MIT Industrial Liaison Program Faculty Knowledgebase Report

Technology Strategy and Management

February 15, 2024 10:30 am - 12:00 pm

10:30 AM

Welcome & Introduction
Peter Lohse
Program Director, MIT Corporate Relations

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Dr. Peter Lohse joined the Office of Corporate Relations (OCR) in October 2018 as Program Director.

Lohse comes to OCR with deep and broad knowledge and expertise in the pharma, biotech, and other life sciences-driven industries including agro, nutrition, chemical, and consumer products. As a scientist and entrepreneur, he has an extensive background developing business and managing partnerships with large corporations, early-stage companies, academia, and non-profit organizations. Most recently, Lohse was V.P, Operations and Business Development for InnovaTID Pharmaceuticals in Cambridge. Before that, he was a Strategy Consultant for Eutropics Pharmaceuticals, an emerging biotech company in Cambridge.

Prior to this, Dr. Lohse was Director, Scientific Operations & Innovation Program Director for Eli-Lilly's open innovation platform, InnoCentive, Inc. in Waltham. Earlier in his career, he held positions with increasing responsibility at ArQule of Woburn, Phylos in Lexington, and Novartis Pharma in Switzerland.

Lohse earned his M.S., Chemistry & Applied Sciences and his Ph.D., Organic Chemistry at Federal institute of Technology (ETH) in Switzerland. He earned his M.B.A., Strategy, Finance, Marketing as a Sloan Fellow at MIT. He also held the position Research Fellow, Molecular Biology at Harvard Medical School - Massachusetts General Hospital, Boston (with Professor J. Szostak, Nobel Prize 2009), This was a Swiss National Science Foundation Postdoctoral Fellowship -- In vitro selection of functional RNAs.

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10:35 AM

What Can the Race in Generative AI Models Teach Us About Technology Strategy?

Pierre Azoulay
International Programs Professor of Management, MIT Sloan School of Management

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International Programs Professor of Management
MIT Sloan School of Management

Pierre Azoulay is the *International Programs Professor of Management* at the MIT Sloan School of Management and a Research Associate at the National Bureau of Economic Research.

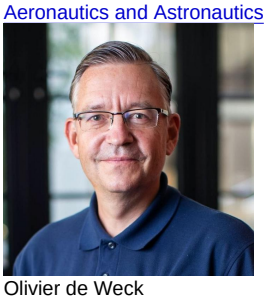
His research focuses on the impact of different funding regimes on the rate and direction of scientific progress. He is also part of a large team surveying management practices and culture on a large scale in scientific laboratories. His latest projects examine the complex relationship between risk and return in scientific research.

At MIT Sloan, he teaches courses on competitive strategy, technology strategy, and platform strategy, as well as a PhD class on the economics of ideas, innovation, and entrepreneurship.

He holds a Diplôme d'Études Supérieures de Gestion from the Institut National des Télécommunications, an MA from Michigan State University, and a PhD in Management from MIT.

11:15 AM

Technology Roadmapping and Development: A Quantitative Approach to the Management of Technology
Olivier de Weck
Apollo Program Professor of Astronautics and Engineering Systems, MIT Department of Aeronautics and Astronautics



Olivier de Weck
Apollo Program Professor of Astronautics and Engineering Systems
MIT Department of Aeronautics and Astronautics

Olivier de Weck was born in Switzerland and holds degrees in industrial engineering from ETH Zurich (1993) and aerospace systems engineering from MIT (2001). Before joining MIT he was a liaison engineer and later engineering program manager on the F/A-18 aircraft program at McDonnell Douglas (1993-1997).

Prof. de Weck is a leader in systems engineering research. He focuses on how complex man-made systems such as aircraft, spacecraft, automobiles, printers, and critical infrastructures are designed and how they evolve over time. His main emphasis is on strategic properties that have the potential to maximize lifecycle value (a.k.a the “ilities”). Since 2001 his group has developed novel quantitative methods and tools that explicitly consider manufacturability, flexibility, commonality, and sustainability among other characteristics. Significant results include the Adaptive Weighted Sum (AWS) method for resolving tradeoffs amongst multiple objectives, Time-Expanded Decision Networks (TDN), the Delta-Design Structure Matrix (DDSM) for technology infusion analysis and the SpaceNet and CityNet simulation environment. These methods have impacted complex systems in space exploration (NASA, JPL), oil, and gas exploration (BP) as well as in sophisticated electro-mechanical products (e.g. Xerox, Pratt & Whitney, DARPA). Prof. de Weck’s teaching emphasizes excellence, innovation, and bridging of theory and practice.

He is an associate fellow of AIAA, a fellow of INCOSE, and serves as associate editor for the *Journal of Spacecraft and Rockets* and the *Journal of Mechanical Design*. He won the 2006 Frank E. Perkins Award for Excellence in Graduate Advising, a 2007 AIAA Outstanding Service Award, the 2008 and 2011 best paper awards from the journal *Systems Engineering* and the 2010 Capers and Marion MacDonald Award for Excellence in Mentoring and Advising. From 2008-2011 he served as associate head of the Engineering Systems Division at MIT. Since early 2011 he serves as executive director of the new MIT Production in the Innovation Economy (PIE) initiative.

12:00 PM

Closing Remarks and Adjournment