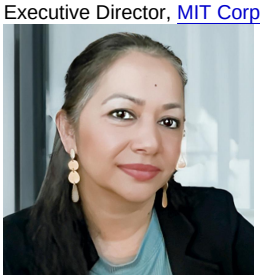
MIT Industrial Liaison Program Faculty Knowledgebase Report

2025 MIT AI Conference

April 1, 2025 8:00 am - 5:00 pm

8:00 AM	Registration with Light Breakfast
9:00 AM	Welcome and Introduction Gayathri Srinivasan Executive Director, MIT Corporate Relations



Gayathri Srinivasan
Executive Director
MIT Corporate Relations

Dr. Srinivasan is a distinguished scientist who received her PhD in Microbiology from The Ohio State University in 2004, where she contributed to the discovery of the 22nd amino acid, Pyrrolysine (2002). She first came to MIT as an NIH Postdoctoral Fellow in Prof. Tom Rajbhandary's lab, where her research focused on understanding protein synthesis mechanisms in Archaea.

Dr. Srinivasan subsequently moved into the business development and technology licensing space, serving in MIT's Technology Licensing Office, where she helped commercialize technologies in medical devices and alternative energies. She then moved to UMass Medical School's Office of Technology Management in 2009 and to Emory University in Atlanta in 2014 as the Director of Public and Private Partnerships for the Woodruff Health Sciences Center. In 2019, Dr. Srinivasan joined Emory's Office of Corporate Relations as Executive Director, and in 2021, she led the Office of Corporate and Foundation Relations.

Session 1 | The Big Picture

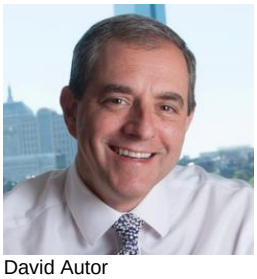
9:15 AM	Keynote: The Age of AI Daniel Huttenlocher

In The Age of AI, we consider how AI will change our relationships with knowledge, politics, and the societies in which we live. These changes are becoming more prominent with every passing moment, and this session endeavors to find the path that best embraces the change for the benefit of business and society.

9:45 AM

Keynote: Expertise, Artificial Intelligence, and the Work of the Future
David Autor

Daniel (1972) and Gail Rubinfeld Professor
Margaret MacVicar Faculty Fellow
MIT Department of Economics



David Autor

Daniel (1972) and Gail Rubinfeld Professor
Margaret MacVicar Faculty Fellow
MIT Department of Economics

David Autor is the Daniel (1972) and Gail Rubinfeld Professor in the MIT Department of Economics, co-director of the NBER Labor Studies Program and the MIT Shaping the Future of Work Initiative. His scholarship explores the labor-market impacts of technological change and globalization on job polarization, skill demands, earnings levels and inequality, and electoral outcomes.

Autor has received numerous awards for his scholarship—the National Science Foundation CAREER Award, an Alfred P. Sloan Foundation Fellowship, the Sherwin Rosen Prize for outstanding contributions to the field of Labor Economics, the Andrew Carnegie Fellowship in 2019, the Society for Progress Medal in 2021—and for his teaching, including the MIT MacVicar Faculty Fellowship. In 2020, Autor received the Heinz 25th Special Recognition Award from the Heinz Family Foundation for his work “transforming our understanding of how globalization and technological change are impacting jobs and earning prospects for American workers.” In 2023, Autor was selected as one of two researchers across all scientific fields a NOMIS Distinguished Scientist. Autor was one of five senior scholars selected by the Schmidt Sciences Foundation as an AI2050 Senior Fellow in 2024.

The *Economist* magazine labeled Autor in 2019 as “The academic voice of the American worker.” Later that same year, and with equal or greater justification, he was christened “Twerpy MIT Economist” by John Oliver of *Last Week Tonight* in a segment on automation and employment.

Autor is an elected Fellow of the Econometrics Society, the Society of Labor Economists, and the American Academy of Arts and Sciences, and a Faculty Research Associate of the National Bureau of Economic Research and the Abdul Latif Jameel Poverty Action Lab. He is co-director of the NBER Labor Studies Program, Co-Director of the MIT School Effectiveness and Inequality Initiative, and Scientific Advisor to the NBER Disability Research Center.

His teaching awards include the MIT MacVicar Faculty Fellowship for contributions to undergraduate education, the James A. and Ruth Levitan Award for excellence in teaching, the Undergraduate Economic Association Teaching Award, and the Faculty Appreciation Award from the MIT TPP program.

Autor earned a B.A. in Psychology from Tufts University and a Ph.D. in Public Policy from Harvard’s Kennedy School of Government in 1999. Prior to graduate study, he spent three years directing computer skills education for economically disadvantaged children and adults in San Francisco and South Africa. Autor is the captain of the MIT Economics hockey team, which is reputed to be one of the most highly cited teams in the MIT intramural league.

View full bio

Will recent advances in AI complement human expertise, thereby increasing its value, or render it increasingly unnecessary, thus reducing its value (even if jobs are not in net eliminated)? Prof Autor will frame this question through the lens of three technological revolutions of the last two centuries: the Industrial Revolution, the Computer Revolution, and the AI Revolution. In each, the types of expertise rewarded changed substantially, with vastly uneven consequences for workers in different occupations and possessing different education levels. These forces will play out differently in the AI era than in preceding decades. While the future is not a forecasting exercise -- it's a design problem -- Prof Autor will discuss the opportunities that AI opens for the labor market, as well as some of the risks it poses.

10:15 AM	MIT Professional Education Myriam Joseph Manager, Business Development and Marketing, MIT Professional Education
10:20 AM	Networking Break
	Session 2 | The Future of Intelligence: Knowledge, Systems, and Startups

10:45 AM

Future of Knowledge, Systems, Skills, and Intelligence

Michael Schrage
Research Fellow, MIT Initiative on the Digital Economy, MIT Sloan School of Management

Michael Schrage
Research Fellow, MIT Initiative on the Digital Economy
MIT Sloan School of Management

Michael Schrage is a research fellow with the MIT Sloan School of Management's Initiative on the Digital Economy. His research, writing, and advisory work focuses on the behavioral economics of models, prototypes, and metrics as strategic resources for managing innovation risk and opportunity. He is author of the award-winning book The Innovator's Hypothesis (*MIT Press*, 2014), Who Do You Want Your Customers to Become? (*Harvard Business Review Press*, 2012), and Serious Play (*Harvard Business Review Press*, 2000). His latest book, Recommendation Engines, was published in September 2020 by *MIT Press* as part of its Essential Knowledge series. He's done consulting and advisory work for Microsoft, Procter & Gamble, British Telecom, BP, Siemens, Embraer, Google, iRise, the Office of Net Assessment, and other organizations

Schrage has run design workshops and executive education programs on innovation, experimentation, and strategic measurement for organizations all over the world and is currently pioneering work in selvesware technologies designed to augment aspects, attributes, and talents of productive individuals. He is particularly interested in the future co-evolution of expertise, advice, and human agency as technologies become smarter than the people using them.

View full bio

Josh Tenenbaum

Caspar Hare

Agustin Rayo

Dean, MIT School of Humanities, Arts, and Social Sciences

Agustin Rayo

Dean, MIT School of Humanities, Arts, and Social Sciences

Agustin Rayo is Professor of Philosophy and Dean of MIT's School of Humanities, Arts, and Social Sciences. His research lies at the intersection of the philosophy of logic and the philosophy of language. He is the author of numerous articles and two books: "The Construction of Logical Space" (OUP, 2013) and "On the Brink of Paradox" (MIT Press, 2019), which won the 2020 PROSE Award for best textbook in the humanities.

Sam Madden

Knowledge is core to the human experience. Over millennia, questions about how humans acquire, learn, understand, dispute and share knowledge have animated scientists, philosophers, artists, engineer,s and politicians. Our increasingly digital society is built on crystalized, and often contested, knowledge – from history and law to software and social networks – crafted at a human scale by humans for humans. However, new forms of machine intelligence are emerging – ones that collect, represent, reason, and engineer with knowledge in very non-human ways and at very non-human scales, This panel will bring together experts from multiple disciplines to discuss the profound impact of this emerging partnership.

11:30 AM

Overview of the MIT Generative AI Impact Consortium
Vivek Farias

Patrick J. McGovern (1959) Professor, MIT Sloan School of Management
Faculty Co-Director, MIT Generative AI Impact Consortium

Vivek Farias

Patrick J. McGovern (1959) Professor, MIT Sloan School of Management
Faculty Co-Director, MIT Generative AI Impact Consortium

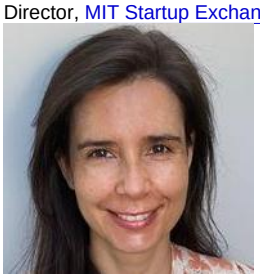
Vivek is interested in the development of new methodologies for large scale dynamic optimization and applications in revenue management, finance, marketing and healthcare. He received his Ph.D. in Electrical Engineering from Stanford University in 2007 and has been at MIT since, where he is the Robert N. Noyce Professor of Management. Vivek is a recipient of an IEEE Region 6 Undergraduate Student Paper Prize (2002), an INFORMS MSOM Student Paper Prize (2006), an MIT Solomon Buchsbaum Award (2008), an INFORMS JFIG paper prize twice (2009, 2011), the NSF CAREER award (2011), MIT Sloan's Outstanding Teacher award (2013), and the INFORMS Simulation Society Best Publication Award (2014). Outside of academia, he contributed to the design of the algorithmic trading strategies of GMO's (a USD 100B + money manager) first high frequency venture and in 2014 co-founded a retail technology company.

View full bio

The MIT Generative AI Impact Consortium aims to harness the transformative power of GenAI for impact across a range of domains: life sciences, health, material science, climate and sustainability, linguistics, manufacturing, finance, business, media, education, and more. This presentation will provide an overview of the consortium's mission, key objectives, and collaborative efforts with industry leaders and MIT researchers. Attendees will gain insights into the consortium's focus on advancing generative AI applications across diverse sectors, addressing societal challenges, and shaping the future of AI technology.

11:50 AM

MIT Startup Exchange Lightning Talks
Catarina Madeira
Director, MIT Startup Exchange



Catarina Madeira
Director
MIT Startup Exchange

Catarina has been working with the Cambridge/Boston startup ecosystem for over 10 years and joined Corporate Relations with a solid network in the innovation and entrepreneurial community. Prior to MIT, she was part of the team that designed and launched the startup accelerator IUL MIT Portugal, which was later rebranded as Building Global Innovators. She was based in Lisbon and worked in direct relation with the Cambridge team. She held positions including Operations Coordinator, Program Manager, and Business Developer. The accelerator soon achieved steady growth in large part due to the partnerships that Catarina led with regional and global startup ecosystems. After that, she worked at NECEC, leading a program that connects cleantech startups and industry. In this role, she developed and built a pipeline of startups and forged strong relationships with both domestic and European companies. She has also held positions in Portugal and France, including at Saboaria e Perfumaria Confiança and L'Oréal as Technical Director and Pharmacist. Catarina earned her bachelor's in chemistry and pharmaceutical sciences in Portugal. She went on to earn her Master of Engineering for Health and Medicines in France.

Matt Carpenter

Mollie Breen

Ido Levy

Sacha Servan-Schreiber

Jeff Feldgoise

Yujie Wang

Lorenzo Benedetti

Rickard Gabrielsson

Marco Turchetti

Jack Liu

12:40 PM

Lunch with Startup Exhibit

Session 3 | AI Foundations: Chips, Code, and People

1:50 PM

The Future of AI Hardware
Jesús A. del Alamo

Donner Professor, MIT Department of Electrical Engineering and Computer Science (EECS)

Jesús A. del Alamo

Donner Professor, MIT Department of Electrical Engineering and Computer Science (EECS)

Jesus A. del Alamo is the Donner Professor and Professor of Electrical Engineering at Massachusetts Institute of Technology. He obtained a Telecommunications Engineer degree from the Polytechnic University of Madrid and MS and PhD degrees in Electrical Engineering from Stanford University. From 1985 to 1988 he was with Nippon Telegraph and Telephone LSI Laboratories in Japan and since 1988 he has been with the Department of Electrical Engineering and Computer Science of Massachusetts Institute of Technology. From 2013 until 2019, he served as Director of the Microsystems Technology Laboratories at MIT. His current research interests are focused on nanoelectronics based on compound semiconductors and ultra-wide bandgap semiconductors.

Prof. del Alamo was an NSF Presidential Young Investigator. He is a member of the Royal Spanish Academy of Engineering and Fellow of the Institute of Electrical and Electronics Engineers, the American Physical Society and the Materials Research Society. He is the recipient of the Intel Outstanding Researcher Award in Emerging Research Devices, the Semiconductor Research Corporation Technical Excellence Award, the IEEE Electron Devices Society Education Award, the University Researcher Award by Semiconductor Industry Association and Semiconductor Research Corporation, the IPRM Award and the IEEE Cledo Brunetti Award. He currently serves as Editor-in-Chief of IEEE Electron Device Letters. He is the author of “Integrated Microelectronic Devices: Physics and Modeling” (Pearson 2017, 880 pages), a rigorous and up to date description of transistors and other contemporary microelectronic devices.

View full bio

AI’s rapid progress has been driven by continuous innovation in computing hardware. Professor del Alamo will discuss the latest advancements in semiconductor technology and specialized AI chips, highlighting key trends in efficiency, scalability, and computing power. He will also explore what lies ahead—from novel materials and architectures to the geopolitical forces shaping AI chip development.

2:10 PM

How AI is Transforming Software Engineering
Armando Solar-Lezama

Professor, MIT Department of Electrical Engineering and Computer Science
Associate Director and COO, MIT Computer Science & Artificial Intelligence Laboratory

Armando Solar-Lezama

Professor, MIT Department of Electrical Engineering and Computer Science
Associate Director and COO, MIT Computer Science & Artificial Intelligence Laboratory

Armando Solar-Lezama is a Professor in the department of Electrical Engineering and Computer Science at MIT and is also Associate Director and COO of the Computer Science and Artificial Intelligence lab. He also leads the NSF Funded Expeditions project "Understanding the World Through Code", a large multi-institution effort that works on applying neurosymbolic reasoning techniques to support scientific discovery.

View full bio

AI is not just transforming industries—it's revolutionizing software development. From AI-assisted coding to automated testing and lifecycle management, new tools are enhancing productivity, quality, and security. The speaker will explore the impact of AI-driven programming, the evolving role of software engineers, and the challenges of ensuring control, reliability, and trust in AI-generated code.

2:30 PM

Training a Billion People for AI

Dimitris Bertsimas

As AI reshapes industries and job markets, how can we ensure that individuals—from professionals in developed economies to workers in emerging markets—are equipped for an AI-powered future? Dr. Bertsimas, Vice Provost for MIT Open Learning, will outline MIT's vision for large-scale AI education, exploring new models of upskilling and the strategies needed to prepare one billion people for the AI-driven workforce.

Session 4 | AI in Action: Real-World Cases and Impact

2:50 PM

The Pulse of Ethical ML in Health

Marzyeh Ghassemi

Machine learning in health has made impressive progress in recent years, powered by an increasing availability of health-related data and high-capacity models. While many models in health now perform at, or above, humans in a range of tasks across the human lifespan, models also learn societal biases and may replicate or expand them. In this talk, Dr. Marzyeh Ghassemi will focus on the need for machine learning researchers and model developers to create robust models that can be ethically deployed in health settings, and beyond. Dr. Ghassemi's talk will span issues in data collection, outcome definition, algorithm development, and deployment considerations.

3:15 PM

Optimizing Human-AI Interaction
Pattie Maes

Germeshausen Professor and Professor of Media Technology, MIT Media Lab
Head, Fluid Interfaces Research Group

Pattie Maes

Germeshausen Professor and Professor of Media Technology, MIT Media Lab
Head, Fluid Interfaces Research Group

Pattie Maes is the Germeshausen Professor of Media Arts and Sciences at the MIT Media Lab. She runs the Fluid Interfaces research group, which does research at the intersection of Human Computer Interaction and Artificial Intelligence with a focus on applications in health, wellbeing and learning. Maes is also a faculty member in MIT's center for Neuro-Biological Engineering. She is particularly interested in the topic of *cognitive enhancement*, or how wearable, immersive and brain-computer interface systems can actively assist people with issues such as memory, attention, learning, decision making, communication, wellbeing, and sleep.

Maes is the editor of four books, and is an editorial board member and reviewer for numerous professional journals and conferences. She has received several awards: Netguru selected her for "Hidden Heroes: the people who shaped technology (2022), Time Magazine has included several of her designs in its annual list of inventions of the year; AAAI gave her the "classic paper 2012" prize, awarded to the most influential AI paper of the year, *Fast Company* named her one of 50 most influential designers (2011); *Newsweek* picked her as one of the "100 Americans to watch for" in the year 2000; *TIME Digital* selected her as a member of the “Cyber Elite,” the top 50 technological pioneers of the high-tech world; the World Economic Forum honored her with the title "Global Leader for Tomorrow"; Ars Electronica awarded her the 1995 World Wide Web category prize; and in 2000 she was recognized with the "Lifetime Achievement Award" by the Massachusetts Interactive Media Council. She also received honorary doctorates from the Vrije Universiteit Brussel in Belgium and Open Universiteit, Netherlands, and has given several TED talks.

In addition to her academic endeavors, Maes has been an active entrepreneur as co-founder of several venture-backed companies, including Firefly Networks (sold to Microsoft), Open Ratings (sold to Dun & Bradstreet) and Tulip Co (privately held). She is an advisor to several early stage companies, including Earable, Inc, and Spatial, Inc. Prior to joining the Media Lab, Maes was a visiting professor and a research scientist at the MIT Artificial Intelligence Lab. She holds a bachelor's degree in computer science and a PhD in artificial intelligence from the Vrije Universiteit Brussel in Belgium.

View full bio

AI is not just an engineering challenge, it is also a human design problem. For AI to live up to its lofty expectations and benefit humankind, it is important that we not just optimize AI itself and make it more accurate, efficient, and safe, but that we also understand how people respond to interaction with AI and how we best design that interaction to achieve optimal short and long term outcomes.

3:40 PM

Networking Break

Session 5 | AI Trailblazers: Pioneering Innovation Across Disciplines

4:00 PM

AI Risk Mitigation: Students' Perspectives from MIT FutureTech and the MIT AI Alignment Group

Audrey Lorvo

As AI permeates every sector of the economy, addressing and mitigating its associated risks becomes increasingly crucial. For firms developing and deploying AI, the institutions governing its use, and individuals navigating this technological shift, identifying and managing the most critical risks remains a significant challenge.

This talk will first explore how MIT FutureTech's AI Risk Repository and Risk Index provide a comprehensive framework to help organizations prioritize AI risks and implement effective mitigation strategies. Next, Lorvo will highlight the perspective of the MIT AI Alignment Club, featuring student voices and showcasing various avenues of student-led research. By examining why so many MIT students are pivoting their careers toward AI safety, we will illustrate how the next generation of researchers and leaders is working to shape a more secure and resilient AI-driven future.

Finally, Lorvo will propose ways to bridge the gap between students, research centers, policymakers, and businesses to build a path toward safer AI systems.

4:20 PM

AI That Can Think, Reason and Discover
Markus J. Buehler

Jerry McAfee Professor of Engineering, MIT Department of Civil and Environmental Engineering and MIT Department of Mechanical Engineering

Markus J. Buehler

Jerry McAfee Professor of Engineering, MIT Department of Civil and Environmental Engineering and MIT Department of Mechanical Engineering

Dr. Markus J. Buehler, Jerry McAfee Professor of Engineering at MIT, is a leading researcher in computational modeling across domains, from materials to biology to physics. Markus' expertise bridges AI to multi scale materials modeling. He recently co-developed a method that uses artificial intelligence to generate new protein designs with specific strengths, mimicking natural materials like silk. This approach, which uses computer simulations for testing, allows the creation of proteins with desired mechanical properties, such as strength and flexibility, beyond what is naturally available. Markus earned a Ph.D. at the Max Planck Institute for Metals Research at the University of Stuttgart and held post-doctoral appointments at both Caltech and MIT. Buehler has received many awards, including the Feynman Prize, the Drucker Medal, and the Washington Award. He is a member of the National Academy of Engineering.

View full bio

AI is evolving beyond pattern recognition into a tool for reasoning, discovery, and scientific insight. This talk explores how new AI architectures, including Reinforcement Learning (RL) and Graph Isomorphism Networks (GIN), enabling us to build powerful expressive AI models that move beyond memorization and into structural reasoning. By blending physics-driven models with generative AI, integrating biologically-inspired neural structures, and leveraging multi-agent systems that mirror collective intelligence in nature, we unlock new frontiers in scientific discovery. Case studies will highlight breakthroughs in materials science, demonstrating AI-driven advances with real-world applications in medicine, food, and agriculture. These developments showcase AI's potential not just as a tool for analysis but as an engine for reasoning, adaptation, and discovery, fundamentally reshaping our understanding of complex systems.

4:40 PM

Building Machines that Learn and Think with People

Vikash Mansinghka

What kinds of computations give rise to human intelligence? And how can they be scaled in silicon? A great deal of enthusiasm has been focused on answering these questions by building increasingly large deep learning systems. This talk shows how an alternate scaling route, based on probabilistic programs and spiking probabilistic hardware, integrating the best of deep learning, is being used to make new kinds of generative software models and agents that are engineered — not learned from data! — and guaranteed by design to be safe, assistive, and rational. It will also show evidence that this kind of AI better explains the computations unfolding in our own minds and brains than today's artificial neural networks, and how we can apply this understanding to deliver computational intelligence that is much easier for us to talk to, teach, and justifiably trust.

5:00 PM

AI and Society: Computational, Economic, and Legal Perspectives

Manish Raghavan

AI and related technologies have far-reaching implications for society. In this talk, we bring together perspectives from computer science, economics, and the law to build a comprehensive understanding of how AI impacts society and how we can ensure that the impacts are positive. We present case studies in medical decision-making, employment, and creative competition.

5:20 PM

Networking Reception