

RESEARCH SEMINAR

DEPARTMENT OF GEOGRAPHY & RESOURCE MANAGEMENT
THE CHINESE UNIVERSITY OF HONG KONG

Interlinked Low-Carbon Travel and Residential Behaviour: Energy, Climate, Social and Infrastructural Impacts

29 Feb 2024 (Thu)
4:30 – 6:00 pm (UTC+8)
Rm 221, Chen Kou Ben
Building, CUHK

Household energy consumption in the transport and residential domains tends to be analyzed separately, failing to recognize interlinkages between households' preferences, choices and behaviors expressed in different areas of everyday life. As a result, our understanding of the collective outcome of household actions on society, infrastructure and climate lacks behavioral realism, which makes it difficult to reduce energy consumption, deploy infrastructure, and mitigate climate change in these domains. In response, we are developing a bottom-up, behaviorally-realistic, and spatially-explicit simulation environment to explore interlinked energy use and technology purchase behaviors across travel and residential domains (e.g., choice of car or commuting mode, and adoption of heating or cooling technology or smart devices in homes). Simulating hundreds of thousands of heterogeneous decision makers who interact socially will allow us to understand how information about innovations propagates through social networks, and the impacts resulting adoption has on urban-scale infrastructure including power grids and roads. In this talk, I will present preliminary results from this on-going project, INTERLINK.

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Dr. Chengxiang (Tony) ZHUGE is an Assistant Professor from the Department of Land Surveying and Geo-Informatics (LSGI), The Hong Kong Polytechnic University (PolyU), and is Program Leader for BSc in Urban Informatics and Smart Cities. He is leading an interdisciplinary research group at PolyU, focusing on technology innovation, infrastructure planning and policy making in the mobility and residential sectors.



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