



Department of  
Mechanical Engineering  
The University of Hong Kong



## SEMINAR

### **Air Cleaners for Control of Infectious Aerosols – Promise and Problems**

**Date:** 7 November, 2023 (Tuesday)  
**Time:** 10:30 a.m.  
**Venue:** Room 7-34 and 735, Haking Wong Building  
HKU

**Speaker:** Professor William P. Bahnfleth  
Professor of Architectural Engineering  
The Pennsylvania State University

#### **Abstract:**

The predominant engineering controls for maintenance of indoor air quality are dilution ventilation with outdoor air and particulate capture by fibrous filters. The combined effect of minimum ventilation and filtration in many buildings is insufficient to limit risk of airborne infection transmission to acceptable levels, especially in the case of novel pathogens such as SARS-CoV-2. In-room controls including germicidal ultraviolet systems and in-room air cleaners are promising, lower energy alternatives to outdoor air for increasing equivalent clean airflow, but key application issues are in many respects not well understood. This presentation will briefly how air cleaners are incorporated in new ASHRAE Standard 241 *Control of Infectious Aerosols* and discuss recent research intended to address important knowledge gaps related to their use.

#### **Biography:**

William Bahnfleth is a professor of architectural engineering at The Pennsylvania State University. He holds a PhD in mechanical engineering from the University of Illinois at Urbana-Champaign and is a Registered Professional Engineer. He is a fellow of ASHRAE, ASME, and ISIAQ. At Penn State, Dr. Bahnfleth teaches courses in HVAC system design and indoor air quality. His research interests include control of bioaerosols and low-energy/high-IAQ HVAC systems. He is the author of more than 180 peer-

reviewed papers and 15 books/chapters. Dr. Bahnfleth is a past-president of ASHRAE and 1st Vice-President of the Indoor Environmental Quality Global Alliance. He currently chairs the ASHRAE Environmental Health Committee and SSPC 241 Control of Infectious Aerosols, the committee responsible for developing ASHRAE Standard 241. He previously was chair of the ASHRAE Epidemic Task Force. Dr. Bahnfleth is a Distinguished Alumnus of the University of Illinois Department of Mechanical Science and Engineering and a recipient of the Penn State Engineering Alumni Society World Class Engineering Faculty Award. Among his ASHRAE honors are the Donald Bahnfleth Environmental Health Award, E. K. Campbell Award for teaching, Andrew T. Boggs Service Award, Louise and Bill Holladay Distinguished Fellow Award, and ASHRAE's highest honor, the F. Paul Anderson Award.

**ALL INTERESTED ARE WELCOME**

**For further information, please contact Prof. Y. Li at 3917 2625.**