



LSGS & RILS RESEARCH SEMINAR

Understanding Human Mobility in Cities: Multimodal Data and AI-empowered Models

 **21 AUG 2026 (FRI)**

 **16:00 - 17:00**

 **Z414, POLYU**

 **ENGLISH**

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ABSTRACT

Human mobility is a key lens for understanding urban transportation, functional organization, and socio-spatial dynamics. Advances in sensing technologies and big data have produced increasingly rich multimodal sources, including trajectories, social media, travel records, and built-environment information, while AI models offer new tools for mobility modeling. However, existing data still suffer from coverage bias, limited semantic content, and fragmented modalities, and current models remain constrained in heterogeneous data fusion, dynamic mechanism interpretation, and cross-city transferability. This talk provides a methodological overview of how multimodal data and AI-empowered models can advance the understanding of urban human mobility, outlines key pathways for data integration and modeling, and discusses future directions.

BIOGRAPHY

Dr. Wei Huang is a Professor at the College of Surveying and Geo-Informatics, Tongji University, China, and an Adjunct Professor at Toronto Metropolitan University (formerly Ryerson University), Canada. Prior to Tongji, he worked at the Ontario Ministry of Transportation, Canada, and Heidelberg University, Germany. He received his PhD in Civil Engineering (Geomatics Engineering) from Ryerson University (now Toronto Metropolitan University) in 2016. His research focuses on understanding interactions between human spatial behavior and urban systems using multimodal data and AI tools. He is the Chair of the ISPRS WG IV/6, and serves as an Associate Editor for ISPRS IJGI and as an editorial board member for several journals in geoinformation science. He is a recipient of the ISPRS U.V. Helava Award (2016).

Moderator: Prof. Xintao LIU, Associate Professor of LSGS, member of RILS

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