EPSTEIN INSTITUTE SEMINAR ▪ ISE 651

Understanding Urban Social Resilience Through Behavioral Mobility Data

ABSTRACT: The economic and social progress of our urban areas, institutions, and labor markets depend on the diversity and resilience of the social fabric in cities. However, several significant forces can erode these connections, such as income or racial segregation and differences in education and job access. In this talk, I will present recent research on understanding the fragility of social connections and interactions in cities by analyzing behavioral mobility data from mobile phones and its relationship with networked inequalities, such as experienced segregation, access to healthy food, and adaptation to the recent pandemic. I will also discuss potential data-driven interventions to reinforce the social fabric in cities and mitigate the detrimental impacts of networked inequalities.

Dr. Esteban Moro
Researcher and Data Scientist
MIT Connection Science;
Professor
Universidad Carlos III (UC3M)

Webpage: estebanmoro.org

Material:

- The Atlas of Inequality inequality.media.mit.edu
- Diversity beyond density: Experienced social mixing of urban streets. PNAS Nexus, 2023
- Quantifying the importance and location of SARS-CoV-2 transmission events in large metropolitan areas, PNAS 2022
- Mobility patterns are associated with experienced income segregation in large US cities, Nature Communications 2021
- Behavioral changes during the pandemic worsened income diversity of urban encounters, Nature Communications 2023.

SPEAKER BIO – Esteban Moro is a researcher and data scientist at MIT Connection Science and a professor at Universidad Carlos III (UC3M) in Spain. From January 2024, he will be a full professor at the Network Science Institute at Northeastern University. His work lies at the intersection of big data, network science, and computational social science, focusing on human dynamics, collective intelligence, social networks, and urban mobility in areas such as viral marketing, natural disaster management, and economic segregation in cities. He has received numerous awards for his research, including the "Shared University Award" from IBM in 2007 for his research on modeling viral marketing in social networks and the "Excellence in Research" Awards in 2013 and 2015 from UC3M. Esteban's work has appeared in major journals such as Nature Communications, Nature Human Behavior, PNAS, and Science Advances and is regularly covered by media outlets such as The Atlantic, The Washington Post, The Wall Street Journal, and El País (Spain).

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School of Engineering
Daniel J. Epstein Department of
Industrial and Systems Engineering

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