



Talk Series 4

This event is the fourth technical seminar of the Chairman Talk series of Energy Institute (Hong Kong Branch) on energy related topics for members and the energy professions at large. This seminar will focus on the recent emerging smart building energy management practices employing state-of-the-art digital solutions with Internet-of-Things (IoT) and Artificial Intelligence (AI) while at the same time not sacrificing the indoor air quality (IAQ) of the built environment. A novel IAQ indexing approach is introduced riding on the IoT IAQ monitoring and Deep Learning Algorithm for realtime bacterial/fungal/pollen levels quantification developed by Professor Patrick Lee of the School of Energy and Environment of the City University of Hong Kong. With the meticulous integration of the IAQ indexing approach and the IoT/AI smart building energy management practices, it is technically feasible to achieve energy saving and good IAQ concurrently at all times for built environment thereby contributing to carbon reduction without sacrificing good IAQ for the building sector.

Organiser:



Co-organiser:



EIHK Chairman's Talk Series

Date:

4 December 2024 (Wed)

Time:

7:00 – 9:00 pm

Venue:

TU107, The Hong Kong Polytechnic University

Capacity:

160

Fee:

Free of charge

CPD:

2 hours

(CPD attendance e-certificates will be issued to attendees.)

Language:

English / Cantonese
(supplemented with English Terminology and PPT presentation)

Registration:

[CLICK HERE](#) or
scan the QR code by
29 November 2024 (Fri)

**Enquiry:**

events@agchk.com



Tentative Programme *

Time	Key Activity
6:45 – 7:00 pm	Registration
7:00 – 7:05 pm	Welcome Speech – <i>Ir Prof. Vivien Lu, Chairlady of EIHK</i>
7:05 – 7:10 pm	Souvenir Presentation to Speakers & Group Photo Taking
7:10 – 7:40 pm	Presentation on “Indoor Air Quality Certification Scheme and Energy Efficient IAQ Practices” – <i>Ir Edward Chow, Committee Member of EIHK</i>
7:40 – 8:10 pm	Presentation on “Building Energy Efficiency by Digital Solutions with IoT and Artificial Intelligence” – <i>Ir Travis Kan, Vice Chairman of EIHK</i>
8:10 – 8:40 pm	Presentation on “Indoor Air Quality Indexing – A Novel Approach for Ensuring IAQ while Achieving Energy Saving in Building by AI Approach” – <i>Prof. Patrick Lee, Professor in the School of Energy and Environment, CityU</i> – <i>Ir Raymond Fong, Past Chairman of EIHK</i>
8:40 – 9:00 pm	Panel Discussion and Q&A
9:00 pm	Seminar ends

* Subject to change without prior notice



Ir Edward Chow
Committee
Member
Energy Institute
(Hong Kong
Branch)

Topic 1:

Indoor Air Quality Certification Scheme and Energy Efficient IAQ Practices

About the topic:

On average, we spend more than 70% of our time indoors. Maintaining good IAQ helps protect our health and can benefit your company's performance by improving staff productivity and reducing absenteeism. Improving IAQ is not simply about increasing ventilation, dehumidifying outdoor air, and implementing a particle filtration system. Rather, good IAQ management practices can be adopted to achieve better IAQ and energy efficiency simultaneously. Edward will provide insights into the Indoor Air Quality Certification Scheme, which is widely recognized as a hallmark of good IAQ in buildings in Hong Kong. Additionally, he will be highlighting some of the best IAQ management practices that can be adopted to promote energy-efficient IAQ.

About the speaker:

Ir Edward Chow is a seasoned professional with over 20 years of experience in environmental and energy management, air pollution control engineering, Indoor Air Quality, cleaner production, energy/carbon policy research. Currently he is Head (Carbon and Environmental Excellence) of Hong Kong Productivity Council to lead and handle a wide range of projects related to energy/carbon management, ESG, air pollution control engineering, IAQ carbon neutrality consultancy and policy researches. He was appointed by Hong Kong Accreditation Service (HKAS) as Hong Kong Certification Body Accreditation Scheme (HKCAS) Technical Expert in Greenhouse Gas (GHG) Validation and Verification, as well as the Task Force on Greenhouse Gas Validation and Verification. He was the former Programme Manager of the Cleaner Production Partnership Programme, the flag-ship funding programme to encourage wider adoption of cleaner production and energy efficient technologies in Guangdong province.



Ir Travis Kan
Vice Chairman
Energy Institute
(Hong Kong
Branch)

Topic 2:

Building Energy Efficiency by Digital Solutions with IoT and Artificial Intelligence

About the topic:

Digitization is a core element that is redefining how we design, build, operate and maintain buildings. With the Internet of Things, Big Data and Artificial Intelligence, we can completely digitize and connect all the systems inside a building and get the information we need to make better, smarter decisions for maximum efficiency, reliability, and safety. It gives us the foundation we need to create, and retrofit buildings, that are sustainable, resilient, hyper-efficient and people-centric.

About the speaker:

Ir Travis Kan is a Fellow of the Energy Institute (UK), a business development professional with a wealth experience in the energy industry, including power generation, transmission and distribution, control and automation, and building energy management. As the Director of Digital Energy, Power Products and Industrial Automation in Schneider Electric Hong Kong, Travis drives the company's energy management and industrial automation business, delivers innovative solutions for carbon neutrality.



Prof. Patrick Lee
Professor in the
School of Energy
and Environment,
CityU



Ir Raymond Fong
Past Chairman of
EIHK

Topic 3: **Indoor Air Quality Indexing – A Novel Approach for Ensuring IAQ while Achieving Energy Saving in Building by AI Approach**

About the topic:

Prof. Patrick Lee will start off this session to introduce his innovative realtime bacterial/fungal/pollen levels quantification through correlation with conventional IAQ parameters by deep learning algorithm. As realtime bacterial/fungal/pollen monitoring becoming available, indexing of all relevant IAQ parameters can be established to comprehensively reflect the IAQ of the occupied zones. With the meticulous integration of the IAQ indexing approach and the IoT/AI smart building energy management practices, it is technically feasible to achieve energy saving and good IAQ concurrently at all times for built environment thereby contributing to carbon reduction without sacrificing good IAQ for the building sector.

About the speakers:

Prof. Patrick Lee is a Professor in the School of Energy and Environment at City University of Hong Kong. He served as the Associate Dean for Undergraduate Studies in the school from 2017 to 2021. Prof. Lee earned his B.S. in Chemical Engineering from Queen's University in Canada in 2001, followed by an M.S. and Ph.D. in Environmental Engineering from the University of California, Berkeley, in 2002 and 2007, respectively. He conducted postdoctoral research at UC Berkeley from 2008 to 2010. Prof. Lee has received several awards, including the World Cultural Council Special Recognition Award, the School Teaching Excellence Award, and CityU's President's Awards. His research focuses on environmental engineering, addressing challenges related to energy, environmental sustainability, and human health.

Ir Raymond Fong is the Director of RIE Sustainability Limited providing specialist consultancy services in carbon and energy management, ESG advisory and training, air pollution and waste management for the public and private sectors. Before retirement from Hong Kong Productivity Council (HKPC) effective in August 2021, Ir Fong was the General Manager of HKPC with overall responsibility to lead and manage the Green Living & Innovation Division (GID) to provide consultancy services in pollution control, indoor air quality (IAQ) management, energy management, cleaner production, environmental management, food and advanced materials, and Traditional Chinese Medicine to the public and private sectors of Hong Kong. Ir Fong has been working in the environmental and carbon management services for over 35 years providing quality services to hundreds of clients.