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粵港澳大灣區城市建築學會 (香港)  
GHM Greater Bay Area Institute Of Urban Architecture (Hong Kong)



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營運工程師學會 香港分會

## **INTELLIGENT BUILDINGS & INFORMATION TECHNOLOGIES**

### **TECHNICAL SEMINAR 2019 - PART I**

As intelligent building technologies evolved over many years, the answer to the question, now, “What is an intelligent building” is going to change. The Internet of Things is expected to shape the intelligent building technologies of the future, creating buildings that are increasingly able to incorporate information from structures across town and around the world to help buildings to operate more efficiently, so repairs will become more predictive rather than reactive. In Hong Kong, there are so many expert and professional keep studying and investigate to enhance with develop the technologies related to intelligent buildings and information.

AIIB had opportunities to invite various professional and technical experts to join with share some of the intelligent building and construction design technologies including Standardization of ISO BIM Technology, Computerized Lighting Control System, Utilizing Big Data to Perform Retro-commissioning (RCx) at Chiller Plant System and IoT Active Green Wall System.

- Date:** 28 August 2019 (Wednesday)
- Time:** 18:30 – 21:00
- Venue:** AIIB office, 1/F Comfort Garden,  
60 King’s Road, North Point, Hong Kong
- Nos. of Participant:** Maximum 80 persons  
Seat reserved on first-come-first-served in basis.
- Fee:** An administration fee of HK\$80 will be charged for a 2.5 hours CPD  
e-certificate required.

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Asian Institute of Intelligent Buildings

#### **Supporting Organization:**

Building Services Operation and Maintenance Executives Society  
Chartered Association of Building Engineers – Hong Kong Chapter  
GHM Greater Bay Institute of Urban Architecture – Hong Kong  
Hong Kong College of Technology  
Institute of Safety & Health Practitioners  
International Facility Management Association - Hong Kong Chapter  
The Association of Energy Engineers Hong Kong Chapter  
The Society of Operations Engineers (Hong Kong Region)

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## Programme Highlights

### 1. ISO BIM Technology

It is forecasted that by 2030, the global construction market will increase by 8 trillion US dollars compared with 2018, and the output of China's construction industry will increase by 2.1 trillion US dollars. In a time when China's construction industry is facing tremendous opportunities and significant changes regarding digitalization and other digital technological changes, the development and adoption of the UK BIM Level 2 (PAS1192) have been a critical step on the journey to build a digital world for the construction industry overall. Level 2 was a critical starting point for the UK sector development strategy to drive collaboration, integration, and digitalization. This UK national standard has significant meaning at high-level information management through-life for a built asset using the smarter BIM technology. This talk, through several case studies, demonstrates the use of an international standard and smarter BIM technology for is found to be essential not just to cut costs and to improve the productivity of designers, engineers, and operators, more importantly, to drive the readiness journey to a digital and smart City

### 2. Computerized Lighting Control System

During the last few years, lighting control has become a major element in intelligent buildings. Though there is little change in BEC 2018 regarding automatic lighting control requirements, demand of computerized lighting control system grows quickly. Not only private projects but also government projects are now specifying computerized lighting control system in tenders. Speakers would like to share about the “Computerized Lighting Control System” technology.

Key major contents:

- What is computerized lighting control system?
- Why clients want computerized lighting control system?
- Differences between computerized lighting control system and traditional lighting control?
- Architecture & schematic of computerized lighting control system
- Software and control functions
- Integration between computerized lighting control system and BMS

### 3. Utilising Big Data to Perform RCx at Chiller Plant

In line with the Smart City vision of the HKSAR Government, making use of innovation and technology in the built environment is the key to achieving sustainable development. Considering the air-conditioning (AC) system is one of the core parts of buildings, the market seeks to drive the green designs of AC systems through the use of advanced technologies. Since most of the buildings are equipped with building management systems (BMS), greater utilisation of BMS data is important to optimise the performance of chiller plant.

In order to analyse a huge amount of BMS data, big data analytical skills become the essential skill in today's digital age to investigate energy performance of chiller plant. In this presentation, the general approach of big data analytics for central chiller plants will be discussed.

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By using big data analytics, the common operation issues such as sensor fault, inefficient chiller plant performance can be identified. This presentation also provides the fundamental knowledge to develop chiller plant models using the actual BMS data. The developed models will be ultimately used for retro-commissioning, real-time chiller plant optimisation, and data visualisation.

Key major contents:

- ◆ How / why use big data to conduct RCx
- ◆ Automated Fault Detection and Diagnosis
- ◆ Dynamic Chiller Plant Optimization (A holistic approach on optimize chiller plant efficiency)
- ◆ Visualization for equipment & plant efficiency (On-going Commissioning tools/methods)

#### 4. InnoGreen IoT Active Greenwall (IAG) system

The InnoGreen IoT Active Green wall (IAG) system is an innovative system which consists of the application of Green wall and ventilator which enables an Eco-friendly solution to reduce the negative impacts of indoor air pollution. It is an air purifying system that is scientifically proven to be able to effectively clean up air pollutants through a double filter of soil and plant roots. It can reduce air pollutants such as VOC & HCHO, Ammonia and PM2.5, and also produce cooling effect through green plate surface.

According to a study conducted by Environmental International in 2002, it showed that an average person in Hong Kong spends more than 85% of their time indoors. Long hours of exposure to indoor air pollutants may lead to wide range of adverse health impacts. Hence, it is essential that we find the way to improve the air quality of our surrounding

Key major contents:

- ◆ How the system operated?
- ◆ What kind of pollutants it can be removed?
- ◆ Principle of filtration and it's technology

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## Introduction of Speakers:



### **Dr Ir Llewellyn Tang**

BSc (First Class Hons); PGCert; PhD; FHEA; MHKIE; MCIQB; FCInstCES  
Associate Professor in Building Information Modeling (BIM)  
Department of Real Estate and Construction, Faculty of Architecture,  
The University of Hong Kong

CCBM, BIM Certified tutor, Member of the BIM Assessment Panel (BIMAP) of CIC, Founding Director of Digital City infrastructure and Technology Innovation Laboratory (D-CiTi Lab).

Former Head of Department of Architecture and Built Environment (2012-2017) at the University of Nottingham Ningbo China, Former Lecturer and Postdoctoral Researcher at the University of

Reading and Loughborough University respectively, Former Deputy Chairman for the Hong Kong Institution of Engineers (UK Chapter), Former member of Construction Excellence BIM Industry Task Group for the UK Government.



### **Mr. Patrick Yam**

LUTRON's National Sales Manager of China specializes in energy solutions. LUTRON indeed is a leading supplier of total light management system, focusing on integrated energy-saving solutions for control of both electrical and natural light. LUTRON offers intelligent shade system & various control strategies to enhance occupants' well-being & save energy for sustainable projects in commercial, hospitality and residential sectors. Patrick Yam has over 10-year of experiences in design and installation of energy-saving light management and automated shade systems for various projects, including both LEED and HKBEAM installations successfully commissioned in mainland China and Hong Kong. In 2009, Patrick Yam obtained his qualification of LEED Accredited Professional (LEED AP).



### **Ir Franco Mok**

CEng, R.P.E., REA, MIMechE, MHKIE, MBSOMES, MAEE, BEAM Pro, CEM, CBCP

Assistant Energy Services Manager at ATAL Building Services Engineering Ltd, specializes in energy saving solutions and retro-commissioning, achieving energy saving goals through multiple energy management strategies. With approximately 20 years of experience in optimizing energy consumption of air conditioning systems, chiller plant controls and energy monitoring systems. Franco has extensive background in energy consulting services ranging from energy assessment and audit to solution design and implementation. Franco strives for sustainable green building practices with the aim to achieve energy efficiency whenever possible.



### **Mr. Alex Yeung**

Founder and CEO of Bravo Linear Tech. He has in depth working experience with leading European green technology company for over 10 years



### **Ms. Vivian Tam**

BCom(Curtin)  
-MJXU-MNGMT, MESM.  
Assistant Marketing Manager  
at InnoGreen Environmental Limited.

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## 登記表格 REGISTRATION FORM

### 申請人資料 Applicant's details:

英文:

English:

學會:/ 機構 : AIIB / AEE HKC / BSOMES / CABE /  
Association / GBIUAHK / HKCT / IFMA HKC / ISHP  
Organization: / SOEHK

中文:

Chinese:

會員/學生編號:  
Membership /  
Student No.:

### 聯絡資料 Contact Information:

電話: Tel:

手提: Mobile:

電郵地址:

E-Mail address:

申請人簽署:

日期:

Applicant's  
Signature:

Date:

Please tick here if require for a CPD e-certificate, HK\$80 will be collected on time.

### Registration Method 參加方法

Please scan the QR code or click the hyperlink as: <https://forms.gle/MxiK7Dm13U9bCNiG6> for online registration. Or return the Registration Form by email at: [activities@aiib.net](mailto:activities@aiib.net) on or before **22-August 2019**. Successful registration will receive notification message.



### Enquiry 查詢:

Please contact Ir Samuel Chan at 9877 2534 or Mr. Raymond Wan at 9011 6989 or by email: [activities@aiib.net](mailto:activities@aiib.net) Successful registrations will be notified.

### Remark 備註:

If Tropical Cyclone Warning Signal No. 8 or above / Rainstorm Red or Black Warning is hoisted until 16:00 am on the date, the seminar will be cancelled.