

MIT Industrial Liaison Program Faculty Knowledgebase Report

2022 MIT Manufacturing Conference

March 16, 2022 9:00 am - 5:00 pm

8:00 AM - 8:45 AM

Registration and Light Breakfast

8:45 AM - 9:00 AM

Welcome and Introduction

John Roberts

Executive Director (Interim), [MIT Corporate Relations](#)



John Roberts

Executive Director (Interim)

[MIT Corporate Relations](#)

John Roberts has been Executive Director of MIT Corporate Relations (Interim) since February 2022. He obtained his Ph.D. in organic chemistry at MIT and returned to the university after a 20-year career in the pharmaceutical industry, joining the MIT Industrial Liaison Program (ILP) in 2013. Prior to his return, John worked at small, medium, and large companies, holding positions that allowed him to exploit his passions in synthetic chemistry, project leadership, and alliance management while growing his responsibilities for managing others, ultimately as a department head. As a program director at MIT, John built a portfolio of ILP member companies, mostly in the pharmaceutical industry and headquartered in Japan, connecting them to engagement opportunities in the MIT community. Soon after returning to MIT, John began to lead a group of program directors with a combined portfolio of 60-80 global companies. In his current role, John oversees MIT Corporate Relations which houses ILP and MIT Startup Exchange.

Ron Spangler

Director, [MIT Corporate Relations](#)



Ron Spangler

Director

[MIT Corporate Relations](#)

Ron Spangler serves as the Director of Corporate Relations, managing a diverse portfolio of companies in the mining, energy, aerospace, and defense sectors. Before joining MIT Corporate Relations, Ron dedicated two decades to an industry career, primarily focusing on various MIT-connected startup companies. In 1994, he earned his doctorate in Aeronautics and Astronautics from MIT, and his extensive contributions include numerous publications and patents. Notably, Ron is also an FAA-licensed pilot with a glider rating.

9:00 AM - 9:40 AM

Shocks and Shortages: Reconsidering the “Skills Gap” in U.S. Manufacturing

Ben Armstrong

Executive Director, [MIT Industrial Performance Center](#)



Ben Armstrong

Executive Director

[MIT Industrial Performance Center](#)

Ben Armstrong is the executive director of MIT's Industrial Performance Center, where he co-leads the Work of the Future initiative. His research examines how workers, firms, and regions adapt to technological change. His current projects include a working group on generative AI, as well as a book on American manufacturing competitiveness. His work has been published or featured in academic and popular outlets including the *New York Times*, *Harvard Business Review*, *Forbes*, *Sloan Management Review*, *Times Higher Education*, the *Boston Review*, *Daedalus*, and *Economic Development Quarterly*. He received his PhD from MIT and formerly worked at Google Inc.

Job openings in U.S. manufacturing spiked during 2021, but workforce challenges are nothing new: factories have been struggling to recruit and retain workers for more than a decade. This presentation will examine the roots of the problem, as well as how some firms are adapting more successfully than others.

Panel: Labor Force Disruption
J.J. Laukaitis
Program Director, [MIT Corporate Relations](#)



J.J. Laukaitis
Program Director
[MIT Corporate Relations](#)

J.J. Laukaitis joined the Industrial Liaison Program in 2012 and is a strong believer in the amplifying power that comes from building enduring relationships between industry leaders and MIT researchers and innovators.

J.J. has over 25 years of experience in engineering, product management and commercial sales management across multiple industries including mechanical design and manufacturing, electronics, semiconductor equipment, health care IT and renewable energy.

In his work for PTC, Continuum, Teradyne, DFT Microsystems and GE, J.J. has managed programs to conceive, design and launch new products and services and has led major initiatives to transform customer information into insight for revenue growth.

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Thomas Kochan
George Maverick Bunker Professor of Management
Professor Post Tenure, [MIT Sloan School of Management](#)



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Professor Post Tenure
[MIT Sloan School of Management](#)

Thomas A. Kochan is the Post-Tenure *George Maverick Bunker Professor* at the MIT Sloan School of Management and a faculty member in the MIT Institute for Work and Employment Research.

Kochan focuses on the need to update America's work and employment policies, institutions, and practices to catch up with a changing workforce and economy. His recent work calls attention to the need for a new social contract at work, one that anticipates and engages current and future technological changes in ways that build a more inclusive economy and broadly shared prosperity. Through empirical research, he demonstrates that fundamental changes in the quality of employee and labor-management relations are needed to address America's critical problems in industries ranging from healthcare to

10:20 AM - 10:25 AM

MIT Professional Education

10:25 AM - 10:55 AM

Networking Break

Panel: The Corporate Sustainability Imperative: Disruption or Opportunity?

Ron Spangler
Director, [MIT Corporate Relations](#)



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Ron Spangler serves as the Director of Corporate Relations, managing a diverse portfolio of companies in the mining, energy, aerospace, and defense sectors. Before joining MIT Corporate Relations, Ron dedicated two decades to an industry career, primarily focusing on various MIT-connected startup companies. In 1994, he earned his doctorate in Aeronautics and Astronautics from MIT, and his extensive contributions include numerous publications and patents. Notably, Ron is also an FAA-licensed pilot with a glider rating.

Emre Gençer

Principal Research Scientist, [MIT Energy Initiative](#),
Co-founder and CEO, [Sesame Sustainability](#)



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Principal Research Scientist, [MIT Energy Initiative](#),
Co-founder and CEO, [Sesame Sustainability](#)

Emre Gençer is a principal research scientist at the MIT Energy Initiative, and a co-founder and CEO at Sesame Sustainability.

The central theme of his research is to identify optimal utilization of resources for the evolving energy system facing the dual challenge of increasing demand while profoundly reducing its environmental footprint. His research focuses on integration of emerging and conventional energy technologies, their policy implications, multiscale modeling, and optimization. He is the principal investigator of various ongoing projects at MIT including *Understanding Carbon Mitigation Technologies*, *Analysis of Options towards Fully Decarbonized EU by 2050*, and *Exploring Power and Transport Sector Decarbonization Pathways via Direct and Indirect use of Electricity*. He is the lead developer and chief architect of a novel software platform called [Sustainable Energy Systems Analysis Modeling Environment \(SESAME\)](#), which provides comprehensive cost and sustainability assessment for the converging electric power, transportation, and industrial sectors to decision makers and technology analysts with high technological, temporal, and geospatial resolution. He was lead on the chemical storage chapter of [The Future of Energy Storage](#) report and co-lead on the thermal storage chapter.

Jacquelyn Pless

Fred Kayne Career Development Professor of Entrepreneurship and Assistant Professor in the Technological Innovation, Entrepreneurship, and Strategic Management group,
[MIT Sloan School of Management](#)



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[MIT Sloan School of Management](#)

Jacquelyn Pless is the *Fred Kayne (1960) Career Development Professor of*

MIT Startup Exchange Lightning Talks
Ariadna Rodenstein
Program Manager, [MIT Startup Exchange](#)



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Program Manager
[MIT Startup Exchange](#)

Ariadna Rodenstein is a Program Manager at MIT Startup Exchange. She joined MIT Corporate Relations as an Events Leader in September 2019 and is responsible for designing and executing startup events, including content development, coaching and hosting, and logistics. Ms. Rodenstein works closely with the Industrial Liaison Program (ILP) in promoting collaboration and partnerships between MIT-connected startups and industry, as well as with other areas around the MIT innovation ecosystem and beyond.

Prior to working for MIT Corporate Relations, she worked for over a decade at Credit Suisse Group in New York and London, in a few different roles in event management and as Director of Client Strategy. Ms. Rodenstein has combined her experience in the private sector with work at non-profits as a Consultant and Development Director at New York Immigration Coalition, Immigrant Defense Project, and Americas Society/Council of the Americas. She also served as an Officer on the Board of Directors of the Riverside Clay Tennis Association in New York for several years. Additionally, she earned her B.A. in Political Science and Communications from New York University, with coursework at the Instituto Tecnológico y de Estudios Superiores de Monterrey in Mexico City, and her M.A. in Sociology from the City University of New York.

Dan Paluska
Co-founder and Chief Roboticist
[Pickle Robot](#)

David Sossen
Senior Advisor and Director
[Coventry](#)

John Greenfield
VP of Business Development and Partnerships
[Everactive](#)

Kimo Johnson
Co-founder and CSO
[GelSight](#)

Cyrus Shaoul
Co-founder and CEO
[Leela AI](#)

Elise Jones
Content and Experiential Marketing Lead
[Tulip](#)

Emily Malina
Co-Founder & President
[Spoiler Alert](#)

Ali Merchant
Co-founder and CEO
[iQ3Connect](#)

Emanuel Zraggen
Co-founder & CEO
[Einblick](#)

Dave Landry
Co-founder and CEO
[Datawheel](#)

12:35 PM - 1:50 PM

Lunch with Startup Exhibit

[Pickle Robot](#) | [Coventry](#) | [Everactive](#) | [GelSight](#) | [Leela AI](#) | [Tulip](#) | [Spoiler Alert](#) | [iQ3Connect](#) | [Einblick](#) | [Datawheel](#)

1:50 PM - 2:40 PM

Successful Implementation of Machine Intelligence in Manufacturing and Operations
Bruce Lawler
Managing Director, [MIT Machine Intelligence for Manufacturing and Operations](#)



Bruce Lawler
Managing Director
[MIT Machine Intelligence for Manufacturing and Operations](#)

Bruce Lawler is a technology entrepreneur and executive leader with consecutive public and private exits, and early stage investing success with leading venture firms including Accel, CRV, KPCB, Redpoint, Sequoia, and Softbank. He is an industry thought leader and public speaker with development expertise in mobile applications, SaaS, artificial intelligence systems and video distribution networks; and an operations executive with experience ranging from consumer and industrial hardware/electronics manufacturing to wireless and video network operations (DevOps). Bruce is also President of ReBuild Digital where he is focused on rebuilding America's manufacturing base and creating meaningful, sustainable jobs through the application of digital technologies.

In 1998 Bruce founded a company to deliver digital video over the internet and had a successful IPO 2 years later. In 2001 he founded a venture capital firm focused on investing in mobile phone technology. He invested in other successful entrepreneurs like Andy Rubin, the creator of Android. In 2003 he founded a company to write applications for mobile phones which he recently sold to Motorola.

Bruce began his career in Artificial Intelligence as a COMMON LISP developer at ICAD where he helped to automate design and manufacturing for companies that included Boeing, Airbus, GM, GE, Northrop Grumman and Ford. He also helped fast track the porting of ICADs core platform from LISP/Symbolics to C++/SUN. At Kodiak, Bruce led the development of the Kodiak Business Intelligence, a data visualization and analytics platform now used by Motorola.

Bruce attended Purdue University where he received his Bachelor's degree in Engineering specializing in electro-mechanical control systems and was a President's Honor Award recipient. In 1990 he was awarded the LGO Fellowship to attend MIT, where he obtained both a Master of Science in Engineering and an MBA from MIT's Sloan School.

Which companies deploy machine intelligence and data analytics successfully for manufacturing and operations? Why are those leading adopters so far ahead — and what can others learn from them? MIT Machine Intelligence for Manufacturing and Operations (MIMO) and McKinsey & Company have the answer. This talk will provide the detail behind a newly published *Harvard Business Review* article that reveals the findings of a 100-company quantitative and qualitative study to explain how high-performing companies successfully wield machine learning technologies (and where others could improve).

2:40 PM - 3:20 PM

Supply Chain Adaptation to Persistent Disruption

Jarrod Goentzel
Director, MIT Humanitarian Supply Chain Lab
Principal Research Scientist
[MIT Center for Transportation and Logistics](#)

Supply chains have been in the spotlight throughout the protracted pandemic. Discussions about resilience, which historically spike during disruption, are now more persistent. This talk explores experiences that have improved understanding of supply chains and considers how to leverage collective knowledge to increase resilience for all.

3:20 PM - 3:50 PM

Networking Break

Panel: Supply Chain Disruption
Yuri Ramos

Program Director, [MIT Industrial Liaison Program](#)



Yuri Ramos

Program Director, [MIT Industrial Liaison Program](#)

Yuri Ramos brings 20 years of international experience, having worked with Information Technology for multinational companies in his native Brazil, throughout South America and in the United States. Before MIT, Yuri was with Santander Bank N.A., where he first worked as a Sr. Manager for online and mobile initiatives, and then as Chief of Staff for the CIO of Digital Channels.

Prior to Santander, Yuri was the co-founder and CEO of 2 startups in the EdTech space. In both endeavors he was responsible for strategy, business development and operations. Before this entrepreneurial period, Yuri held positions at Universo Online – Brazil's largest Internet portal - as Director of Operations and Senior Manager; at ACISION as Engineering Manager (Latin America Operations) and Senior Project Manager; and at Nortel Networks as Project Manager.

Yuri earned his Bachelor's degree in Mathematics at the University of Brasilia, and his MBA at MIT where he was a Sloan Fellow.

Erez Agmoni
SVP Innovation & Strategic Growth, WND – North America
[Maersk](#)

Jarrold Goentzel
Director, MIT Humanitarian Supply Chain Lab
Principal Research Scientist, MIT Center for Transportation and Logistics

Retsef Levi
J Spencer Standish (1945) Professor of Management
Professor of Operations Management, [MIT Sloan School of Management](#)



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[MIT Sloan School of Management](#)

Retsef Levi is the J. Spencer Standish (1945) Professor of Operations Management at the MIT Sloan School of Management. He is a member of the Operations Management Group at Sloan and affiliated with the Operations Research Center. Before coming to MIT, he spent a year in the Department of Mathematical Sciences at the IBM T.J. Watson Research Center as the holder of the Goldstine Postdoctoral Fellowship. He received a Bachelor's degree in Mathematics from Tel-Aviv University (Israel) in 2001, and a PhD in Operations Research from Cornell University in 2005. Levi spent more than 11 years in the Israeli Defense Forces as an Officer in the Intelligence Wing and was designated as an Extra Merit Officer. After leaving the Military, Levi joined and emerging new Israeli hi-tech company as a Business Development Consultant.

Levi's current research is focused on the design of analytical data-driven decision support models and tools addressing complex business and system design decisions under uncertainty in areas, such as health and healthcare management, supply chain, procurement and inventory management, revenue management, pricing optimization and logistics. He is interested in the theory underlying these models and algorithms, as well as their computational and organizational applicability in practical settings. Levi is leading several industry-based collaborative research efforts with some of the major academic hospitals in the Boston area, such as Mass General Hospital (MGH), Beth Israel Deaconess Medical Center (BIDMC), Children's Hospital, and across the US (e.g., Memorial Sloan Kettering Cancer Center, NYC Presbyterian Hospital System and the American Association of

4:30 PM - 5:10 PM

How To Disrupt (almost) Everything
Neil Gershenfeld
Director, Center for Bits and Atoms



Neil Gershenfeld
Director, Center for Bits and Atoms

Prof. Neil Gershenfeld is the Director of MIT's Center for Bits and Atoms, where his unique laboratory is breaking down boundaries between the digital and physical worlds, from pioneering quantum computing to digital fabrication to the Internet of Things. Technology from his lab has been seen and used in settings including New York's Museum of Modern Art and rural Indian villages, the White House and the World Economic Forum, inner-city community centers and automobile safety systems, Las Vegas shows and Sami herds. He is the author of numerous technical publications, patents, and books including [Designing Reality](#), [Fab](#), [When Things Start To Think](#), [The Nature of Mathematical Modeling](#), and [The Physics of Information Technology](#), and has been featured in media such as The New York Times, [The Economist](#), [NPR](#), [CNN](#), and PBS. He is a Fellow of the American Association for the Advancement of Science and the American Physical Society, has been named one of Scientific American's 50 leaders in science and technology, as one of 40 Modern-Day Leonardos by the Museum of Science and Industry, one of Popular Mechanic's 25 Makers, has been selected as a CNN/Time/Fortune Principal Voice, and by Prospect/Foreign Policy as one of the top 100 public intellectuals. He's been called the intellectual father of the maker movement, founding a growing global network of over two thousand [fab labs](#) in 125 countries that provide widespread access to prototype tools for personal fabrication, directing the [Fab Academy](#) for distributed research and education in the principles and practices of digital fabrication, and chairing the [Fab Foundation](#). He is a co-founder of the [Interspecies Internet](#) and of the [Science and Entertainment Exchange](#). Dr. Gershenfeld has a BA in Physics with High Honors from Swarthmore College, a Ph.D. in Applied Physics from Cornell University, honorary doctorates from Swarthmore College, Strathclyde University and the University of Antwerp, was a Junior Fellow of the Harvard University Society of Fellows, and a member of the research staff at Bell Labs.

[View full bio](#)

5:10 PM - 6:00 PM

Adjournment with Networking Reception