New England Innovates: Leading the Way in Robotics

THE NEW ENGLAND COUNCIL

Featuring
U.S. Representative Jim McGovern
October 31, 2024 - UMass Club

AGENDA

8:30 a.m.	**Registration & Networking** Robot Demonstration – Boston Dynamics
9:00 a.m.	**Welcome Remarks** James T. Brett, President & CEO The New England Council **Keynote Introduction** Bogdan Vernescu, Ph.D., Vice President and Vice Provost for Research and Innovation Worcester Polytechnic Institute
9:15 a.m.	**Keynote Remarks and Q&A** The Honorable Jim McGovern U.S. House of Representatives, Massachusetts 2nd Congressional District
10:00 a.m.	**Panel Discussion** *Moderator:* Tom Ryden, Executive Director MassRobotics *Panelists:* • Tye Brady, Chief Robotics Technologist, Amazon • Martin Buehler, Ph.D. Vice President and Distinguished Fellow, Robotics, Johnson & Johnson MedTech • Sarah Mendelowitz, Manager, MADE Automation and Robotics, New Balance • Carlo Pinciroli, Ph.D., Associate Professor, Robotics Engineering, Worcester Polytechnic Institute • Holly Yanco, Ph.D., Professor & NERVE Center Director, UMass Lowell
11:00 a.m.	**Program concludes**

Join the conversation @NECouncil and use the hashtag #NEInnovates

SPEAKER & PANEL BIOGRAPHIES

Keynote Introduction

Bogdan Vernescu, Ph.D.
Vice President and Vice Provost for Research and Innovation
Worcester Polytechnic Institute

Bogdan Vernescu is the Vice President and Vice Provost for Research and Innovation, and Professor of mathematical sciences. He was appointed to the position of Vice Provost for Research in 2016, and is responsible for enhancing faculty research efforts and increasing support for research at WPI from government agencies, corporations, and foundations. His responsibilities include supervising the operation and non-financial support of WPI's research enterprise, including oversight of university-wide research institutes and centers, and the offices that administer research sponsorship, research integrity and compliance, technology innovation and entrepreneurship, and shared facilities.

He is member of the Executive Committee of the Massachusetts Technology Collaborative, member of the Board of Directors of the NDIA New England Chapter, chair of the Board of the Romanian-American Foundation, member of the Board of Directors of the Worcester Regional Research Bureau, and member of the Board of Directors of the ASSISTments Foundation.

Vernescu originally joined WPI in 1991 as a faculty member in the Mathematical Sciences department, where he co-founded the Center for Industrial Mathematics and Statistics (CIMS) in 1997, and was its founding Director, and subsequently served as department head from 2003 to 2013. He supported the development of professional science masters' programs at WPI and founded the National Professional Sciences Masters Association, and was its founding President.

His research is in applied mathematics for multiscale materials sciences, focusing on the characterization of material properties of composites, porous media, suspensions, emulsions and electrorheological/magnetorheological materials. He has published over 80 research papers, a monograph and a proceedings volume. He has held visiting positions at the University of Minnesota, MIT, the University of Metz, University of Nancy, University of Chambery, University of Savoie, University of Rouen, University of Sorbonne Paris Nord, University of Rome La SapienzaRome, and at the Institute of Mathematics of the Romanian Academy.

Before arriving at WPI, Vernescu was a researcher at the Institute of Mathematics of the Romanian Academy. He earned BS and MS degrees in applied mathematics from the University of Bucharest, and a PhD in mathematics from the Institute of Mathematics in Romania.

Keynote Remarks

Hon. Jim McGovern
U.S. House of Representatives
Massachusetts 2nd Congressional District

Congressman Jim McGovern represents the Second District of Massachusetts in the United States House of Representatives. He is a champion for the people of his home state of Massachusetts, and a global leader working to end hunger, protect human rights, and promote peace. He believes public service should be about bringing us together and working to make life better for all our families.

Jim has been the top Democrat on the powerful House Rules Committee since 2018, serving as Chairman during the 116th and 117th Congress. Jim has worked hard on the Rules Committee to change business as usual on Capitol Hill and make Congress work in a more open, transparent, bipartisan way. For example, he put in place rules to give all Members of Congress more time to read bills. He required that bills to go through the committee process instead of just being written behind closed doors, and he created a new office to recruit and retain congressional staff that reflect the diversity of the American people.

On the House Agriculture Committee, Jim has been a global leader in the fight to end hunger. He fought for and successfully secured a White House Conference on Hunger, Nutrition, and Health to make ending hunger a national priority. Thanks to Jim's advocacy and tireless work, military families are being screened for hunger for the first time ever, families with children get enhanced food benefits, schools are able to provide more nutritious meals, and America now has a plan to end hunger within the decade.

Jim has spent his career in public service working to strengthen America's global leadership when it comes to protecting human rights and promoting peace. He serves on two commissions which monitor, investigate and advocate on behalf of international human rights, the rule of law, and good governance: the Congressional-Executive Commission on China, and the bipartisan Tom Lantos Human Rights Commission. He has written and successfully passed into law several bills which help America identify and hold accountable corrupt foreign officials and human rights abusers. He has also authored and passed into law several pieces of legislation to hold the government of China accountable for human rights violations, including the Uyghur Forced Labor Prevention Act, the Tibet Policy and Support Act, and the Hong Kong Human Rights and Democracy Act

Jim's concern for human rights goes back to his time as a Congressional staffer, when he led an investigation into the murders of six Jesuit priests, their housekeeper and her daughter in El Salvador. Jim uncovered that the murders were committed by Salvadoran soldiers who had been trained by the United States Government—leading to a major shift in public opinion and a change in U.S. policy that made future military aid contingent on improved human rights in El Salvador.

Jim started learning about the importance of public service at a young age. As a 7th grader at Burncoat Elementary School (top row, right corner) he volunteered on the 1972 presidential campaign of Senator George McGovern, a decorated war hero who became a champion for peace. Jim likes to say that while they're not related, he had a great last name. When Jim decided to attend college at the American University in Washington, D.C. he applied for an internship in the office of Senator McGovern.

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Jim worked his way through college, earning a BA in history and then spending over a decade working in the office of Congressman Joe Moakley, a Democrat from South Boston. His time working for Moakley taught him that you have to stand up for what you believe in and work hard to give back to your community. After Republicans took control of the House of Representatives in 1995, Jim saw that Washington was working harder than ever for the rich and powerful while everyday people fell further and further behind. He successfully ran for Congress in 1996, and has won reelection every two years since then.

Jim takes principled stands on tough issues and works with Members of Congress from across the aisle and throughout the country to ensure that every single person in America and around the world is treated with dignity, decency, fairness, and respect.

Jim was born and raised in the Burncoat neighborhood of Worcester. The values he learned from his family are the same ones he fights for every day in Congress: fairness, decency, respect for all people, and the idea that each of us has an obligation to give back to our community. Jim's parents, Walter and Mindy, own a small package store in Worcester, and his sisters are both public school teachers. He is married to Lisa Murray McGovern and they have two children, Patrick and Molly.

Panel Moderator

Tom Ryden
Executive Director
MassRobotics

Thomas Ryden is the Executive Director of the non-for-profit organization MassRobotics, the largest robotics innovation hub in the United States. The mission of MassRobotics is to support the robotics community and help grow the next generation of robotics and connected device companies.

Prior to joining MassRobotics, Mr. Ryden was the founder and CEO/COO of VGo Communications where he helped launch the VGo telepresence robot. Previously, Mr. Ryden was Director of Sales & Marketing for iRobot Corporation, overseeing the development of some of iRobot's most successful products. Mr. Ryden serves on the Tufts University Computer Science Advisory Board, the Worcester Polytechnic Institute's Robotics Engineering Advisory Board, the Mechatronics & Robotics Engineering (MRE) Education Advisory Board, and the Robotics Technical Advisory Panel for ASME. He is an advisor to a number of robotics start-ups. Mr. Ryden has a B.S. in Electrical Engineering from the University of Vermont and an MBA from Bentley University.

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Panelists

Tye Brady
Chief Robotics Technologist
Amazon

Tye is a leading strategic thinker and engineering professional with more than 30 plus years of hands-on experience in autonomous systems. Tye is chief technologist Robotics at Amazon, where he leads advanced technology and research efforts to further establish Amazon as the preeminent robotics organization in the world. As an accomplished and proven leader, Tye is shaping how robotics can benefit industry, community, and the Amazon customer.

Prior to Amazon, Tye spent 15 years with Draper Laboratory holding a variety of technical and leadership roles, each advancing technologies and teamwork for robotics and spacecraft engineering. Tye is a founding partner of MassRobotics, a not-for-profit organization that has become the world's largest robotics incubator and serves on a number of boards to promote STEM learning and advancement within his community. He is the recipient of the Exceptional Public Service Medal for outstanding technical leadership from NASA and has been recognized by the Boston Globe as a top Technology Power Player in 2022, 2023, and 2024. He holds over 30 patents and has authored over 30 publications related to robotics and autonomy. He has been featured by major media outlets including the Wall Street Journal, New York Times, Wired Magazine, PBS Nova, NBC, Bloomberg, BBC, and many others. Tye holds a Master's Degree in Aeronautics and Astronautics Engineering from MIT and a Bachelor of Science in Aerospace from Boston University.

Martin Buehler, Ph.D.
Vice President and Distinguished Fellow, Robotics
Johnson & Johnson MedTech

Martin Buehler is a Vice President and Distinguished Fellow, Robotics, for Johnson & Johnson MedTech. In this role, he is focusing on mentoring, inspiring, and developing the next generation of engineers and innovators within J&J MedTech. He is also leading outreach activities and fostering strategic partnerships with academic institutions, research organizations, and industry leaders to boost our talent pipelines. In addition, he advocates for J&J MedTech as a leader in the field of robotics and identifies opportunities for external collaboration. He has a strong track record of leadership in technology innovation and has accumulated diverse robotics experiences across medical, industrial, consumer, food, agriculture, logistics, entertainment, and defense industries. Previously, Martin was the Chief Technology Officer at Wavemaker Labs, and has held leadership roles at Medtronic, Walt Disney Imagineering, iRobot, and Boston Dynamics.

Before joining industry in 2003, Martin served as robotics professor at McGill University for 12 years, where he held a tenured position. He was named a Fellow of the IEEE, and is the recipient of The Joseph F. Engelberger Award in Technology, one of the most prestigious awards in robotics. Martin holds a PhD in Electrical Engineering from Yale University and completed his postdoctoral work in the Artificial Intelligence Lab at M.I.T.

Sarah Mendelowitz
Manager, MADE Automation and Robotics
New Balance

Sarah Mendelowitz is the Manager of MADE Automation and Robotics at New Balance. She joined New Balance in 2022 to spearheading the company's efforts to revolutionize footwear manufacturing. Sarah and her team are developing cutting-edge automation solutions within New Balance's domestic manufacturing facilities. Prior to New Balance, Sarah led engineering teams at two early-stage robotics startups, specializing in transitioning ideas from the lab to the marketplace. Over her twenty-year career, Sarah has been devoted to solving the most challenging problems in robotics and automation across a variety of industries. Sarah earned bachelor's and master's degrees in mechanical engineering from MIT.

Carlo Pinciroli, Ph.D.
Associate Professor, Robotics Engineering
Worcester Polytechnic Institute

Carlo Pinciroli is an associate professor at Worcester Polytechnic Institute, where he leads NEST Lab. His research interests include multi-robot systems, swarm intelligence, and software engineering. Dr. Pinciroli published more than 50 peer-reviewed articles and 2 book chapters, and edited 2 books. He is associate editor for the Swarm Intelligence journal and for the IROS and ICRA robotics conferences. Dr. Pinciroli was the recipient of several awards for research and teaching, including a Best Paper Award at AAMAS 2022, WPI's Romeo L. Moruzzi Young Faculty Award for Innovation in Undergraduate Education (2020), and an Amazon Research Award (2019).

Holly Yanco, Ph.D.
Professor & NERVE Center Director
UMass Lowell

Dr. Holly Yanco is a Distinguished University Professor and Chair of the Richard A. Miner School of Computer & Information Sciences, as well as Director of the New England Robotics Validation and Experimentation (NERVE) Center, all at the University of Massachusetts Lowell. For over 25 years, she has assembled and led a wide range of interdisciplinary collaborations to solve open problems in robotics and AI. Yanco has a PhD and MS in Computer Science from the Massachusetts Institute of Technology and a BA in Computer Science and Philosophy from Wellesley College. She is a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) and of the American Association for the Advancement of Science (AAAS).

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