

RESEARCH SEMINAR

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

Life Between Buildings from a Street View Image: What Do Big Data Analytics Reveal about Neighbourhood Organisational Vitality?

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In this seminar, I will present a recent collaborative case study where big data from street-level images captured by Google Street View (GSV) were applied to analyze the extent to which the built environment impacts the survival rate of neighborhood-based social organizations in Amsterdam, the Netherlands. These organizations are important building blocks for social life in urban neighborhoods. Examining these organizations' relationships with their environment has been a useful way to study their vitality.

To extract data on built environment features from GSV images, we applied a deep learning model, DeepLabv3+. We then used elastic net regression to empirically test the relationship between the built environment – distinguishing between car-related, walking-related, and mixed-use land infrastructure – and the survival of neighborhood organizations. Besides revealing the effects of built environment features on the social life between buildings, our study points to the value of easily applicable observational big data. Data captured by GSV and other recently developed methods offer researchers the opportunity to conduct detailed yet relatively swift and inexpensive studies without resorting to overly coarse or common subjective measurements.

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Dr Mingshu Wang is a Senior Lecturer (Associate Professor) of Geospatial Data Science at the University of Glasgow (UK). He earned his BSc from Nanjing University, MSc, and Ph.D. from the University of Georgia (USA), and previously was a tenure-track Assistant Professor at the Faculty of Geo-information Science and Earth Observation (ITC), University of Twente (NL). His research focuses on developing and applying GIScience methods and big data analytics to understand urban systems and development. He is the Editor for Cities, Regions, and Spatial Data Science of *Asian Geographer*.



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