



DEPARTMENT OF GEOGRAPHY
THE UNIVERSITY OF HONG KONG



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**29 SEP 15:00-16:00
2020 (TUE) VIA ZOOM**

SUSTAINABLE ENVIRONMENTAL ADAPTATION STRATEGIES TOWARDS SMART AND HEALTHY CITIES



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Dr. Jiyun Song joined the University of Hong Kong (HKU) as an Assistant Professor in Aug 2019 and is currently leading a Healthy Cities Laboratory at HKU Mechanical Engineering. Before joining HKU, she worked as a postdoctoral research associate in the Department of Applied Mathematics and Theoretical Physics (DAMTP) and Department of Architecture at the University of Cambridge, UK from Jan 2017 to Jul 2019. She completed her PhD degree in Civil and Environmental Engineering at Arizona State University, US in Dec 2016 with Best PhD Dissertation Award and Chinese Government Award for Outstanding Overseas Students of Year 2016. She received her bachelor's and master's degrees in Hydrology and Water Resources Engineering from Wuhan University, China in 2010 and 2012, respectively with Chinese National Scholarship Awards (first-class honors) and outstanding thesis defenses. She has interdisciplinary research interests including urban land-atmosphere interaction, urban hydroclimate, urban green infrastructure, building energy efficiency, urban fluid mechanics, and urban health. Her research group can help us find better adaptation solutions to changing environments, such as smarter urban planning and better management of land, building, energy, and ecosystem services.

ABSTRACT

Rapid urbanisation and the associated landscape modification have led to numerous environmental challenges, such as urban heat stress, air pollution, limited green space, excessive energy consumption, high possibility of airborne disease transmission, etc. Especially under current pandemic situations, we need to rethink about how to build future smart and healthy cities since people's lifestyle may be tremendously transformed. To better tackle these urban environmental challenges, smart adaptation strategies are urgently needed to create healthy cities and healthy buildings, such as city landscape reform, urban green infrastructure implementation, climate-resilient urban planning, and energy-efficient building design. In this seminar, I will first introduce basic physics of urban land-atmosphere interactions and indoor-outdoor exchanges and then discuss the impacts of urban morphology, city greening, building design, and human behaviour changes during COVID-19 lockdown on urban climate, air quality, and building energy consumption. In addition, I will present possible adaptation strategies of several cities under different climatic and geographical conditions, including Phoenix (US), London (UK), Hangzhou, Chongqing, and Hong Kong SAR (China). Our study will provide useful guidance for sustainable urban planning towards smart and healthy cities under challenges of changing environments and unforeseeable pandemics.



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