member of the Committee on the Review of the SBIR and STTR Programs at the Department of Energy (2018-2020).

Dr. Joshi received his Ph.D. in business administration from the Kenan-Flagler Business School at the University of North Carolina at Chapel Hill, his M.S. in engineering sciences from the Thayer School of Engineering at Dartmouth College, and his B.S. of electrical engineering from the Georgia Institute of Technology.

Alicia Löffler

Member

Dr. Alicia Löffler is the founding executive director of the Innovation and New Ventures Office (INVO), Associate Provost for Innovation and New Ventures, and Associate Vice President for Research at Northwestern University. Dr. Löffler is responsible for all short and long-term strategies and operations for INVO, including all educational commercialization and new ventures.

Dr. Löffler has served as advisor and director on multiple profit and non-profit boards for biotech/medical and investment firms. Before becoming Executive Director of INVO, Dr. Löffler was Director of the Kellogg Center for Biotechnology Management, an educational and research organization focused on management of the biotechnology, pharmaceutical and medical device sectors.

Dr. Löffler received a B.S. from the University of Minnesota, a Ph.D. from the University of Massachusetts at Amherst, and had her post-doctoral training at Caltech.

Amalia Miller

Member

Dr. Amalia Miller is professor of economics and graduate studies director at the University of Virginia, where she researches public finance, health economics, and industrial organization. Dr. Miller is also a research associate with the National Bureau of Economic Research and IZA research fellow. From 2010 to 2017, Dr. Miller was an economist with the RAND Corporation, and from 2004 to 2010 was assistant professor of economics at the University of Virginia.

Dr. Miller has published research on topics such as privacy protection and personalized medicine, workforce reductions at women-owned businesses, and workplace hierarchies. Her current research studies women in non-traditional occupations and information technology diffusion in medical care.

Dr. Miller received her Ph.D. in economics from Stanford University.

Mary Pat Moyer

Member

Dr. Mary Pat Moyer is the founder, chief executive officer, and chief science officer of INCELL Corporation, a manufacturer and developer of media and cell culture products with capabilities in manufacturing cell and tissue products, biologicals, and compounded drugs. Holding these positions since 1993, Dr. Moyer is an international authority in cell engineering science, manufacturing, as well as infectious disease science and vaccines.

Since 1998, Dr. Moyer has been an adjunct professor in the department of surgery at UTHealth San Antonio. She was formerly a professor in the same department from 1992 to 1998. From 1988 to 1997, Dr. Moyer was also coordinator and director of The University of Texas Health Science Center's AIDS Research Laboratory.

In 2019, Dr. Moyer was elected to the National Academy of Engineering for her record of entrepreneurship and development of cell lines, cell media, and testing technologies for regenerative medicine and biopharma products. Dr. Moyer received her Ph.D. in microbiology from The University of Texas at Austin in 1981.

Kyle Myers

Member

Kyle Myers is an assistant professor of business administration in the Technology and Operations Management unit of Harvard Business School. Dr. Myers studies the economics of innovation. His research lies at the intersections of science, health care, and the commercialization process. More specifically, Professor Myers is interested in the strategic choices and performance of scientists, the supply and demand of innovation in high-tech sectors, public versus private funding of R&D, and the management of innovation in large organizations such as hospitals and pharmaceutical and engineering firms. His work has received funding from the Kauffman Foundation and was awarded the NBER-IFS Predoctoral Scholarship in the Value of Medical Research. Professor Myers holds a Ph.D. from the Wharton School's Department of Health Care Management and Economics. He has a M.S. in Health Policy and Management and a B.S. in Biology from Penn State University. 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.

Bhaven Sampat

Member

Dr. Bhaven Sampat is an associate professor in the Department of Health Policy and Management at Columbia University's Mailman School of Public Health. He also holds a courtesy affiliation with the University's School of International and Public Affairs (SIPA), where he teaches in the MPA and MIA programs. Dr. Sampat also teaches in the Sustainable Development Ph.D. program at the Earth Institute.

An economist by training, Dr. Sampat is centrally interested in issues at the intersection of health policy and innovation policy. His current work examines the causes and consequences of generic firms' challenges to pharmaceutical patents in the United States, the impact of pharmaceutical patent laws on innovation and access to medicines in the developing countries, the political economy of the National Institutes of Health, and the returns to publicly funded medical research. Dr. Sampat has written extensively on the effects of university patenting and the Bayh-Dole Act on academic medicine, and on patent quality issues in the United States. He continues to be actively involved in policy debates related to these issues.

Dr. Sampat received his B.A., M.A., M.Phil., and Ph.D. in economics from Columbia University. He was previously an assistant professor at the School of Public Policy at Georgia Tech, where he won the "Faculty Member of the Year" award for both the 2001-2002 and 2002-2003 academic years. From 2003 to 2005, he was a Robert Wood Johnson Foundation Scholar in Health Policy Research at the University of Michigan.

Stephanie S. Shipp

Member

Dr. Stephanie Shipp is deputy director and professor in the Social and Decision Analytics Division of the Biocomplexity Institute & Initiative at the University of Virginia. Dr. Shipp's expertise is in economics, particularly statistical methodology, data science and modeling, and program and policy analysis.

Dr. Shipp's work spans topics related to the use of all data to advance policy, the science of data science, and social analytics. She has recently led and engaged in projects at the local, state, and federal levels to use new and traditional sources of data to inform decisionmaking. Her research focuses on developing statistical methodologies and tools for using administrative and other data to model the social condition. Dr. Shipp is creating and implementing new programs to build data science capacity in communities of all sizes and types.

As a member of the Senior Executive Service, Dr. Shipp earlier served at the National Institute of Standards and Technology (NIST) as director of the Economic Assessment Office in the Advanced Technology Program. Dr. Shipp also led economic and statistical programs at the Census Bureau and the Bureau of Labor Statistics, and she began her career at the Federal Reserve Board. Following her time at NIST, Dr. Shipp was a senior Research Staff Member at the Institute for Defense Analyses, Science and Technology Policy, conducting research for the Office of Science and Technology Policy and other federal agencies, and immediately prior to joining the faculty at the University of Virginia, Dr. Shipp was the deputy director and research professor at the Social and Decision Analytics Laboratory (SDAL) at the Biocomplexity Institute of Virginia Tech.

For the National Academies, Dr. Shipp serves as a member of the National Academies' Committee on the Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the National Science Foundation. She is also a member of the Committee on the Role of Inducement Prizes and previously served as a member of the Committee on the Review of the SBIR and STTR Programs at the Department of Energy (2018-2020), the Committee on the Evaluation of ARPA-e Mission and Goals, the Committee on Assessing the Value of Research in Advancing National Goals, and the Steering Committee for the Workshop on Future Directions for the National Science Foundation National Patterns of Research and Development Program.

Dr. Shipp received a Ph.D. in economics from The George Washington University in 2000.

Clay Thorp

Member

Clay Thorp is an entrepreneur turned venture capitalist. Since 1995, he has co-founded eight companies in the life science arena and co-founded Hatteras in 2000. Since co-founding Hatteras, Mr. Thorp has been instrumental in building the firm from its origins with a \$3 million seed fund to a venture capital partnership that manages over \$550 million across six venture funds. Mr. Thorp has led investments in a range of life science companies, including biopharmaceuticals, medical devices, diagnostics, and research informatics.

Mr. Thorp began his career in 1995 when he co-founded Xantho, Inc., a bioinformatics company with electrochemical detection technology for direct analysis of DNA, RNA and proteins. Shortly thereafter, he co-founded Novalon Pharmaceutical Corporation, where he led financing efforts and was head of business development from inception until Novalon's sale to Karo Bio for \$106.7 million in May of 2000. Subsequently, Mr. Thorp applied his entrepreneurial passions to co-founding Hatteras Venture Partners (formerly Catalista Ventures). Since that time, Hatteras has invested in over 60 companies in the life science industry, serving as the founding or first institutional investor in over half of these. Mr. Thorp currently serves as Chairman of PhaseBio Pharmaceuticals. He is also on the boards of Clearside Biomedical, GeneCentric Therapeutics, Rodin Therapeutics, Lysosomal Therapeutics, and Orig3n. He is also on the Strategic and Scientific Advisory Board of Brii Biosciences. Mr. Thorp serves on the Chancellor's Philanthropic Committee at UNC-Chapel Hill, the Board of Visitors of the Lineberger Comprehensive Cancer Center at UNC-Chapel Hill, and on the board of the NC School of Science and Mathematics Foundation. He holds a Masters of Public Policy from Harvard University and a B.A. in mathematics and art history from the University of North Carolina at Chapel Hill.

Dashun Wang

Member

Dr. Dashun Wang is an associate professor of management and organizations at the Kellogg School of Management, and (by courtesy) the McCormick School of Engineering, at Northwestern University. At Kellogg, he is the Founding Director of the Center for Science of Science and Innovation (CSSI). He is also a core faculty at the Northwestern Institute on Complex Systems (NICO). Prior to Northwestern, Dashun was an Assistant Professor of Information Sciences and Technology at the Pennsylvania State University and, prior to that, a research staff member at the IBM T.J. Watson Research Center.

His current research focus is on Science of Science, a quest to turn the scientific methods and curiosities upon ourselves, hoping to use and develop tools from complexity sciences and artificial intelligence to broadly explore the opportunities and promises offered by the recent data explosion in science.

Dr. Wang received his PhD in Physics in 2013 from Northeastern University, where he was a member of the Center for Complex Network Research. From 2009 to 2013, he had also held an affiliation with Dana-Farber Cancer Institute, Harvard University as a Research Associate. He is a recipient of the AFOSR Young Investigator award (2016) and Poets & Quants Best 40 Under 40 Professors (2019).

Gail Cohen

Staff Officer