



The 13th Asia Pacific Conference on the Built Environment

Next Gen Technology

to make Green Building Sustainable

19 - 20 November 2015, Crowne Plaza Kowloon East Hotel, Hong Kong

THE CONFERENCE

Asia Pacific Conference on the Built Environment (APCBE) is a biennial event of ASHRAE Region XIII and it was first launched back in 1991. In response to the growing technology, the Conference scope has been expanded from HVAC&R to cover various aspects related to the built environment. This international conference provides an excellent platform for researchers and practitioners to share ideas, best practice, new technologies and future prospects.

This is a 2-day conference with expected attendance of 300 participants from government, academics, architects, consultants, contractors, building owners, facilities managers, industries, suppliers and other parties who have interest in design, installation, testing, commissioning, operation and maintenance of the built environment.

WHO SHOULD ATTEND

Engineers, architects, designers, researchers, academics, property developers, professionals and practitioners involved in the wide range of disciplines associated with building design and building services engineering. Official language of the Conference is English.

CONFERENCE CONTACT INFORMATION

Mail Address: **Conference Secretariat of APCBE 2015**

P.O. Box 35612, King's Road Post Office,

North Point, Hong Kong

Email: apcbe2015@gmail.com

Website: www.ashrae.org.hk/APCBE2015

Organizing Institutions



Organizing University



Department of Building Services Engineering
The Hong Kong Polytechnic University

REGISTRATION FORM

ONLINE REGISTRATION AVAILABLE
www.ashrae.org.hk/APCBE2015

Registration Packages	Early Bird	Standard	For Speaker Only
Full board	<input type="checkbox"/> US\$ 268 <input type="checkbox"/> HK\$ 2,090	<input type="checkbox"/> US\$ 300 <input type="checkbox"/> HK\$ 2,340	<input type="checkbox"/> US\$ 180 <input type="checkbox"/> HK\$ 1,400
Day 1 only	<input type="checkbox"/> US\$ 180 <input type="checkbox"/> HK\$ 1,400	<input type="checkbox"/> US\$ 200 <input type="checkbox"/> HK\$ 1,560	<input type="checkbox"/> US\$ 100 <input type="checkbox"/> HK\$ 780
Day 2 only	<input type="checkbox"/> US\$ 125 <input type="checkbox"/> HK\$ 975	<input type="checkbox"/> US\$ 150 <input type="checkbox"/> HK\$ 1,170	<input type="checkbox"/> US\$ 80 <input type="checkbox"/> HK\$ 625

REMARKS:

1. Full board package included 2 days conference with 5 tea breaks and 2 lunches.
2. Day 1 only package included 1 day conference with 3 tea breaks and 1 lunch on 19 Nov 2015.
3. Day 2 only package included half day conference with 2 tea breaks and closing lunch on 20 Nov 2015.
4. Speak only package is offered to one of the authors who will present in person at the conference for the paper selected by the Organizing Committee. Please indicate the paper ID for verification.
5. Seats will only be reserved when payment is received for good.
6. The deadline of Early Bird registration is 15 October 2015.
7. The successful registration will be confirmed by e-mail no later than 30 September 2015. If no confirmation e-mail is received by 15 October 2015, the registration is assumed not successful; or one may double check with the Conference Secretariat.

OPTIONAL ITEMS

(Please refer to separate flyer for details or visit website: www.ashrae.org.hk/APCBE2015/Conference.html)

- OPTION 1: Banquet Dinner on 19 November 2015 [i.e. HK\$700 (US\$90)]
- OPTION 2: Technical Visit including transportation on 20 November 2015 [i.e. HK\$780 (US\$100)]
- OPTION 3: Spouse Package (includes sightseeing & lunch) on 19 November 2015 [i.e. HK\$1,000 (US\$128)]
- OPTION 4: Golf Outing (included transport and lunch, requires China visa) on 18 November 2015 [i.e. HK\$1,620 (US\$208)]
- OPTION 5: RP Walk on 21 November 2015 [free of charge]

TOTAL AMOUNT

(Please indicate that you will pay HK\$ or US\$ in total) _____

PAYMENT METHOD

(Should you require assistance, with other means of payment, please email us at ashraehk@gmail.com for further arrangement)

- Hong Kong Dollar, make the cheque payable to **"The Hong Kong Institution of Engineers – BS Division"** and send the cheque to "The Hong Kong and China Gas Company, 19/F, 363 Java Road, North Point, Hong Kong. Attn.: Ir Edwin Lau (APCBE2015)". Please state the applicant's name and mark **"APCBE2015"** at the back of the cheque.
- US Dollar, PayPal only (Participants are responsible for an additional handling charge from PayPal). Upon submitting this form, you will then receive an email for PayPal payment link; an electronic receipt on total amount including handling charge (~4.5%) will be generated automatically by PayPal for successful payment. An official conference receipt can be obtained onsite upon request.

Cheque No. (for HK dollar payment only) : _____

Bank Name [Cheque] : _____ Paper ID : _____
(for HK dollar payment only) (for speaker's registration only)

Title: Mr. Ms. Dr. Prof. Ir Ir Dr. Ir Prof.

Surname (To be shown on the CPD Certificate) : _____ Given Name (To be shown on the CPD Certificate) : _____

Country : _____ Membership: ASHRAE HK Chapter CIBSE HK Branch HKIE BS Division
 ASHRAE Others : _____

Membership No. : _____ Company / Organization / University : _____

Position : _____ Mobile No. : _____ Email Address : _____

Postal Address : _____



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CONFERENCE PROGRAMME

DAY 1: THURSDAY, 19th NOVEMBER 2015

- 08:00 Registration
- 09:00 **Welcome Address**
Ir Dr Philip YU – Conference Organizing Committee Chair
- 09:05 **Opening Ceremony**
Guest of Honor – Mr. KS WONG, JP, Secretary for Environment
- 09:15 **Keynote Speech**
Mr. David UNDERWOOD – ASHRAE Society President

1st SESSION: ARCHITECTURE AND BUILDING MATERIALS

Chair: Dr C S OW, APCBE Steering Committee

- 09:30 Green Roof Design for Sustainable Performance – Getting it Right, *Hong Kong*
- 09:40 Investigation on Assessment Methods of Low Carbon Public Buildings in Beijing, *Mainland China*
- 09:50 New Technology and Approaches to Significantly Cut Lab & Commercial Building Energy Use, *USA*
- 10:00 Study of embodied energy and carbon for indoor living walls, *Hong Kong*
- 10:10 1st Session Q&A
- 10:25 Poster presentation briefing
- 10:40 Coffee Break / Exhibition / Poster Session

2nd SESSION: DESIGN AND COMMISSIONING FOR HIGH PERFORMANCE

Chair: Ir K T CHEUK, HKIE BS Division

- 11:10 Analysis on Case Studies of Energy Reduction through HVAC Commissioning of a New Building, *South Korea*
- 11:20 Primary energy saving of a liquid desiccant and evaporative cooling-assisted 100% outdoor air system with fuel cell in heating season, *South Korea*
- 11:30 Development of Efficient and Cleaner Charcoal Stoves for Cooking Applications in a Rural Residential Dwelling, *Philippines*
- 11:40 Performance Enhancement of Single Stage Air Source Heat Pump Utilizing Vapor Injection Design, *Taiwan*
- 11:50 Occupant-participatory Approach to Enhance Thermal Comfort, *Hong Kong*
- 12:00 2nd Session Q&A
- 12:15 Luncheon / Exhibition / Poster Session
- 14:00 **Keynote Speech:** Mr. John Field – CIBSE President Elect

3rd SESSION: HVAC TECHNOLOGY AND REFRIGERANT

Chair: Prof J L NIU, HK PolyU BSE Department

- 14:10 Next Generation for HCFC and high-GWP HFC, *USA*
- 14:20 Temperature and pressure effects on quenching distances of mildly flammable difluoromethane (R32) and ammonia (R717), *Japan*
- 14:30 Phase Change Materials Development from Salt Hydrate to Application as Secondary Refrigerant in Air Conditioning System, *Indonesia*
- 14:40 Development of Low-GWP Alternative Refrigerants, *Japan*
- 14:50 3rd Session Q&A
- 15:05 Poster presentation briefing
- 15:20 Coffee Break / Exhibition / Poster Session





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4th SESSION INDOOR ENVIRONMENT AND SAFETY

Chair: Dr C S WONG, ASHRAE HK Chapter

- 15:50 Numerical Study on Ventilation System for Smoke Control Inside a Multipurpose Hall, *Malaysia*
 16:00 Computational Fluid Dynamics Studies on the Effectiveness of Sidewall Sprinklers to Suppress the Fire at the Undercarriage of Mass Rapid Transit Train, *Singapore*
 16:10 Introduction of a new measuring method for Unified Glare Rating for BEAM Plus using High Dynamic Range Photography, *Hong Kong*
 16:20 Indoor Microbial Growth Prediction Using Coupled Computational Fluid Dynamics and Microbial Growth Models, *Malaysia*
 16:30 Establishment of Baseline Data of the Indoor Air Quality of Offices in Metro Manila, *Philippines*
 16:40 4th Session Q&A
 16:55 Announcement
 17:00 Day I programme adjourn
 18:30 Banquet cum International Nite

for 19.00 **Guest Speaker:** *to be confirmed*

DAY 2: FRIDAY, 20th NOVEMBER 2015

- 08:30 Registration
 09:00 **Keynote Speech:** Mr Frank F CHAN, JP – Director of EMSD (*to be confirmed*)

5th SESSION: Renewable Energy and Energy Efficiency

Chair: Ir Edward TSUI, ASHRAE Region XIII

- 09:15 Path to Building Energy Efficiency in Hong Kong, *Hong Kong*
 09:25 EE Strategies for ASEAN Region, *Malaysia*
 09:35 A Systematic and Quantitative Approach for Photovoltaic Panel Glare Analysis, *Hong Kong*
 09:45 Building Integration of Photo-Voltaic : the future of sustainable building, *Netherlands*
 09:55 Study on Optimal Operation of a Solar Assisted Ground Source Heat Pump System for Office Heating, *Mainland China*
 10:05 5th Session Q&A
 10:20 Poster presentation briefing
 10:35 Coffee Break / Exhibition / Poster Session

6th SESSION: Simulation and Optimization for Sustainability

Chair: Ir C M CHUNG, CIBSE HK Branch

- 11:05 Investigation of Optimal Duct Layout using Topology Optimization, *Taiwan*
 11:15 Comparison of Energy saving potential through Simulation between DOAS with FCU and LD-IDECOAS, *South Korea*
 11:25 Simulation and Evaluation of Operation Sequences for a Desiccant-enhanced Evaporative (DEVAP) Air-conditioner, *South Korea*
 11:35 Implementation of an Energy Model using Inverse Simulation Procedure with Building Energy Simulation Tools, *Taiwan*
 11:45 Analysis and Improvement of Sulfurization Processing Plant Ventilation Simulation Engineering, *Taiwan*
 11:55 6th Session Q&A
 12:10 **Closing Speech: Speaker:** *to be confirmed*
 12:15 Luncheon – Conference Close
Guest Speaker: *to be confirmed*
 14:00 **Technical Tour:**
 District Cooling System (DCS) Plant at Kai Tak Development & Zero Carbon Building at Kowloon Bay (refer to separate flyer)

For information only, the Organizers reserve the right to modify and update without prior notice.

