

***Symposium on  
Wind Tunnel Testing for Air Ventilation Assessment & Sustainable Building design***

*Organised by*

The Hong Kong Institute of Steel Construction [www.hkisc.org](http://www.hkisc.org)

*Sponsored by*

Joint Structural Division, The Hong Kong Institution of Engineers

Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University

Hong Kong Green Building Council

Hong Kong Institute of Environmental Impact Assessment



**Date:** 13 March 2015  
**Venue:** Z209, The Hong Kong Polytechnic University, Hung Hom, Kowloon  
**Time:** 8:45 am (registration) for 9:00 am to 5:00 pm

**Scope and Objectives**

Air Ventilation Assessment (AVA) is an important exercise in infrastructure planning. Methodologies of conducting a reliable wind tunnel test are crucial for a successful detailed ventilation study. It has been generally considered wind tunnel testing is a mature and reliable technology for verifying the structural and ventilation performance of building design with numerous previous successful studies around the world in the past two decades or so and international standards, guidelines and methodologies are available for a recognized wind study. This Symposium is addressed to use of well-established wind tunnel facilities to conduct a sustainable building design in Hong Kong.

**Objectives:**

- 1) To recognize the capability, limitations and advantages of wind tunnel test.
- 2) To compare the efficiency of wind tunnel test and computational method.
- 3) To review latest technologies and studies for sustainable building design in Hong Kong.



## **Speakers**

### **Ms Ada Fung from Hong Kong Housing Authority**

**Ms. Ada FUNG, JP** is a Deputy Director of Housing. She supervises the Development & Construction Division of the Housing Department, overseeing all facets of work covering project management, planning, design and contract management, as well as establishing operational policies on procurement, design, construction, quality, performance assessment, dispute resolution, research and development, safety and the environment for public housing development in Hong Kong.

Being an Architect by profession, she is an active member in the Architectural field as well as in the construction industry in Hong Kong.

### **Ir Dr. Alice Cheung from Planning Department**

**Ir Dr. Alice Cheung** is the Air Ventilation Assessment Advisor in Planning Department, Government of the Hong Kong Special Administrative Region with major duties including (a) to establish and maintain a computer simulation system for outdoor air ventilation assessment of development proposals; (b) to conduct in-house air ventilation assessments to assess the broad impacts of development proposals on the outdoor wind environment by computational simulation and prepare reports with reference to the Technical Guide for Air Ventilation Assessment for developments in Hong Kong; (c) to provide professional comments and advices in relation to air ventilation assessments submitted in support of development proposals; and (d) to provide trainings to professional grade officers in Planning Department for discharge of the above or related duties. She is a part-time lecturer and a dissertation supervisor of School of Continuing and Professional Education (SCOPE) of City University of Hong Kong. She is also a committee member of Hong Kong Wind Engineering Society since 2012.

During PhD study period in City University of Hong Kong from 2003, she worked in the aspect of fire research as well as Fire Engineering. She also has expertise in using computational fluid dynamics (CFD) in many engineering applications such as air ventilation assessment and air quality assessment. She had been involved in developing a sophisticated large eddy simulation (LES) computer model (i.e. one of the Computational Fluid Dynamics model) tailored to capture the pulsating behaviour of free standing fires. She had also participated in applying numerical models to resolve the radiative heat transfer between fires and surrounding boundaries.

### **Ir Sammy Ng from AECOM**

**Ir Sammy Ng** is an Executive Director of Building Engineering, Hong Kong of AECOM. He initially qualified as Chartered Structural and Civil Engineer. He has over 20 years of practical experience in the feasibility study, design and construction supervision for a number of variety building and civil projects. He Specializes in residential, education, science park, park facilities, office, hotel, casino, retail & shopping centers, research & institutional projects, master planning, concept design, innovation, peer review and in management of multi-disciplinary engineering services teams for projects in Hong Kong, Macau and PRC. He has now undertaken a wide range of prestigious building and facilities projects. He has been recently working for two research and consultancy projects with CIC and BD respectively. Being an Engineer by profession, he is an active member in the engineering field as well as in the construction industry in Hong Kong and Macau.

### **Dr. Andy Li from AECOM**

**Dr. Andy Li** is currently an expert of structural engineer from Building Engineering of AECOM. He firstly obtained his BSc(Eng) from Zhejiang University and received PhD degree from The Hong Kong University of Science and Technology. His research interest is the identification of dynamic system and the signal processing technique related with dynamics. After joining AECOM since 2011, he focuses on the dynamic analysis of buildings due to earthquake and wind.

**Prof. C.W. Li from The Hong Kong Polytechnic University**

**Prof. C.W. Li** is currently a professor of the Department of Civil and Environmental Engineering, the Hong Kong Polytechnic University. He obtained his BSc(Eng) and PhD degrees from the University of Hong Kong. His research interest is to develop numerical models and integrate them with experiments to study various hydraulics and fluid mechanics problems, including wind flows around bluff bodies. He has published over 160 papers in international journals and conference proceedings. He is an Associate Editor of two international journals. He is also a specialized consultant in the areas of physical and numerical modelling of hydraulic and wind engineering. Currently he is participating in the review of the Hong Kong Wind Code 2004 and acts as a technical advisor of the RED wind tunnel laboratory. He has been involved in a number of wind tunnel studies of wind comfort and ventilation around buildings.

**Ir Dr. C.F. Ng from C.F.Ng & Associates Limited**

**Ir Dr. C.F. Ng** worked as a Research Associate for the Thermal Acoustic Wind Tunnel Facility in Langley Research Center, National Aeronautics and Space Administration (NASA), U.S.A. He graduated from the University of Hong Kong and received his MSc and PhD degrees from Imperial College, University of London and University of Southampton respectively. He devoted more than 20 years to teaching and worked in The Hong Kong Polytechnic University as an Associate Professor. Dr. Ng's research interests cover exploring innovative building design to optimize natural ventilation, thermal and acoustic comfort and, in particular, the new features including but not limited to balconies, wing wall, wind tower, double skin façade and tailor-made building shapes.

**Ir Dr. Johnny Yu from RED Wind Engineering Consultants Limited**

**Ir Dr. Johnny Yu** is currently a director of RED Consultants Limited, which is a local wind engineering consulting company undertaking wind tunnel tests for developments in Hong Kong and Macau. He obtained his B.Eng. and Ph.D. degrees in Civil Engineering from the Hong Kong Polytechnic University and his M.Sc. degree in Applied Mathematics from the City University of Hong Kong. He worked in AECOM in hydraulic stream from 1998 to 2004 and acquired his civil engineering membership in 2002. After left AECOM, he established RED Consultants Limited and worked as a wind engineering specialist since then. Ir Dr. Johnny Yu has more than 10 years in the field of wind engineering and has undertaken more than 200 wind tunnel test projects in Hong Kong and Macau SAR in last decade.

**Official Language**

English will be the official language.

**Fees & Registration**

The registration fee includes a copy of lecture note, a copy of CPD certificate and 2 tea refreshments.

Regular Registration: **HK\$ 950** (or HK\$600 for no laboratory visit) each for HKISC/ HKIE/HKGBC/HKIEIA Members;  
**HK\$1,200** (or HK\$800 for no laboratory visit) each for non HKISC/ HKIE /HKGBC/HKIEIA Members.

Group Registration: **HK\$ 950** (or HK\$600 for no laboratory visit) each for group registration of at least 5 people

Owing to capacity, seats for visiting wind tunnel laboratory are limited to 80 persons. In case of registration without laboratory visit, the registration fee will be reduced and the CPD days will be 0.5.

**CPD Certificates**

This Symposium is recommended for **ONE**(or **HALF** in case laboratory visit is not opted or arranged) CPD day. Attendance certificates will be issued.

Please send the completed registration form with registration fee to **Mr. Sam Chan**, *Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon* **by 6th March 2015** (email: [samchan@hkisc.org](mailto:samchan@hkisc.org), Fax No.: 852-2334 6389). You can download this form on HKISC web (<http://www.hkisc.org>).

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**REGISTRATION FORM**

*(To be replied on or before 6 March 2015)*

Please follow the 2 steps registration procedure:

1. Fax the completed registration form to *Mr. Sam Chan* (Fax: 852-2334 6389) for preliminary registration.
2. Post the completed registration form together with a crossed cheque payable to **Hong Kong Institute of Steel Construction Limited** to *Mr. Sam Chan*, at:  
HKISC c/o Room ZS972, Department of Civil and Environmental Engineering,  
The Hong Kong Polytechnic University, Hunghom, Kowloon, Hong Kong

**To: Mr. Sam Chan**

**Fax: 852- 2334 6389**

**A. Personal Details:**

Title	Name in full (Block Letter)	Name of company	Tel. (or Fax)	E-mail address	Institution/ Membership No.	Laboratory Visit (Yes/No)
1.						
2.						
3.						
4.						
5.						

Postal Address  
(for official receipt): \_\_\_\_\_

**B. Registration Details:**

Item	Registration Fee	Total no. of registration	Sub-total
1. Regular registration (Member*price)	HK\$ 950 each x (or HK\$600 for no lab visit)	_____ person(s)	= HK\$ _____
2. Regular registration (Non-member*price)	HK\$ 1,200 each x (or HK\$800 for no lab visit)	_____ person(s)	= HK\$ _____
3. Group registration (at least 5 people)	HK\$ 950 each x (or HK\$600 for no lab visit)	_____ person(s)	= HK\$ _____
<b>Total amount:</b>			<b>HK\$</b>

*Note: The registration fee includes a copy of proceedings, a copy of CPD certificate and 2 tea refreshments*

*\*HKISC, HKIE, HKGBC or HKIEIA member*

I enclosed a crossed cheque (cheque no. \_\_\_\_\_) with the sum of HK\$ \_\_\_\_\_ for the registration fee of the captioned Symposium

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CPD Certificates of Attendance** Please tick the appropriate box to indicate your choice:

- Yes, I/we would like to have CPD certificate(s).  No request for certificate(s).

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Time	Program	Speaker
8:45 am	<b>Registration</b>	
Lecture 1 9:00 am – 9:45 am	Application of AVA and micro-climate studies for the planning and design of public housing developments	Ms Ada Fung, Hong Kong Housing Department
9:45 am – 10:15 am	Tea Break	
Lecture 2 10:15 am – 11:00 am	Air Ventilation Assessment and Town Planning in Hong Kong	Dr. Alice Cheung Planning Department
Lecture 3 11:00 am – 11:40 am	Case studies of AVA	Ir Sammy Ng, AECOM Dr. Andy Li, AECOM
Lecture 4 11:40 am – 12:00 noon.	Wind Tunnel Testing Methodology for Pedestrian Level Wind Environment Study and AVA	Prof. C.W. Li, The Hong Kong Polytechnic University
Lecture 5 12:00 noon – 12:20 pm	Innovation in Sustainable Building Design	Ir Dr. C.F. Ng, C.F.Ng & Associates Limited
12:20 pm – 12:35 pm	Q&A	
12:35 pm – 2:00 pm	Lunch	
2:00 pm – 5:00 pm	Site visit to two wind tunnels in Sheung Shui, N.T.	Ir Dr. Johnny Yu from RED Wind Engineering Consultants Limited. A coach will be arranged for the participants