

Organizers:



Supporting University:



## ASHRAE Distinguished Lecturer Series on “Healthy HVAC System Design with Energy Efficiency Concerns”

- Date : 13 November 2017 (Monday)  
Time : 7:00 – 9:00pm (Registration will start at 6:30pm)  
Venue : FJ303, The Hong Kong Polytechnic University, Hung Hom, Kowloon  
Language : English  
Fee : HK\$100 (ASHRAE-HKC members);  
HK\$150 (Members of Supporting Organizations);  
HK\$200 (Standard);  
Free (Full Time Staff or Student of PolyU)  
CPD hours : 2-hour CPD certificate will be provided

### Topics of the Technical Seminar

#### Session 1

### **Integrating Indoor Air Quality and Energy Efficiency in Buildings**

[GBCI Approved | 1 CE Hour | 0920014269 / AIA Approved | 1LU/HSW | Bahnfleth02]

Buildings are one of the largest energy end use sectors in countries around the globe. Concerns for the availability of energy supplies and the impact of energy use on the environment are driving a worldwide focus on energy end use reduction. In this push for dramatic changes in the energy use intensity of the building sector, it is essential that the fundamental importance of indoor environmental quality, particularly indoor air quality, not be lost. This presentation addresses: 1) the significance of indoor air quality in terms of its impact on health and productivity and associated costs; 2) the inseparable linkage between indoor air quality and building energy demands, including examples of efficient technologies for maintaining good indoor air quality; and 3) the need for an approach to building research, design, and operation that recognizes this connection.

#### Session 2

### **HVAC and Airborne Infectious Diseases**

[GBCI Approved | 1 CE Hour | 0920005385 / AIA Approved | 1LU/HSW | Bahnfleth06]

Concern regarding the risk of hospital acquired infections and the effect of the built environment on epidemics of drug-resistant diseases is increasing. The well-educated designer and owner needs to understand the mechanisms by which infectious disease is transmitted indoors, the extent to which HVAC system characteristics affect probability of infection, available means for controlling risk with demonstrated effectiveness. These topics are presented and discussed using the ASHRAE Board of Directors-approved Position Document Airborne Infectious Diseases as a framework. Pertinent scientific knowledge about modes of disease transmission is reviewed, its practical implications for control are discussed, and the three HVAC-related control methods identified by the Position Document: ventilation, particulate filtration, and ultraviolet germicidal irradiation, are presented and compared. General recommendations for reducing risk are provided and knowledge gaps that need to be filled are identified.

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## Honorable Speaker

### **William P. Bahnfleth, Ph.D., P.E.**

Distinguished Lecturer of ASHRAE  
Professor, Department of Architectural Engineering  
The Pennsylvania State University, United States



William Bahnfleth is Professor and Director of the Indoor Environment Center in the Department of Architectural Engineering at the Pennsylvania State University (Penn State) in University Park, PA, where he has been employed since 1994. Previously, he was a Senior Consultant for ZBA, Inc. in Cincinnati, OH and a Principal Investigator at the U.S. Army Construction Engineering Research Laboratory in Champaign, IL. He holds BS, MS, and PhD degrees in Mechanical Engineering from the University of Illinois, where he also earned an undergraduate degree in music (pipe organ performance), and is a registered professional engineer.

At Penn State, Dr. Bahnfleth teaches undergraduate courses in HVAC fundamentals and controls and graduate courses in chilled water systems, hot water and steam systems, and indoor air quality. His research interests cover a wide variety of indoor environmental control topics, including chilled water pumping systems, stratified thermal energy storage, protection of building occupants from indoor bioaerosol releases, ultraviolet germicidal irradiation systems, and others. He is the author or co-author of more than 150 technical papers and 13 books and book chapters. He consults on the design of chilled water thermal energy storage systems and has been involved in more than 20 projects world-wide.

Dr. Bahnfleth is a fellow of ASHRAE, the American Society of Mechanical Engineers (ASME) and the International Society for Indoor Air Quality and Climate (ISIAQ). He is a member of the Indoor Air Quality Association (IAQA), the International Building Performance Simulation Association (IBPSA), Sigma Xi, the American Society for Engineering Education (ASEE), and the Society of Building Science Educators (SBSE). He has served ASHRAE in a variety of capacities, including Student Branch Advisor, Chapter Governor, Technical Committee and Standing Committee Chair, and as Director-at-Large, Vice President, Treasurer, and 2013-14 Society President. He is the recipient of a 1st place ASHRAE Technology Award, Transactions Paper Award, and Distinguished Service and Exceptional Service Awards. In 2016, he received the Penn State Engineering Alumni Society's World-Class Engineering Faculty Award.

## Registration & Enquiry

Registration is opened to all interested persons, but priority will be given to members of ASHRAE Hong Kong Chapter and supporting organizations. For application, please complete the Registration Form at the following "[On-Line Registration Link](#)" or <https://goo.gl/forms/1IB8JDf0h6R1aUM63> on or before **9 November 2017**. Number of participants is limited to 100. Seats will be allocated on a first-come-first-served basis. Successful applicants will be notified by e-mail on or before 10 November 2017. If the applicants have not received the confirmation e-mail on or before 10 November 2017, their applications will be regarded as not successful.

If typhoon signal no. 8 or black rainstorm signal is in force and still hoisted after 5:00 pm on that date, the talk would be cancelled without further arrangement or notification.

For enquiry, please contact Mr. Joe Chow via at 6593 9494 (mobile) or email to [joe.chow@intelligent-net.com](mailto:joe.chow@intelligent-net.com).

## Payment Method

After online registration, please make a crossed cheque payable to "**ASHRAE Hong Kong Chapter**" and post to our mail box at "**P.O. Box 35612, King's Road Post Office, North Point, Hong Kong**" and attention to "**Mr. Joe Chow**". Please state the applicant's name with contact phone no. and mark "**DL Talk – WB(13/11)**" at the back of the cheque. Receipt in electronic form will be issued to you upon receipt of payment.

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