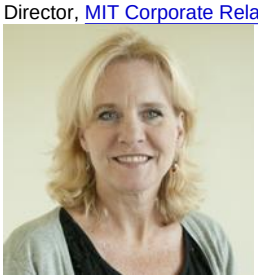
MIT Industrial Liaison Program Faculty Knowledgebase Report

The Changing Urban Environment

December 3, 2020 11:00 am - 12:35 pm

11:00am - 11:05am	Introduction Sheri Brodeur Director, MIT Corporate Relations



Sheri Brodeur
Director
MIT Corporate Relations

Sheri Brodeur is a Director of Corporate Relations at MIT. Prior to this, she spent 22 years at Hewlett-Packard Company in several roles. Her most recent position was in the HP Labs Strategy and Innovation Office. The role of this organization is to set HP Labs' research strategy and extend HP's internal research capacity by partnering with universities, governments, and other companies on a global scale to rapidly advance the positive impact of technology on the world.

Sheri spent 15 years with HP Labs, HP's corporate researcher center, managing major university alliances and programs, including a $25M program with MIT. She has been responsible for managing global higher education technology programs in the areas of Security, Digital Libraries (DSpace), Information Management, and Sustainability.

Prior to this role she spent the previous eight years at Hewlett-Packard in the sales organization moving from the position of Field Sales Engineer to Global Account Manager. In this role she was responsible for selling, supporting and delivering high end test and measurement solutions for the communications industry.

Brodeur has a BS in Ceramic Engineering from Alfred University and an MS in Solid State Science from the Materials Research Laboratory at Penn State University.

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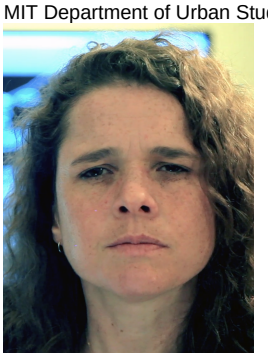
11:05am - 11:35am

DATA | ACTION : Designing the City with Data
Sarah Williams
Associate Professor of Technology and Urban Planning
Chair, Urban Science & Computer Science Program
MIT Department of Urban Studies and Planning



Sarah Williams
Associate Professor of Technology and Urban Planning
Chair, Urban Science & Computer Science Program
MIT Department of Urban Studies and Planning

Sarah Williams is currently an Associate Professor of Technology and Urban Planning. She also is Director of the Civic Data Design Lab at MIT's School of Architecture and Planning. The Civic Data Design Lab works with data, maps, and mobile technologies to develop interactive design and communication strategies that expose urban policy issues to broader audiences.

Trained as a Geographer (Clark University), Landscape Architect (University of Pennsylvania), and Urban Planner (MIT), Williams's work combines geographic analysis and design. Williams is most well known for her work as part of the Million Dollar Blocks team which highlighted the cost of incarceration, Digital Matatus which developed the first data set on a informal transit system searchable in Google Maps, and a more a recent project that uses social media data to understand housing vacancy and Ghost Cities in China.

Williams' design work has been widely exhibited including work in the Guggenheim, the Museum of Modern Art (MoMA), the Cooper Hewitt Museum in New York City. Prior to MIT, she was Co-Director of the Spatial Information Design Lab at Columbia University's Graduate School of Architecture Planning and Preservation (GSAPP). Williams has won numerous awards including being named top 25 planners in the technology and 2012 Game Changer by Metropolis Magazine. Her work is currently on view at the Museum of Modern Art (MoMA) and the Seoul Biennale Cities Exhibition in Korea.

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As digital systems multiply across the urban landscape, they are producing immense streams of data that can help inform how we manage and plan cities.The potential now exists, at a scale previously unavailable, to directly measure issues that have been central to the urban environment since its inception, such as equity, environment, value creation, service provision, public opinion, and the effects of physical form. In this talk Sarah Williams, the Director of MIT's Civic Data Design Lab will explain how anyone can harness data and make it actionable for the development of sustainable and equitable cities. Using compelling illustrations from her own work, which ranges from environmental sensing to data analytics about the public realm during Covid-19, this talk will inspire us to think of new ways to use data to improve the places we live.

11:35am - 12:05pm

Building Resilient Communities
Kent Larson
Principal Research Scientist
Head, City Science Research Group

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Principal Research Scientist
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Kent Larson directs the City Science (formerly Changing Places) group at the MIT Media Lab. His research focuses on developing urban interventions that enable more entrepreneurial, livable, high-performance districts in cities. To that end, his projects include advanced simulation and augmented reality for urban design, transformable micro-housing for millennials, mobility-on-demand systems that create alternatives to private automobiles, and Urban Living Lab deployments in Hamburg, Andorra, Taipei, and Boston.

Larson and researchers from his group received the “10-Year Impact Award” from UbiComp 2014. This is a “test of time” award for work that, with the benefit of hindsight, has had the greatest impact over the previous decade.

Larson practiced architecture for 15 years in New York City, with design work published in *Architectural Record*, *Progressive Architecture*, *Global Architecture*, *The New York Times*, *A+U*, and *Architectural Digest*. *The New York Times Review of Books* selected his book, *Louis I. Kahn: Unbuilt Masterworks* (2000) as one of that year’s ten best books in architecture.

View full bio

In response to the pandemic and climate change - and the inequities that both have revealed - there is a growing interest in building more resilient communities that can adapt and grow stronger when faced with the inevitable challenges in the future. Kent Larson will present the work of his group to help realize the vision of cities as a network of healthy, high-functioning, resilient communities:
Urban Programming. Cityscope is a data-driven, evidence-based simulation and community engagement platform, now being deployed in Hamburg and other cities, to model new approaches to urban design, housing, mobility, and energy networks that could dramatically improve both the social and environmental performance of cities.
Light Autonomy. The Persuasive Electric Vehicle (PEV) and the MIT Autonomous Bicycle are ultra-light, shared-use autonomous vehicles that could replace cars and mass transit within urban districts.
Responsive Housing. The CityHome is a modular, transformable, technology-enabled, system for post-pandemic urban apartments that can effortlessly convert from living to working to sleeping to exercise to entertaining.
Algorithmic Zoning. Conventional land-use regulations do not respond to rapidly changing social, economic and technological conditions. City Science is developing an algorithmic zoning alternative that deploys fine-grained and dynamic incentives to create the community assets necessary for civic homeostasis.
ESG Resilient Community Metrics. Modern cities are largely built with private money. In collaboration with the UN SDG Ambition initiative, City Science is developing new ESG Resilient Community metrics to encourage pro-social community investment.

12:05pm - 12:15pm

Envelope

Eldad Gothelf
Director, Zoning Services
Envelope

12:15pm - 12:35pm

Moderated Discussion with All