

## Research Centre for Green Energy, Transport and Building (RCGETB)

# Research Seminar on Green Technologies and Application in Smart City

Date: 28 September 2022 (Wednesday) Venue: Online - MS Teams

Time: 2 - 4 pm



### Speaker: Dr Edmund Wut

Senior Lecturer  
Division of Business and Hospitality Management (BHM)  
CPCE, PolyU

### Topic: Smart Elevator and Escalator Maintenance

#### Biography

Dr Wut is a senior lecturer of the Division of Business and Hospitality Management, where he teaches courses in crisis management and research methods. He obtained his MSc in Mechanical Engineering from The University of Hong Kong and PhD from University of South Australia. His interdisciplinary research interests cover corporate social responsibility and research methods. He has published papers in international journals such as *italicise*. Dr Wut is currently a senior member of the Institute of Industrial and Systems Engineers and Chartered Marketer with The Chartered Institute of Marketing.

#### Abstract

Hong Kong has more than 4,000 skyscrapers above 100 meters of which 517 are particularly high (150 meters and above). The tallest building in Hong Kong is the International Commerce Centre which is 484 meters high. Vertical transportation is important both for efficiency and safety.

Smart elevator and escalator maintenance approach based on the philosophy of preventative maintenance. There are two types of maintenance package: comprehensive and standard. Scope of maintenance includes regular check-up, emergency repair, annual testing and major overhaul. Maintenance call system, remote maintenance system and smart intelligence monitoring system will be discussed.



### Speaker: Dr Edmond Lam

Lecturer  
Division of Science, Engineering and Health Studies (SEHS)  
CPCE, PolyU

### Topic: Sustainability concepts in high-rise residential buildings: a scientometric analysis of research activities

#### Biography

Dr Edmond LAM obtained his BSc (Hons) in Construction Economics and Management from the Department of Building and Real Estate (BRE) of PolyU and was commended as being top of his class. After graduation, he worked in a construction cost consultancy firm in Hong Kong and later furthered his study at PolyU where he obtained his PhD degree in Construction Management. He has been a Co-Investigator of various research projects in construction health and safety, construction management, and teaching and learning, and he is a recipient of the 2019/20 Lively Teaching Award. He has published several research papers in refereed academic journals and international conference proceedings, and he is currently working on his FDS project in the pursuit of sustainability practices implementation in high-rise residential buildings.

#### Abstract

Many researchers in the construction field have examined a range of sustainability-related studies. However, no research has yet examined the sustainability principles and methods utilised in high-rise residential buildings. Through scientometrics, this study seeks to map out recent sustainability trends and concepts in the design, development, and operation of high-rise (residential) buildings. With focus on bibliographic records from the Web of Science database, the study reveals salient discussions on sustainability concepts as it relates with high-rise buildings. It also provides the opportunity to explore future research directions.



### Speaker: Dr Antony Lam

Lecturer  
Division of Science, Engineering and Health Studies (SEHS)  
CPCE, PolyU

### Topic: The recent development and working principles of Aluminum battery

#### Biography

Dr Lam received his BSc, MPhil, PgDipEd in Physics from The University of Hong Kong and his PhD in Mechanical Engineering from The Hong Kong Polytechnic University. His research interests include gas sensing technology, graphene technology, solar cell and condensed matter physics. Dr Lam now teaches several courses including Physics II, Mathematics II and Fundamental Mathematics.

#### Abstract

Due to the continuous consumption of Lithium, the price of Lithium will continue to rise which is the reason why the price of Lithium battery could not go down. Apart from Lithium (Li), Aluminum (Al) is the most attractive metal anode among the earth abundant elements. It is the fifth most abundant element in the earth crust and it has a high specific capacity of 2978 mAh/g which is comparable to that of Lithium. The electrochemical reaction of Al involves three electrons which create an extremely high volumetric capacity of 8040 mAh/cm<sup>3</sup>, which is four times larger than that of Lithium (2060 mAh/cm<sup>3</sup>). Besides, the price of Aluminum is the cheapest among abundant metal, only 1/150 to Lithium which means it could greatly reduce the price of rechargeable battery. In this seminar, we will introduce the recent development and working principles of Aluminum battery.

*All are welcome!*  
**Register Now!**



Kindly make the reservation at: <https://forms.office.com/r/nrabRfJbZ8>

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