Strategic Long-Term Participation by DOD in its Manufacturing Innovation Institutes

Committee

Theresa Kotanchek

Co-Chair

THERESA KOTANCHEK is the chief executive officer and co-founder of Evolved Analytics LLC, a data science and system design, software and solutions provider. Prior to assuming this role, she spent 23 years in executive and leadership positions at Dow Chemical, including Vice President for Sustainable Technologies and Innovation Sourcing (2010-2013). From 2005–2010, she served as the chief technology officer of Dow Chemical China Company Limited, leading Asia Pacific R&D, including the development of Dow's state-of-the-art 1 million square foot R&D center in Shanghai, China, and the staffing of more than 1,200 scientists and engineers across the region. Over the course of her Dow tenure, she held numerous business and corporate roles, including Global Director in Dow Plastics, Dow Ventures and Corporate R&D. In 2011–2012, she served as the industrial led and working group co-chair of President Obama's Advanced Manufacturing Partnership Initiative. In 2013-2014, she served on the U.S. National Academy of Engineers "Making Value for America" committee, and currently serves on numerous university boards, including Penn State's Department of Materials Science and Engineering and Georgia Tech's Manufacturing Institute and Materials Institute. Kotanchek holds a Ph.D. in materials science, a M.S. in ceramic science, and a B.S. in ceramic science & engineering from Pennsylvania State University. She has published over 100 technical articles, holds 6 US patents, and has given over 200 invited talks. She is an active member of the American Chemical Society, Materials Research Society, Council of Industrial Research, and Society of Women Engineers.

Edward Morris

Co-Chair

EDWARD MORRIS is Vice President and Director of the National Center for Defense Manufacturing and Machining. Mr. Morris has a Bachelor of Science in Aeronautical Engineering from Purdue University and an MBA from the University of Texas at Arlington. Previously Mr. Morris was the Director of Mechanical Engineering & Manufacturing on the Lockheed Martin Corporate Engineering & Technology team. Reporting to the Vice President of Engineering, Ed worked with the Business Areas to develop and maintain the mechanical engineering skill set and tools necessary to efficiently design and manufacture Lockheed Martin's portfolio of products. Mr. Morris is the Chairman of the National Defense Industrial Association's (NDIA) Manufacturing Division, and is an active member of the Aerospace Industries Association's (AIA) Engineering Management Committee, the joint industry/government Pb-free Electronics Risk Management (PERM) Consortium, and the Missile Defense Agency's Transforming Defense Supply Chains Technical Advisory Board. He also serves as a member of the Industrial Advisory Boards for the Navy Electronics Manufacturing Productivity Facility, the Center for Advanced Life Cycle Engineering (CALCE) Electronic Products and Systems Consortium at the University of Maryland, the National Science Foundation Center for Advanced Vehicle and Extreme Environment Electronics at Auburn University, and the National Science Foundation Industry/University Cooperative Research Center for Lasers and Plasmas. He has more than 40 years of defense, commercial and international aerospace industry experience with emphasis on program management, engineering, procurement, and manufacturing. Mr. Morris is a nationally recognized leader in advanced manufacturing technology.

William B. Bonvillian

Member

William B. Bonvillian is a Lecturer at the Massachusetts Institute of Technology in the Science Technology and Society and Political Science Departments, and Senior Director, Special Projects, at MIT's Office of Digital Learning, directing a research project on workforce education. He began teaching science and technology policy MIT in 2007, and has also taught a course on innovation policy since 2017. Prior to this position, from 2006-17, he was Director of the MIT's Washington, D.C. Office, reporting to MIT's President. In this position he worked to support MIT's strong and historic relations with federal R&D agencies, and its role on national science policy. He has assisted with major MIT technology policy initiatives, on energy technology, the "convergence" of life, engineering and physical sciences, advanced manufacturing, online higher education and its "innovation orchard" project on startup scale-up. Prior to that position, he served for seventeen years as a senior policy advisor in the U.S. Senate. His legislative efforts included science and technology policy and innovation issues. He worked extensively on legislation creating the Department of Homeland Security, on Intelligence Reform, on climate change, on defense and life science R&D, and on national competitiveness and innovation legislation leading to the America Competes Act in 2007. Prior to his work on the Senate, he was a partner at a large national law firm. Early in his career, he served as the Deputy Assistant Secretary and Director of Congressional Affairs at the U.S. Department of Transportation, working on major transportation deregulation legislation. Following law school, he served as a law clerk to Hon. Jack B. Weinstein, a Federal Judge in New York. He has been a member of the Connecticut Bar, the District of Columbia Bar and the U.S. Supreme Court Bar.

Thomas M. Donnellan

Member

THOMAS M. DONNELLAN is the associate director for Materials and Manufacturing at the Applied Research Laboratory (ARL) at Pennsylvania State University. ARL is a DoD University Affiliated Research Center for the DoD and as such is tasked with providing technology solutions for emergent DoD problems. Within the Materials and Manufacturing Office at ARL, Dr. Donnellan is responsible for technology development and demonstration programs Dr. Donnellan has a 30-year career in Advanced Technology Development and has worked at government laboratories, in industry and in academia. Prior to joining ARL, Dr. Donnellan was the FBI's senior scientist for Physical Science, with responsibility for advising Bureau management on the technology R&D portfolio for forensic and intelligence applications. From 1991 to 1999, Dr. Donnellan worked at the Northrop Grumman Corporation where he held a number of positions and eventually became the director of Structural Sciences. Dr. Donnellan started his career at the Naval Air Development Center where he performed and directed R&D in support of Navy needs and also provided technical support to DoN for a number of Navy acquisition programs. Dr. Donnellan currently serves on the Executive Steering Committee of the Composites Manufacturing Technology Center and on the Governance Board of the National Additive Manufacturing Innovation Institute. Dr. Donnellan is a graduate of Drexel University (B.S. in materials engineering) and has advanced degrees from MIT in polymerics (S.M.) and materials science (Sc.D.).

Susan Helper

Member

SUSAN HELPER is the Carlton Professor of Economics at the Weatherhead School of Management, Case Western Reserve University. She served as the Chief Economist of the U.S. Department of Commerce from 2013-2015, and as Senior Economist at the White House Council of Economic Advisers in 2012-3. She is a department editor at the Journal of Operations Management. Dr. Helper has been a visiting scholar at University of Oxford, the University of California (Berkeley), Harvard University and the Massachusetts Institute of Technology (MIT). Her research focuses on the globalization of supply chains, and on how U.S. manufacturing might be revitalized. Dr. Helper received her PhD in Economics from Harvard and her B.A. from Oberlin College.

Michael Maher

Member

MICK MAHER is president at Maher & Associates LLC. He provides consultation services to clients in areas concerning new material and manufacturing technologies. Mr. Maher joined DARPA as a program manager in September 2011, and managed a portfolio of programs specializing in advanced materials and manufacturing that included the Tailorable Feedstock and Forming, Materials Development for Platforms, and Open Manufacturing programs. While at DARPA his programs developed new technologies that enabled rapid qualification of new manufacturing technologies and developed revolutionary new composite technologies, novel lightweight multifunctional and specialty material systems. Mr. Maher came to DARPA from the Army Research Laboratory (ARL) where he was Chief of the Composite and Hybrid Materials Branch and Materials Applications Branch. While at ARL, Mr. Maher oversaw the research and development programs in the areas of armor material, coatings, composite technologies, failure analysis, hybrid material systems, processing and material transitions. Prior to his work at ARL, Mr. Maher served in various technology and management positions over a 20-year span at companies such as Martin Marietta, AAI, and DuPont. He holds a Bachelor of Science degree in chemistry from Loyola College in Maryland.

Michael F. McGrath

Member

MIKE McGRATH is the president of McGrath Analytics, LLC. He also recently retired from the position of Vice President for Systems and Operations Analysis at Analytic Services Inc. (ANSER), a not-for-profit government services organization. He led ANSER’s operations in Science and Technology and Operational Analysis and Management. Dr. McGrath holds a BS in Space Science and Applied Physics and an MS in Aerospace Engineering from Catholic University, and a doctorate in Operations Research from George Washington University. He previously served as the Deputy Assistant Secretary of the Navy for Research, Development, Test and Evaluation (DASN(RDT&E)), where he was a strong proponent for improvements in technology transition, modeling and simulation, and test and evaluation. In prior positions, he served as Vice President for Government Business at the Sarnoff Corporation, ADUSD for Dual Use and Commercial Programs in the Office of the Secretary of Defense (OSD), Assistant Director for Manufacturing at the Defense Systems Research Projects Agency (DARPA-DSO), and Director of the DoD Computer-aided Acquisition and Logistics Support (CALS) program. While at DARPA, he managed the Affordable Multi-Missile Manufacturing Program and the Agile Manufacturing program. He was also heavily involved in DARPA’s dual-use Technology Reinvestment Project. His early government career included positions in Logistics Management at Naval Air Systems Command and in Acquisition Management in OSD. His background in Aerospace Engineering and Navy Research and Development background will be suitable for this workshop.

Pol D. Spanos

Member

POL SPANOS (NAE) is the Lewis B. Ryon Professor at Rice University. From the California Institute of Technology (CALTECH) he holds an M.S. in Civil Engineering; and a Ph.D. with a major in Applied Mechanics, and a minor-I in Applied Mathematics, and minor-II in Business Economics and Management. Professor Spanos' research efforts focus on the dynamics and vibrations of structural and mechanical systems under a variety of loads. Systems exhibiting nonlinear behavior and/or exposed to hazard/risk inducing conditions receive particular attention. His group is also interested in mechanical properties and fatigue/fracture issues of modern (nanocomposites, etc.) materials, and in signal processing algorithms for dynamic effects in biomedical applications. Professor Spanos received a National Science Foundation (NSF) Presidential Young Investigator Award for research in engineering mechanics. He is also a Pi Tau Sigma and a Larson medalist from the American Society of Mechanical Engineers (ASME) for outstanding achievement in mechanical engineering within ten and twenty years from college graduation. He has published more than 300 technical papers and has authored/edited more than 20 books and conference volumes. He is a corresponding member of the National Academy of Greece (Academy of Athens); a member of Academia Europaea (Academy of Europe); a foreign member of the Indian National Academy of Engineering; and a member (academe) of the National Academy of Engineering (USA). He has served, both, as the chair of the ASCE Engineering Mechanics Division and as the chair of the ASME Applied Mechanics Division. He has held Distinguished Visiting Professor positions in numerous prestigious institutions, worldwide. Further, he has served in leadership/mentorship positions for a plethora of diversity enhancing initiatives and organizations.

Ben Wang

Member

BEN WANG is the Gwaltney Chair in Manufacturing Systems in the School of Industrial and Systems Engineering and Professor in the School of Materials Science and Engineering at Georgia Tech. He is executive director of the Georgia Tech Manufacturing Institute. Dr. Wang holds a Ph.D. in industrial engineering from Pennsylvania State University. Dr. Wang’s primary research interest is in applying emerging technologies to improve manufacturing competitiveness, specializing in product and process development for composite materials. Dr. Wang is a fellow of the Institute of Industrial Engineers, the Society of Manufacturing Engineers, and the Society for the Advancement of Material and Process Engineering. He has authored three books on computer aided manufacturing.