Session title: **Deep Empowerment of AI to Facilitate Sustainable and High-Quality Urban Development**

Session Organizer: **East China Normal University**

Short Description

The session will focus on the innovative role of AI technology in urban sustainable development. Influential experts and academicians in the field will be invited to share their cutting-edge research and practices, present case studies, and engage in discussions with participants. The primary aim is to explore the way to achieve sustainable and high-quality urban development in the AI era.

Objectives

This session will provide the best practices and share experiences regarding AI's role in promoting sustainable and high-quality urban development. It will also explore innovative applications of AI technology in addressing challenges related to sustainable urban development, stimulating deep thinking among experts and scholars, and offering inspiration for future research.

Expected Results

Through the exchange of ideas and discussions in this symposium, we expect to achieve the following outcomes:

1. Providing the best practices and sharing experiences of AI in driving sustainable and high-quality urban development.

2. Exploring innovative applications of AI technology in addressing challenges related to sustainable and high-quality urban development.

3. Inspiring participants to engage in deep reflections on sustainable urban development issues and spark new opportunities for collaborative projects.

Agenda

Time 13:30-15:00, September 8th 2023 Room: 305 B

Moderator:

LIU Min
Professor
East China Normal University

LIU Min is a Professor of Geography and a doctoral supervisor. He currently serves as Vice Dean of the School of Earth Sciences, Dean of the School of Geographic Sciences, and Director of the Key Laboratory of Geographic Information Science, Ministry of Education, at East China Normal University. He is also the Vice Chairman of the Chinese Geographical Society, Director of the Environmental Geography Committee of the Chinese Geographical Society, and Director of the Sediment Environment Committee of the Chinese Society for Environmental Sciences. In addition, he holds the position of Chief Scientist for a key research and development project of the Ministry of Science and Technology. His research focuses primarily on physical geography and environmental geography. He has published over 200 academic papers in domestic and international journals including Science Advances, Nature Communications, and Acta Geographica Sinica. He has received numerous awards, including a First-class Award for provincial and ministerial scientific and technological progress and a Second-class Award for natural science from the Ministry of Education, China.

Participants:

Event 1 (13:30-14:00)

High-Resolution Earth Observation for urban sustainable development

Jonathan Li
Academician, Professor
University of Waterloo

Jonathan Li is a Fellow of the Canadian Academy of Engineering and Canadian Engineering Research Institute and a professor at the University of Waterloo in Canada. He is also a founding member of the Waterloo Artificial Intelligence Institute. He is also a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). He has led more than 50 research projects funded

by various institutions, including the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canada Foundation for Innovation (CFI), and federal and provincial government agencies. His research interests are in urban remote sensing and geospatial data science, especially in intelligent extraction of geometric and semantic information for earth observation images and LiDAR point clouds using machine learning and deep learning algorithms.

Event 2 (14:00-14:15)

Using big data to assess the progress of cities towards Sustainable Development Goals

HUANG Bo

Professor

Urban Systems Institute, The University of Hong Kong

Dr. HUANG Bo is a Chair Professor at the University of Hong Kong, where he is also the Associate Director of the Urban Systems Institute. He has been recognized for his outstanding contributions to research and was inducted into the National High-Level Talent Program in 2016. Dr. Huang's research focuses on spatial intelligence, satellite image fusion, spatiotemporal statistics, and spatial optimization for sustainable spatial planning. He is an Associate Editor for the International Journal of Geographical Information Science and the Editor-in-Chief of Comprehensive GIS (Elsevier). Dr. Huang has been honored with several awards in recent years, including a second-class award in natural sciences from the Ministry of Education in 2021, a gold medal from the International Exhibition of Inventions Geneva in 2021, and a CPGIS Innovation Award in 2023.

Event 3 (14:15-14:30)

Coastal city SDGs in the era of climate change: a community engagement approach

LIU Yan

Professor

School of the Environment, The University of Queensland

LIU Yan is Professor of Geographic Information Science at the University of Queensland, Australia. She currently serves at the Australian Research Council's College of Experts and leads the Spatio-Temporal Analytics Research Lab (STAR Lab) at the University of Queensland. Her research focuses on urban issues and computational urban science, including urban analysis,

geospatial modeling, cellular automata simulation, GIS and spatial big data analysis, and their applications in spatial planning, policy analysis, and interdisciplinary studies in the humanities and social sciences.

Event 4 (14:30-14:45)

GeoSDG：a spatial simulation tool for exploring the future sustainable development paths

LI Xia

Academician, Professor

School of Geographic Sciences, East China Normal University

Professor LI Xia is an internationally recognized academic, a Fellow of International Eurasian Academy of Sciences, a Fellow of the Academy of Social Sciences in the United Kingdom, and a recipient of the National Distinguished Young Scientist Fund. He is also the Chief Expert of the National Key Basic Research and Development Program. Currently, he holds the position of a professor at the School of Geographic Sciences in East China Normal University. He has made significant contributions to the field of geography by creating the theory of geographic simulation systems. He further expanded the application of cellular automata to land-use simulation and developed a global land-use simulation model that integrates climate change and human activities. His research breakthroughs include addressing challenges related to large-scale, fine-grained simulation, and successfully coupling with various environmental assessment models.

Event 5 (14:45-15:00)

Harnessing big geodata for circular and low-carbon urban built environment transition

LIU Gang

Professor

College of Urban and Environmental Sciences, Peking University

LIU Gang is currently a tenured Full Professor at Peking University. He has also a dual appointment as professor at the Institute of Carbon Neutrality, Peking University, and is selected for the National High-Level Talent Program. He is a board member of the International Society for Industrial Ecology and serves as a council member of the Chinese Society of Natural Resources. Furthermore, Liu Gang is a co-Editor-in-Chief of the Journal of Industrial Ecology and serves on the editorial boards of several other journals in the field of resources and the environment, including Resources, Conservation & Recycling and Journal of

Cleaner Production.　He has been awarded the Robert A. Laudise medal by the International Society for Industrial Ecology, the James J. Morgan Early Career Award by Environmental Science & Technology, and the Best Research for Digital Built Environment by the World of Digital Built Environment.