

# RESEARCH SEMINAR

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

## Computational social science approaches to address public health challenges

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

Computational social science has gained increasing recognition for its applicability to various social challenges. One such approach is agent-based modelling (ABM), a computational simulation technique to examine complex systems and interactions between autonomous entities like people, groups, places, and time. ABM can support decision-making based on empirical evidence since it can simulate hypothetical, counterfactual scenarios and analyse their potential consequences before implementation by changing the rules in models and related parameters. In this talk, Dr. Koh will share his experience designing ABMs for food security and COVID-19.

In addition, he will present his study examining the news articles on COVID-19 vaccination in Korea to explore the corresponding discourse in legacy media reports using a latent Dirichlet allocation (LDA) topic model, a natural language processing. This study found that Korea's news reports generated only a few common discourses about COVID-19 vaccination, implying that public health communication through legacy media may be ineffective in enhancing mutual understanding across society during the COVID-19 pandemic. Caveats and suggestions for future studies in computational social science will also be discussed.



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Prof. KOH is an Assistant Professor of Geography at the University of Hong Kong, where he also serves as a faculty research affiliate with the University's new research initiatives. He is an Associate Editor for International Journal of Health Geographics.

Prof. Koh focuses on understanding the complexity of health and the social and environmental determinants of health operating at multiple levels of geography, mainly using systems science and geospatial approaches. He also examined various population health and health-related behaviours, including but not limited to obesity, food security, racial health inequalities, rheumatic disease, and veterinary care access in data-driven ways.



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