

MIT Industrial Liaison Program Faculty Knowledgebase Report

Innovations for the Next Generation of Mobility

October 17, 2023 8:50 am - 6:00 pm

9:00 AM

Welcome & Introduction

Laurent FAVRE
CEO
[Plastic Omnium](#)

Félicie BURELLE
Managing Director
[Plastic Omnium](#)

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.

9:30 AM

10 Mega-Trends in Surface Mobility Impacting Research

John Moavenzadeh

Executive Director, [MIT Mobility Initiative](#)



John Moavenzadeh

Executive Director

[MIT Mobility Initiative](#)

John Moavenzadeh is an expert and thought leader on the Future of Mobility. John is the Executive Director of the MIT Mobility Initiative, a platform to advance safe, clean, and inclusive transportation systems through research, education, entrepreneurship, and engagement with businesses, startups, and government. John developed and co-teaches the graduate-level *Mobility Ventures* course at MIT. John is also a Founding Board member of the Mass Mobility Hub, Operator Advisor LP at Assembly Ventures, and a member of the Global Strategic Council of CoMotion. John serves as an independent advisor to several companies that promise to transform transportation.

As Head of Mobility and Member of the Executive Committee of the World Economic Forum for over 15 years in Geneva and New York, John led a team that developed a portfolio of public-private initiatives, including autonomous vehicles and urban mobility, security of the international travel system, drones and the future of the air space, and advancing seamless integrated mobility. John has also served as Executive Director of the MIT International Motor Vehicle Program, an associate with Booz Allen Hamilton's international transportation practice, and started his career as a product design engineer with Ford Motor Company in 1990.

John holds a BS in mechanical engineering from Carnegie Mellon University, an MS in mechanical engineering from the University of Michigan, and an MPP from the Harvard Kennedy School. He has completed executive management programs at China Europe International Business School (CEIBS), INSEAD and the Wharton School.

Interactive Session on AI

Pattie Maes

Germeshausen Professor and Professor of Media Technology, [MIT Media Lab](#)
 Head, [Fluid Interfaces Research Group](#)



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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](#)

Marcelo Coelho

Head of Design at Formlabs

Lecturer, [MIT Department of Architecture](#)

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Lecturer

[MIT Department of Architecture](#)

Marcelo Coelho is the Head of Design at Formlabs and a lecturer and researcher in the MIT Department of Architecture. Spanning a wide range of media, processes, and scales, his work explores the boundaries between matter and information, fundamentally expanding and enhancing the ways in which we design and create. Coelho's work has been exhibited internationally, including places such as the Olympics Ceremonies, Times Square, and Ars Electronica, and can be found in museums, private collections, and millions of products sold all over the world. He holds a doctorate degree from the MIT Media Lab.

[View full bio](#)

Reshaping the physical world with new forms of expression and collaboration between human and machine intelligence.

11:20 AM

Break

11:45 AM

Hydrogen Powered Vehicles – Forever Technology of the Future?

Harry Tuller

Professor of Materials Science and Engineering, [MIT Department of Materials Science and Engineering](#)



Harry Tuller

Professor of Materials Science and Engineering

[MIT Department of Materials Science and Engineering](#)

Professor Tuller received a BS and an MS in electrical engineering and a doctorate in solid-state science and engineering, all from Columbia University. Before joining the DMSE faculty, he served as a postdoctoral research associate at Technion in Israel. He has published more than 500 articles, co-edited 15 books, and was awarded 33 patents. He is editor-in-chief of the *Journal of Electroceramics* and series editor of *Electronic Materials: Science and Technology*. He is also co-founder of Boston MicroSystems, a pioneer in silicon carbide-based MEMS technology and devices.

12:30 PM

Startups Lightning Talks : Innovation for Next Generation of Mobility

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.

Peter Godart
Co-founder and CEO
[Found Energy](#)

Tristan Swedish
CTO and Co-Founder
[Ubicept](#)

Virj Kan
CEO
[Primitives Biodesign](#)

John Xin
Co-founder and CEO
[Lunewave](#)

Patrick Stack
Principal Software Engineer
[GelSight](#)

1:15 PM

Lunch & Networking Break

2:15 PM

Session on Emerging Technologies

Philippe Dewost
Director
[EPITA](#)

John Carrier
Senior Lecturer, System Dynamics, [MIT Sloan School of Management](#)



John Carrier
Senior Lecturer, System Dynamics
[MIT Sloan School of Management](#)

John Carrier is a senior lecturer in the System Dynamics Group at the MIT Sloan School of Management and Managing Director of 532 Partners. His expertise is in shaping the dynamics of operating environments to improve productivity, quality, safety, and morale simultaneously. He has helped companies save hundreds of millions of dollars by helping them find and eradicate the hidden systems lurking inside every operation. His current focus is to help prepare companies to compete in the new environment of Industry 4.0.

He has educated over five hundred top-level leaders in the MIT Sloan Executive Education program in Oil & Gas, petrochemicals, mining, and healthcare. When not teaching, he spends most of his time in the operating environment, working directly with the front line to deliver measurable results in less than sixty days.

Dr. Carrier holds a B.S. in Chemical Engineering from the University of Michigan, a Ph.D. in Control Systems from MIT, and an MBA from the Harvard Business School.

Félicie BURELLE
Managing Director
[Plastic Omnium](#)

Chris Smith
VP Global Marketing – Long Distance Transportation
[Michelin](#)

Corine De Bilbao
CEO
[Microsoft France](#)

Minggang Zhang
Deputy General Manager
[Huawei France](#)

3:15 PM

Break

3:30 PM

Session on New Materials

Carlos Portela

d'Arbeloff Career Development Assistant Professor, [MIT Department of Mechanical Engineering](#)



Carlos Portela

d'Arbeloff Career Development Assistant Professor

[MIT Department of Mechanical Engineering](#)

Carlos Portela is the d'Arbeloff Career Development Assistant Professor in MIT's Department of Mechanical Engineering.

Portela's research lies at the intersection of materials science, mechanics, and nano-to-macro fabrication with the objective of designing and testing novel materials -- with features spanning from nanometers to centimeters -- that yield unprecedented mechanical, optical, and acoustic properties.

[View full bio](#)

Ariel L. Furst

Paul M. Cook Career Development Professor, [MIT Department of Chemical Engineering](#)



Ariel L. Furst

Paul M. Cook Career Development Professor

[MIT Department of Chemical Engineering](#)

Ariel L. Furst is the Paul M. Cook Career Development Assistant Professor of Chemical Engineering at MIT. Her work centers on inventing technologies to improve human and environmental health by making access to resources more equitable. Her lab develops transformative technologies to solve important problems related to healthcare and sustainability by harnessing the inherent capabilities of biological molecules and cells. She is also a co-founder of the regenerative agriculture company, Seia Bio. She completed her Ph.D. at Caltech developing non-invasive diagnostics for colorectal cancer and was then an A. O. Beckman Postdoctoral Fellow at UC Berkeley, where she developed sensors to monitor environmental pollutants. She is a 2023 Marion Milligan Mason Awardee, a CIFAR Azrieli Global Scholar for Bio-Inspired Solar Energy, and an ARO Early Career Grantee. She was recently awarded the MIT UROP Outstanding Faculty Mentor Award for her work with undergraduate researchers. She is passionate about STEM outreach and increasing participation of underrepresented groups in engineering.

5:00 PM

Wrap Up Speech
Olivier J Cadet
Program Director, [MIT Industrial Liaison Program](#)



Olivier J Cadet
Program Director
[MIT Industrial Liaison Program](#)

Prior to joining MIT in September 2022, Olivier Cadet was Senior Vice President Global Operations, Americas, and President of Kongsberg Maritime Inc. located in Houston, TX and responsible for Kongsberg Maritime operations in the Americas region. Prior to assuming his role in July 2018, Olivier was Executive Vice President of Products & Services, based in Norway. In that role, Olivier was overseeing the teams managing Kongsberg Maritime's products portfolio aligned with market demands and future trends, such as autonomous operations and digital performance. Olivier was also accountable for Kongsberg Maritime's strategic initiative around Information Management System and Smart Data.

Olivier started his international career in the offshore drilling industry in 1998, working for Schlumberger/Transocean as a Controls Engineer where he was involved in the installation, commissioning and support of Dynamic Positioning and Automation systems on offshore drilling rigs. In 2004 Olivier joined Air Liquide, the world leader in industrial gases, where he served for 9 years in a variety of innovation management roles, including R&D Group Manager and Program Director, driving Air Liquide's research efforts in the field of Advanced Process Control and Operations Research to support the company's efficiency program.

A dual citizen (U.S./France), Olivier graduated from the Grenoble Institute of Technology (INP Grenoble) in France in 1998 with a Master of Engineering (Diplôme d'Ingénieur) in Electrical Engineering. He completed the Advanced Management Program with MIT Sloan Executive Education in June 2022.

Yannick RAYNAUD
Scientific Director
[Plastic Omnium](#)

5:15 PM

Closing Speech

Laurent FAVRE
CEO
[Plastic Omnium](#)

Félicie BURELLE
Managing Director
[Plastic Omnium](#)

Alexandre CORJON
Group EVP Innovation & Software
[Plastic Omnium](#)

5:30 PM

Networking Reception