

Anuradha Agarwal, MIT Microphotonics Center

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Dr. Anu Agarwal is a Principal Research Scientist at MIT's Microphotonics Center. Her work has focused on the technologies for the foundational components of future electronic-photonics chips including polysilicon waveguides, LEDs, couplers, and optical buffers. Dr. Agarwal has been involved in several research projects at the Microphotonics Center at MIT, since its inception. Her prior research includes the integration of active and passive optical components on silicon, using standard Si-CMOS fabrication processes. As a part of this research, she developed, evaluated, and later confirmed, the utility of polycrystalline silicon material for waveguide applications. Her current work centers on the mid-IR (MIR) regime. Although previous silicon microphotonic devices predominantly

utilized the NIR range, the MIR regime is extremely interesting for hyperspectral imaging and chem-bio sensing because most chemical and biological toxins have their fingerprints in this range. Her work on MIR materials and devices is creating a planar, integrated, Si-CMOS-compatible microphotonics platform which will enable on-chip imaging and sensing applications. Prior to coming to MIT she received her doctoral degree in Electrical Engineering from Boston University, where she investigated the spatial extent of point defect interactions in silicon. With Dr. Agarwal's cross-disciplinary training, industrial experience, and background in Physics, Electrical Engineering, and Materials Science, she has successfully connected basic sciences with relevant applications, using integrated devices that are manufacturable on a large scale.

Markus Buehler, MIT Department of Civil & Environmental Engineering

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Markus Buehler is the McAfee Professor of Engineering and Head of the MIT Department of Civil and Environmental Engineering as well as the Director of the Laboratory for Atomistic and Molecular Mechanics. He is an internationally renowned materials scientist and Professor at the Massachusetts Institute of Technology, and directs the Laboratory for Atomistic and Molecular Mechanics (LAMM), leads the MIT-Germany program, and is Principal Investigator on numerous national and international research programs. Buehler's primary research interest is to identify and apply innovative approaches to design better materials from less, using a combination of high-performance computing, new

manufacturing techniques, and advanced experimental testing. He combines bio-inspired materials design with high-throughput approaches to create materials with architectural features from the nano- to the macro-scale, and applies them to various domains that range from composites for vehicles, coatings for energy technologies, to innovative and sustainable construction materials. Buehler is a sought-after lecturer and has given hundreds of invited, keynote, and plenary talks throughout the world. His scholarly work is highly-cited and includes more than 350 articles on computational materials science, biomaterials, and nanotechnology, many in high-impact journals such as *Nature*, and *Proceedings of the National Academy of Sciences*. He authored two monographs in the areas of computational materials science and bio-inspired materials design, and is a founder of the emerging research area of materiomics. He is a dedicated educator and a gifted teacher, and has appeared on numerous TV and radio shows to explain the impact of his research to broad audiences. In 2016 Prof. Buehler was awarded the Foresight Institute Feynman Prize for his advances in nanotechnology.

Christian Catalini, MIT Sloan School of Management

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Christian Catalini is the Fred Kayne (1960) Career Development Professor of Entrepreneurship, and Assistant Professor of Technological Innovation, Entrepreneurship, and Strategic Management at the MIT Sloan School of Management. Christian's main areas of interest are the economics of entrepreneurship, innovation, and scientific productivity. His research focuses on crowdfunding and online entrepreneurial finance, blockchain technology, digital currencies, how proximity affects the recombination of ideas, the adoption of technology standards, science and technology interactions. Christian is one of the principal investigators of the MIT Digital Currencies Research Study, which gave access to all MIT undergraduate students to a digital currency in the Fall of 2014. He is also involved in the MIT Initiative on the Digital Economy and the recently launched Digital Currency Initiative. He holds a PhD from the University of Toronto (Rotman School of Management), and MSc (summa cum laude) in Economics and Management of New Technologies from Bocconi University, Milan. In 2009-10 he was a visiting student at Harvard University. His work has been featured in Nature, the New York Times, the Wall Street Journal, the Economist, WIRED, NPR, Forbes, Bloomberg, the Chicago Tribune, the Boston Globe, and VICE news among others. He has presented his research at a variety of institutions including Harvard University, MIT, Yale University, London Business School, New York University, UC Berkeley, the Federal Reserve Bank, the US Treasury, the World Bank, and the White House OSTP.

John Hart, MIT Department of Mechanical Engineering

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John Hart is Associate Professor of Mechanical Engineering and Mitsui Career Development Chair at MIT. Hart directs the Mechanosynthesis Group, which aims to advance the science and technology of advanced manufacturing in areas including additive manufacturing, nanostructured materials, origami-inspired engineering, and integration of computation and automation to accelerate material and process discovery. Hart teaches undergraduate and graduate courses in manufacturing processes, advanced materials, and research methods. He has Ph.D. (2006) and S.M. (2002) degrees from MIT, and a B.S.E (2000) degree from the University of Michigan, all in Mechanical Engineering. Prior to joining MIT in 2013, Hart was Assistant Professor of Mechanical Engineering, Chemical Engineering, and Art and Design at the University of Michigan. Hart has received numerous prestigious awards recognizing his accomplishments in research and teaching, and his impact on the development of innovative materials and manufacturing technologies. These include: the R&D100 Award (2008, 2009), the DARPA Young Faculty Award (2008), the ASME Pi Tau Sigma Gold Medal (2009), the SME Outstanding Young Manufacturing Engineer Award (2010), the AFOSR Young Investigator Program (YIP) Award (2011), the NSF CAREER Award (2012), the ONR YIP Award (2012), and the ASME Best Paper Award in Compliant Mechanisms (2013). Hart is also internationally recognized for his efforts to communicate principles of nanotechnology to the public, including his Nanobliss site.



Dr. Jeanne Ross is Director and Principal Research Scientist at the MIT Sloan School's Center for Information Systems Research (CISR). She directs and conducts academic research that targets the challenges of senior level executives at CISR's seventy-five global sponsor companies. She studies how firms develop competitive advantage through the implementation and reuse of digitized platforms. Her work has appeared in major practitioner and academic journals, including *Sloan Management Review*, *Harvard Business Review*, the *Wall Street Journal*, *MISQ Executive*, and *CIO Magazine*. Jeanne is coauthor of three books: *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*, *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution* through Harvard Business School Press, and *IT Savvy: What Top Executives Must Know to Go from Pain to Gain*. She has served on the faculty of customized courses for a number of major corporations,

including PepsiCo, McKinsey, General Electric, TRW, Pfizer, News Corporation, Commonwealth Bank of Australia, IBM, BP, and Credit Suisse. She regularly appears as a speaker at major conferences for IT executives. Jeanne earned a B.A. at the University of Illinois, an MBA from The Wharton School at the University of Pennsylvania, and a Ph.D. in Management Information Systems from the University of Wisconsin-Milwaukee. She is a founding senior editor and former editor in chief of *MIS Quarterly Executive*.



Matthias Winkenbach is a Research Associate at the MIT Center for Transportation & Logistics and the Director of the Megacity Logistics Lab. His current research focuses on multi-tier distribution network design in the context of urban logistics and last-mile delivery. Dr. Winkenbach received his Ph.D. in Logistics and his Masters in Business with specializations in Finance and Economics at WHU – Otto Beisheim School of Management in Germany. He also studied at NYU Stern School of Business in New York as well as at the École des Hautes Études Commerciales (HEC) in Montréal, Canada. His

doctoral studies focused on the optimal design of multi-tier urban delivery networks with mixed fleets. His work was closely linked to a research project with the French national postal operator La Poste. During and after his doctoral studies, he spent several months at the MIT Center for Transportation & Logistics as a Visiting Scholar. Dr. Winkenbach has worked on organizational redesign in the automotive industry and on innovative delivery models in the postal and express logistics sector, as well as various other projects in the mining, shipbuilding, consulting and logistics industries.