MIT Industrial Liaison Program Faculty Knowledgebase Report

Innovation Journeys 2020 (Oct. 1 & 8)

October 8, 2020 10:00 am - 12:00 pm

Session 1: The Economy - Shape of Recovery and Growth Thursday 1 October 2020 (15:00-17:00 GMT / 10:00-12:00 EDT)

10:00am	Welcome and Introduction
10:10am	The Rise of the Intangible Economy Jonathan Haskel Professor of Economics at Imperial College Business School, Imperial College London Director of the Doctoral Programme at the School Imperial College London
10:35am	If Demography Is Destiny, What Do Business Leaders Need To Know About The Future Of The Workplace & Marketplace? Joseph Coughlin Director MIT AgeLab Joseph Coughlin Director MIT AgeLab Joseph Coughlin, PhD is Director of the MIT AgeLab. Based in the Center for Transportation & Logistics, he teaches in MIT's Department of Urban Studies & Planning and the Sloan School's Advanced Management Program. Coughlin conducts research on the impact of global demographic change and technology trends on consumer behavior and business strategy. He advises a wide variety of global firms in financial services, healthcare, leisure and travel, luxury goods, real estate, retail, technology, and transportation. Coughlin has served on advisory boards for firms such as Bell Canada, British Telecom, Daimler, Fidelity Investments and Sanofi-Aventis. He was appointed by President George W. Bush to the White House Advisory Committee on Aging and by Governor Charlie Baker to the Governor's Council on Aging in Massachusetts, where he co-chaired the Innovation & Technology Subcommittee. A Behavioral Sciences Fellow of the Gerontological Society of America and a Fellow of Switzerland's World Demographics & Ageing Forum, Coughlin is a Senior Contributor to *Forbes* and writes regularly for *MarketWatch* and the *Wall Street Journal*. He was named by Fast Company Magazine as one the '100 Most Creative in Business' and by the Wall Street Journal as inventing the future of retirement. Recently, Coughlin was recognized as one of 15 World Minds by the Zurich-based World Minds, a select community of global leaders in science, arts and business. His new book, *The Longevity Economy: Inside the World's Fastest Growing, Most Misunderstood Market* (Public Affairs, 2017), is one of CEO READ's Business Bestsellers. View full bio
11:00am	Industry Presentation Aireen Omar President (RedBeat Ventures), AirAsia Group

11:25am

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

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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.

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Jonathan Haskel
Professor of Economics at Imperial College Business School, Imperial College London
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Aireen Omar
President (RedBeat Ventures), AirAsia Group

11:50am Closing Remarks

Session 2: Innovation for the future Thursday 8 October 2020 (15:00-17:00 GMT / 10:00-12:00 EDT)

10:00am Welcome and Introduction

Harveen Chugh
Principal Teaching Fellow in Entrepreneurship
Imperial College London

10:10am Lessons for climate change action from a time of pandemic

Richard Templer
Faculty of Natural Sciences, Department of Chemistry at Imperial College London
Director of Innovation at the Grantham Institute
Imperial College London

The Covid-19 pandemic should have put the brakes on investments to decarbonise the global economy but we have observed the reverse. As an entry point to the presentations that follow I will talk about my personal observations and thoughts on what the pandemic has done to businesses' response to the challenges and opportunities of climate.

10:30am Leveraging the Low-Cost Renewable Electricity Megatrend
Yet-Ming Chiang
Kyocera Professor, Materials Science and Engineering
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Kyocera Professor, Materials Science and Engineering

Yet-Ming Chiang is Kyocera Professor in the Department of Materials Science and Engineering at Massachusetts Institute of Technology (MIT). He holds S.B. and Sc.D. degrees from MIT, where he has been a faculty member since 1984. His work focuses primarily on advanced materials and their role in clean energy. He is a member of the U.S. National Academy of Engineering, and a Fellow of the American Ceramic Society and the Materials Research Society. He has published over 200 scientific articles, one textbook, and holds about 35 issued patents and a similar number of pending patent applications. In addition to his academic research, Chiang has co-founded four companies based on research from his MIT laboratory: American Superconductor Corporation (NASDAQ: AMSC), A123 Systems (NASDAQ: AONE), SpringLeaf Therapeutics, and 24M Technologies. Of these, three are in the area of energy technology (Am. Super., A123, and 24M) and three grew out of research in batteries (A123, SpringLeaf and 24M). Chiang also serves on numerous government and private advisory committees and study panels, including the U.S. Department of Energy's Energy Efficiency and Renewable Energy Advisory Committee (ERAC) and Basic Energy Sciences Advisory Committee (BESAC), the Basic Energy Sciences' Materials Science Division's Materials Council, Princeton University's Andlinger Center for Energy and Environment, and the Stanford Institute for Materials and Energy Sciences (SIMES).

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Ultralow cost renewable electricity is emerging as one of the most important tools for battling climate change, not only via the power sector, but also other industries that have been historically hard to decarbonize. A hallmark of these sectors is that the existing products are fully commoditized; and in many ways these are the most difficult areas in which to innovate. I will discuss two examples where new technology may hold the key. One is long duration electrical storage to support renewable generation, which combined could cost-effectively displace incumbent natural gas as an electricity source. A second is electrification of cement production, which is today the largest GHG emitter amongst industrial materials.

10:50am

Startup Pitches

PolyJoule - Non-lithium based energy storage for the electricity grid, from MIT's Startup Exchange

SMAP Energy - graduates of the Imperial-led EIT Climate-KIC Accelerator London

Stable - Electric vehicle fleet charging, from MIT's Startup Exchange

Bumblebee Power - high-efficiency wireless charging for micro-mobility vehicles and drones

Eli Paster, CEO PolyJoule

Paul Monroe, SMAP Energy

Rohan Puri, Co-founder and CEO, Stable

Professor Paul Mitcheson, Bumblebee Power

11:20am

Purposeful innovation for our connected future - BT's innovation journeys

Lisa Perkins
Adastral Park and Research Realisation Director
BT

Our shared response to the covid-19 pandemic has underlined how connected and digital our society has become. Emerging digital technologies such as 5G, the Internet of Things and Artificial Intelligence will increasingly provide the critical fabric on which our post-Covid innovation economy can thrive and achieve its promise to tackle the biggest opportunities and challenges that we all share - such as climate change, quality of life, opportunity for all and shared economic prosperity.

This short talk will discuss BT's approach to purposeful innovation and how it partners to build innovation journeys with personal, regional, national and global impact.

11:35am

Roundtable Discussion

Harveen Chugh
Principal Teaching Fellow in Entrepreneurship
Imperial College London

Professor Richard Templer, Director of the Cleantech Accelerator at Imperial College London

Professor Yet-Ming Chiang, Kyocera Professor of Engineering, MIT (to discuss his innovation journey and startups he has founded)

Lisa Perkins, Director, BT Adastral Park and Research Realisation

11:50am

Adjournment