April 29, 2021 10:00 am - 12:00 pm

10:00 AM  Welcome and Introduction
In the decades that followed World War II, the U.S. led the world in innovation, creating entirely new sectors such as jet aircraft, life-saving drugs and vaccines, microelectronics, satellites, and digital computers. Widespread innovation boosted productivity. Household income increased faster than ever before, while inequality declined. Since the 1970s, however, U.S. productivity growth has slowed while the well-paying jobs that we do have in the U.S. are now concentrated disproportionately in a small number of superstar cities. People in the rest of the country increasingly – and correctly – feel that they are being left behind. What went wrong? Policymakers forgot one of the most important lessons of the post-1945 period.
Changing workforce and economy
Thomas Kochan
George Maverick Bunker Professor of Management
Professor, Work and Organization Studies
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Thomas Kochan is the George Maverick Bunker Professor of Management, a professor of work and employment research, and the co-director of the MIT Sloan Institute for Work and Employment Research at the MIT Sloan School of Management. 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 challenges facing working families in meeting their responsibilities at work, at home, and in their communities. 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 airlines to manufacturing. His most recent book is Shaping the Future of Work (2016). Kochan holds a BBA in personnel management, as well as an MS and a PhD in industrial relations, from the University of Wisconsin.

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Inequality and the Future of Work
Nathan Wilmers
Sarofim Family Career Development Professor
Assistant Professor, Work and Organization Studies
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Nathan Wilmers is the Sarofim Family Career Development Professor and an Assistant Professor of Work and Organization Studies at the MIT Sloan School of Management. He is a member of the Institute for Work and Employment Research and affiliated with the Economic Sociology program. For the most up-to-date information on his research, please see his personal website at www.nathanwilmers.com.

Wilmers researches wage and earnings inequality, economic sociology, and the sociology of labor. In his empirical research, he studies how wage stagnation and rising earnings inequality result from weakening labor market institutions, changing market power, and job restructuring. More broadly, he is interested in bringing insights from economic sociology to the study of labor markets and the wage structure. His research has been published in the American Sociological Review, the American Journal of Sociology, and Social Forces.

Wilmers holds a BA in philosophy from the University of Chicago and an MA and PhD in sociology from Harvard University.

Why has upward mobility declined so much in the last 50 years? How can we make an economy that works for everyone? This talk identifies the key sources of pay inequality and addresses the role played by employers.
The Future of Remote and Hybrid Work: Research Lessons and Post-Pandemic Strategies
Erin Kelly
Sloan Distinguished Professor of Work and Organization Studies
Professor, Work and Organization Studies
Co-Director, Sloan Institute for Work and Employment Research
Erin Kelly
Sloan Distinguished Professor of Work and Organization Studies
Professor, Work and Organization Studies
Co-Director, Sloan Institute for Work and Employment Research

Erin L. Kelly is the Sloan Distinguished Professor of Work and Organization Studies at the MIT Sloan School of Management and CoDirector in the Institute for Work and Employment Research. She is also Faculty Director of the the Good Companies, Good Jobs Initiative.

Kelly’s research has been published in many top sociology, management, and interdisciplinary journals and twice recognized with the Rosabeth Moss Kanter Award.


Kelly investigates the implications of workplace policies and management practices for firms, workers, and families with a joint focus on equity, wellbeing, and organizational performance. Previous research has examined scheduling and work-family supports, family leaves, harassment policies, and diversity initiatives in a variety of organizations and industries. Kelly’s early research contributed to our understanding of which diversity policies and programs seem to change organizations and which are primarily “window dressing.”

As part of the Work, Family, and Health Network, Kelly evaluated innovative approaches to work redesign with group-randomized trials in professional/technical and health care workforces. A current project with MIT Sloan colleagues investigates how schedules and staffing strategies in e-commerce warehouses impact workers’ experiences, productivity, and turnover. Kelly is also interested in workers’ voice on the job, and strategies for engaging workers and learning together in different work contexts. Ongoing projects explore different facets of wellbeing and engagement in low- and moderate-wage jobs, including warehouse work, with the goal of identifying promising practices and designing evaluation projects that advance both scholarly and organizational goals.

Kelly is a sociologist and received her PhD from Princeton University and her BA from Rice University. She previously taught at the University of Minnesota.

What comes next for remote work and related work arrangements, after the COVID-19 pandemic drove many white-collar and professional workers home? Erin Kelly identifies key insights and implications from her research and other studies. This talk incorporates lessons from her recent book *Overload: How Good Jobs Went Bad and What We Can Do About it* (2020, Princeton University Press, co-authored with Phyllis Moen) and updates guidance for the period after COVID-19, when remote and hybrid strategies are expected by many but need to be managed well.
Sanjay Sarma
Vice President for Open Learning
Fred Fort Flowers (1941) and Daniel Fort Flowers (1941) Professor of Mechanical Engineering

Sanjay Sarma is the Fred Fort Flowers (1941) and Daniel Fort Flowers (1941) Professor of Mechanical Engineering at MIT. He is the first Dean of Digital Learning at MIT. He co-founded the Auto-ID Center at MIT and developed many of the key technologies behind the EPC suite of RFID standards now used worldwide. He was also the the founder and CTO of OATSystems, which was acquired by Checkpoint Systems (NYSE: CKP) in 2008. He serves on the boards of GS1, EPCglobal and several startup companies including Senaya and ESSESS.

Dr. Sarma received his Bachelors from the Indian Institute of Technology, his Masters from Carnegie Mellon University and his PhD from the University of California at Berkeley. Sarma also worked at Schlumberger Oilfield Services in Aberdeen, UK, and at the Lawrence Berkeley Laboratories in Berkeley, California. He has authored over 75 academic papers in computational geometry, sensing, RFID, automation and CAD, and is the recipient of numerous awards for teaching and research including the MacVicar Fellowship, the Business Week eBiz Award and Informationweek's Innovators and Influencers Award. He advises several national governments and global companies.

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Even before the pandemic, the rapid pace of technological advances was exposing a gap in America’s education system: workforce education. Labor economists have long talked about the ongoing erosion of middle class jobs, and the increases at the high and low ends of the wage spectrum. COVID, meanwhile, has hurt low-wage earners on several fronts including health and employment, and job mobility is becoming challenging. Workforce education is an important tool in addressing these issues, especially after the pandemic. We present describe new modalities that will help transform workforce education including online learning, new learning technologies, and blended in-person classrooms. We also describe policies and institutional initiatives that can help learners before, during and in between employment.
Lionel Kimerling is the Thomas Lord Professor of Materials Science and Engineering at MIT and the Director of the MIT Microphotonics Center. After a PhD at MIT, he served as Captain in the USAF. He was Head, Materials Physics Research at AT&T Bell Laboratories when he joined the faculty of MIT as Professor. He has authored more than 550 technical articles, and he holds more than 75 patents in the fields of integrated photonics and semiconductor processing. At AT&T, he led the corporate-wide Silicon Materials R&D&M Technology Forum. At MIT, Kimerling was Director of the Materials Processing Center for 15 years, establishing it as the industry portal for faculty across all materials-related disciplines. The MIT Microphotonics Center brings together faculty from eight departments in the Schools of Engineering, Science, Business, and Humanities for large industry-sponsored research programs and the Communication Technology Roadmap (CTR). More than 300 industrial, academic, and government organizations have contributed to Roadmap releases, which are now merged under the Integrated Photonics System Roadmap, International (IPSR-I). Kimerling’s research teams have enabled long-lived telecommunications lasers; developed semiconductor inspection and root cause diagnostic methods such as DLTS, SEM-EBIC and RF-PCD; and pioneered silicon microphotonic.

Kimerling was President, TMS; Chairman, Editorial Board of the Journal of Electronic Materials; and he has served on the Advisory Board, National Center for Photovoltaics, DOE and the National Materials Advisory Board, NRC. Kimerling is the recipient of the ECS Electronics Division award, the TMS John Bardeen Award, the MIT Perkins Award for Excellence in Graduate Advising, and the Humboldt Senior Scientist Research Award. He is a Fellow of the American Physical Society, AAAS, TMS, MRS and the U Tokyo School of Engineering.

The 2020-2030 decade presents a significant opportunity to establish leadership in manufacturing semiconductor chips and the associated supply chain elements for subsystems and systems. Communication, computation, imaging and sensing systems are undergoing a major technology transition to distributed architectures that gather and process information and actuate responses. Application performance has scaled with aggregate improvements in “the 3 Ps”, performance, power and programming, at a rate of 1000x every 10 years.

Populating the workforce with enthusiastic value generators is the most critical element in the advanced manufacturing supply chain, because manufacturing has been outsourced for two generations of workers. ‘Establishing leadership’ means harnessing the intellectual fervor, work intensity and commercial innovation baked into the character of the workforce and focusing it on well-defined, strategic goals. This presentation will highlight work products and best practices developed by MIT’s Initiative for Knowledge and Innovation in Manufacturing (IKIM) for national, regional and company specific workforce development.

The AIM Academy project at MIT is the headquarters for the education, workforce development and technology roadmap for AIM Photonics Institute, one of the national Advanced Manufacturing Institutes. It is one of the most active programs within IKIM. Integrated Photonics is a transformative manufacturing technology, but the path to adoption and diffusion into the supply chain is fragmented. Three skill development areas consistently appear as a primary concern: technician-level test and data analysis, engineer-level design into standard foundry processes, and teaming to achieve system optimization. A hierarchy of delivery modes are required to effectively reach K-12 through industry executives; and the IKIM portfolio features TED-Ed videos, on-line courses, in-person academies, bootcamps, and prototyping labs.
MIT Startup Exchange Lightning Talks

- **iO3Connect**: Enabling remote collaboration beyond the flat screen
- **Coding Dojo**: Transforming lives through programming literacy
- **SplitSage**: Increase Effectiveness. Improve Safety. Enhance Performance

Ali Merchant  
Co-founder and CEO  
iO3Connect

Richard Wang  
CEO  
Coding Dojo

Joshua Sarmir  
CEO  
SplitSage