

- **Programme title and organiser(s)**

Webinar: Development of IoT-based Multi-function Smart Window by Integrating Solar PV Blind and Ventilation System
Jointly organized by HKICM, HKIE(BUD) and HKIS QSD

- **Date, Time and Venue**

23 July 2021 (Friday)
6:30pm to 8:00pm
Webinar via Zoom

- **Speaker(s) (if applicable)**

Dr. Minhyun Lee is an Assistant Professor in the Department of Building and Real Estate (BRE) at the Hong Kong Polytechnic University. She received her doctoral degree in Architectural Engineering at Yonsei University, Seoul, South Korea in 2018, specialized in smart and sustainable building management. Prior to joining the BRE as an Assistant Professor, she was a visiting scholar in Energy Institute at the University of Texas at Austin (UT Austin) as well as a research professor in the Department of Architecture and Architectural Engineering at Yonsei University. Dr. Lee studies and investigates technological, economic, environmental, social, and behavioral aspects in the built environment for smart and sustainable buildings, communities, and cities. Under this goal, her major research interests include modeling diffusion of clean energy technologies and energy saving behaviors, understanding various human responses to different built environments, and improving building and renewable energy policy.

- **Programme highlight**

This research seminar presents a research project that aims to develop the Internet of Things (IoT)-based multi-function smart window for zero energy building (ZEB). This smart-product, integrating the solar photovoltaic (PV) blind with ventilation system, is an innovative solution for generating electricity from solar energy while improving indoor environmental quality. This research project was funded by the South Korean government from 2016 to 2019, and developed the following three technologies: (i) Optimal design and manufacturing technology for solar PV blind and ventilation system; (ii) Real-time monitoring and evaluation technology of solar PV blind electricity generation and indoor environmental quality using the sensor network; and (iii) Automatic control technology for maximizing solar PV blind electricity generation and optimizing indoor environmental quality. Through the development of above technologies, the prototypes for the multi-function smart window, applying various sensors, printed circuit boards (PCB), controllers, and the NI LabVIEW software program, have evolved over time applying different types of PV cells and ventilation systems.

- **Registration details**

The webinar is free of charge with maximum of participants of 150.

Prior registration is required. Seats will be allocated on a first-come-first-served basis with priority given to Building Division members.

For registration, please apply online at https://docs.google.com/forms/d/e/1FAIpQLScwR-2_QyAKxNEGRcyjPZWevB2zZmqFJWsYirJVvVfYnOHevQ/viewform

Successful applicants will be notified before the event.

The presentation will be delivered in English

- **Enquiry details**

For enquiries, please email to Ir. Cedric Chan at cedric_hkie@hotmail.com