



School of Data Science

香港城市大學
City University of Hong Kong

Data-informed Models and Insights on Human-centric Electric Vehicle Charging Infrastructure Planning and Demand Management

Date: 31 January 2023 (Tuesday)

Time: 9:30am - 10:30am

Seminar link: <https://cityu.zoom.us/j/96990356262>



ABSTRACT

Widespread adoption of low-carbon technologies such as electric vehicles, renewables, and heat pumps requires urgent adaptations of existing transportation and energy infrastructures. However, questions remain on the effectiveness and robustness of various human-centric strategies for infrastructure expansion and demand management of these technologies to support the clean energy transition. Addressing these questions can be challenging because it requires a spatially and temporally explicit modeling of the variations and uncertainties in human travel and energy-consuming behaviors, technology performance, and renewable resource availabilities. Drawing on statistical and optimization methods, this talk will discuss some of my work on tackling this challenge around 1) planning of charging stations and power grid for personal electric vehicles, 2) demand management of electric vehicle charging, and 3) power grid impact of the coordinated adoption of electric vehicles and solar photovoltaics.

ONLINE SEMINAR



Dr Wei WEI

GUEST SPEAKER'S PROFILE

Dr Wei WEI is a postdoctoral associate at the Institute for Data, Systems, and Society at Massachusetts Institute of Technology (MIT). She received her Ph.D. from the interdepartmental transportation program at MIT in 2022. She also earned her Bachelor's degree in Engineering Systems and Design with a focus on Economics and Operations Research from Singapore University of Technology and Design. Her doctoral research focuses on modeling vehicle travel behavior and technology performance to inform charging infrastructure expansion and power grid upgrades for enabling personal vehicle electrification. Her postdoctoral research has been focusing on characterizing and forecasting electricity demand extremes from decarbonization. She is a recipient of the Lee Schipper Memorial Scholarship for Sustainable Transport and Energy Efficiency from the World Resources Institute.

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All are welcome