

Organizer:



Co-Organizer:



Webinar

Energy Retro-Commissioning Technical Talks for HVAC Systems – Knowledge, M&V and Big Data Analytics



4.5 CPD hours can be claimed by Registered RCx Practitioners / RCx Professionals for HKGBC Training and Registration Scheme

Supporting Organizations:



Webinar

Energy Retro-Commissioning Technical Talks for HVAC Systems – Knowledge, M&V and Big Data Analytics

Webinar Talks:

- Talk No. 1 - RCx basics and HVAC RCx opportunities (*Speaker: Ir Victor Leung*)
Talk No. 2 - How M&V integrating in RCx Project (*Speaker: Ir Gary K.K. Chu*)
Talk No. 3 - Retro-commissioning Using Big Data Analytics Approach for Optimisation, Fault Diagnostics, Measurement and Verification (*Ir Franco K.P. Mok*)

Date:

- Talk No. 1 – 7 May 2021 (Fri)
Talk No. 2 – 14 May 2021 (Fri)
Talk No. 3 – 21 May 2021 (Fri)

Time:

- 6:00 pm - 7:30 pm
6:00 pm - 7:30 pm
6:00 pm - 7:30 pm

REGISTRATION



Format:

Webinar Talks via Zoom

Language:

The webinar will be conducted in Cantonese with English Terminology

Fee:

HK\$150 for three talks (*Organizer: HKAEE & Co-organizer: AEE-HKC*)
HK\$300 for three talks (*Supporting Organizations: EMSD / ASHRAE-HKC / BSOMES / CIBSE-HKR / EI-HKB / HKGBC / HKIE-BSD*)

Registration:

- Register online via <https://qrgo.page.link/Pjvo6> on or before **30 April 2021**.
- Transfer to HKAEE's bank account via Fast Payment System (FPS)
- Bank-in to HKAEE's bank account
 - Bank Name: Bank of China (Hong Kong) Limited
 - Account Name: **Hong Kong Association of Energy Engineers Limited**
 - Account Number: **012-886-1-024587-2**
- Please screenshot the page of successful payment / scanned copy of the bank-in slip and send it to HKAEE by WhatsApp (96506678) or Email (info@hkaee.org).
- Number of participants for the webinar is limited to 100. (Priority will be given to members of Organizer / Co-organizer / Supporting Organizations)
- Only successful applicant will be notified on or before the webinar.
- e-Attendance certificate will be presented via registration email address after the webinar.

Enquiry:

Please contact Ir Mike Cheng at ☎ 90738458 or via ✉ mike.cy.cheng@jci-hitachi.com.

Webinar

Energy Retro-Commissioning Technical Talks for HVAC Systems – Knowledge, M&V and Big Data Analytics

Date:

Talk No.1 – 7 May 2021 (Fri)

Time:

6:00 pm - 7:30 pm

Topic: RCx basics and HVAC RCx opportunities

Retro-commissioning is modification of existing building services installation, mainly by means of adjusting operation setup, to improve energy efficiency of the installation. Building services installation after being put into operation may be subject to change of building operation mode or equipment characteristics. Typical modification includes adjustment of operation parameter setpoint / operation time schedule / control logic and implementation of control sensor / actuators. This paper covers the concept and field application particularly for air conditioning installation which is the major power consumer in a commercial building.

Speaker: Ir Victor Leung

Victor Leung has been designing building services installation for over 30 years as engineering consultant, projects completed include hospitals, high technology (eg pharmaceutical / electronics) manufacturing facility, tertiary education institutes, prestigious office / commercial complex (such as IFC2 in Hong Kong), and the recently completed Central Government Complex in Hong Kong. He has also served as facility manager for commercial properties of a local prestigious developer being given a specific task of reducing building energy consumption. He has been enthusiastic in application of automatic control, retro-commissioning and various hardware technology to improve building energy efficiency. He has been actively promoting effort to reduce commercial building energy consumption by sharing of knowledge / experience with the local building construction / operation professionals.



Ir Victor LEUNG

Webinar

Energy Retro-Commissioning Technical Talks for HVAC Systems – Knowledge, M&V and Big Data Analytics

Date:

Talk No.2 – 14 May 2021 (Fri)

Time:

6:00 pm - 7:30 pm

Topic: How M&V integrating in RCx Project

- Retro-commissioning (RCx) projects are effective means to tap the energy saving opportunities (ESO) often found in commercial buildings. Most of the owners in the commercial building sector, including office buildings, hotels, retail chains, and others have completed RCx projects and realized savings.
- Most projects recommend measures based on estimated energy savings and costs, but few projects include follow-up to demonstrate actual savings within an industry-standard M&V framework (IPMVP).
- How to Integrating a standardized M&V approach into the RCx process would greatly facilitate the effectiveness of these programs.

Speaker: Ir Gary K.K. Chu

Ir Gary is an independent consultant focused on energy and environmental areas. He received BSc in 1993, MPhil in 2000 in Electrical Engineering from the University of Macau and The Hong Kong Polytechnic University respectively. In recent years he achieved various professional credentials on energy and green building areas, such as CMVP®, CEM®, CEA®, CBCP®, CAP, BEAM Pro (NB, EB, BI) and LEED® Green Associate

Currently, he acts as an independent consultant and project coordinator on number of companies in various energy engineering area. Specifically, at the Mainland China, he provides an energy management consultancy service which including energy audits, energy data analysis, baseline measurement, M&V plan, and energy efficient project.

Gary also provided the professional certificate training on CMVP® (Efficiency Valuation Organization (EVO) Accredited L3 Instructor) and CEM®, CAP and CBCP® (Authorized Instructor of the AEE).



Ir Gary Kar Kit CHU

BSc MPhil

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CMVP®, CEM®, CEA®, CBCP®,
CAP, LEED® Green Associate,
BEAM Pro (NB, EB, BI),
EVO L3 Accredited Instructor
(CMVP®),
AEE Approved International
Instructors (CEM®, CBCP®, CAP)

Webinar

Energy Retro-Commissioning Technical Talks for HVAC Systems – Knowledge, M&V and Big Data Analytics

Date:

Talk No.3 – 21 May 2021 (Fri)

Time:

6:00 pm - 7:30 pm

Topic: Retro-commissioning Using Big Data Analytics Approach for Optimisation, Fault Diagnostics, Measurement and Verification

Retro-commissioning (RCx) is a process to systemically review energy performance of building services systems in buildings. The MVAC system has the highest energy demand in buildings, its common operation issues such as sensor fault and inefficient operation can be identified through big data analytics.

For water-side systems, sensor biases and mismatching equipment sequencing can result in inefficient operation at chiller plants. Traditionally the control settings of chiller plants are determined according to design data which does not take into consideration of equipment deterioration caused by aging and/or retrofitting. Using advanced data analytics tools, end-users can easily identify sensor inaccuracy, performance issues of equipment, and inefficient control settings. RCx in a data-driven approach using advanced technologies is an effective way to improve overall energy performance of chiller plants.

For air-side systems, sensor inaccuracy and unnoticed faults (e.g. improper valve and damper control) are the common reasons causing energy waste and/or discomfort cooling. Operation data collected from BMS and wireless IoT sensors can be used for analysis and diagnosis to identify unnoticed faults.

Applying big data analytics and IoT technologies in RCx can unlock many energy saving opportunities. Insightful information can be readily accessed by end-users, RCx consultants and contractors, enhancing operation efficiency from all perspectives.

Speaker: Ir Franco K.P. Mok

Ir Franco Mok, CEng, R.P.E., REA, MIMechE, MHKIE, MBSOMES, MAEE, BEAM Pro, CEM, CBCP, RCx Pro is Energy Service Manager at ATAL Building Services Engineering Ltd, specialising in the fields of energy management and retro-commissioning (RCx).

Franco has over 20 years of substantial experience in managing energy-related projects with particular focuses on energy optimisation for HVAC systems, energy audit and RCx. He has extensive experience in applying big data and IoT technologies in retro-commissioning and energy optimisation. He successfully completed many RCx and energy saving projects in both commercial and government sectors including an award-winning energy saving project at a Grade-A office building in Wanchai.



Ir Franco K.P. MOK