THE UNIVERSITY OF HONG KONG

FACULTY OF SOCIAL SCIENCES

Knowledge Exchange Seminar Series

Micro Campus, Macro Future - STEMtification of HK Geography in Secondary Education: School-Based Microclimate Monitoring and Forecasting Network in Geography and STEAM Education

Abstract

The scorching Urban Heat Island (UHI) impacts are raising concerns in society. More frequent extreme hot days were recorded under the compound effect of climate change and urban development in Hong Kong. To raise awareness among local secondary students, meteorological measurements and urban heat investigations are being integrated into school-based Geography lessons as part of STEM education initiatives. With the assistance of the Community Weather Information Network (Co-WIN), students are engaged and operating community instruments at the rooftop of their schools across the territory. To further expand students' knowledge and connect them with citizen science through STEM education, a KE project named Spatiotemporal Heat Extremes "Hotspots" Surrounding the School Campus was developed. In this project, students participate in DIY low-cost environmental sensors' development, fieldwork measurements, and conduct a multi-method heat survey over their school campus with inquiry-based learning pedagogies to quantify the thermal comfort and heat-related health threats of their schools.