

# INVESTIGATION OF BUILDING DESIGN FOR NATURAL VENTILATION AND WIND ENERGY HARVESTING IN URBAN AREA

## Speaker

### Prof. Xuelin Zhang

School of Atmospheric Sciences  
Sun Yat-sen University (SYSU)

## Abstract

Professor Zhang will introduce a few studies done by her research group since 2020. The studies will give some hints on how to design buildings and street layout for a better urban wind environment and sustainable cities. Three topics will be introduced in the seminar: 1) cross-ventilation of a generic building with various configurations of external and internal openings; 2) numerical investigation of the effects of environmental conditions, droplet size, and social distancing on droplet transmission in a street canyon and 3) effect of building-roof design, wind turbine arrangement and wind incident angle on energy generation of wind turbines.

## Biography

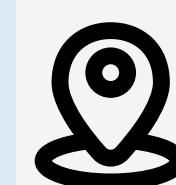
Prof. Xuelin Zhang is an urban environment researcher holding a PhD in Civil and Environmental Engineering from Hong Kong University of Science and Technology (HKUST) in Hong Kong, China. She has earned a bachelor's degree in building service engineering from Tianjin Polytechnic University in 2013, a master's degree in building service engineering from the University of Hong Kong in 2014. She is currently an associate professor attached to the school of atmospheric sciences at Sun Yat-sen University (SYSU). Before that she hold a joint appointment as a postdoctoral researcher at the Department of Building Physics at the Technical University of Eindhoven (TU/e) and HKUST from September 2018 to February 2020. She earned the support from Excellent Young Scientists Fund Program 2021 (Overseas). Her current research focuses on urban wind and thermal environment, natural ventilation, air pollutant dispersion, aerosol dispersion, built wind energy, novel building forms, and machine learning applications in environmental wind engineering.



**9 February 2023**  
Thursday



**4:00pm - 5:00 pm**



**Civil Engineering  
Conference Room  
Room 3574 (Lift 27/28)  
HKUST**

## Enquiry:

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