THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

Department of
Building Environment and Energy Engineering
建築環境及能源工程學系

BEEE CPD SEMINAR

Effective Ventilation Strategies for Mitigating Infection Risks in Hospitals

DISTINGUISHED SPEAKERS

Prof. Lee Wai Ming, Eric
CITY UNIVERSITY OF HONG KONG

Prof. Liu Chun Ho
THE UNIVERSITY OF HONG KONG

Prof. Wong Ling Tim
THE HONG KONG POLYTECHNIC UNIVERSITY

REGISTER NOW

https://forms.office.com/r/iQGycEWy78

May 7th 2025
18:30 to 21:30 (HKT)
Z209, Block Z, PolyU

FACILITATOR

Prof. Mui Kwok Wai
THE HONG KONG POLYTECHNIC UNIVERSITY

Rundown

Opening speech
Part 1: Effective Ventilation Strategies in Hospital Environments
Part 2: Outdoor Urban Morphology and Virus Transmission
Part 3: Dynamics of In-Pipe Environment
Q&A session

Acknowledgment: This seminar is supported by a grant from the Collaborative Research Fund (CRF) COVID-19 and Novel Infectious Disease (NID) Research Exercise, the Research Grants Council of the HKSAR, China (project no. C5108-20G)

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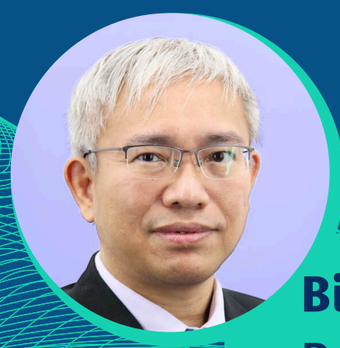


Prof. Wong Ling Tim

EFFECTIVE VENTILATION STRATEGIES IN HOSPITAL ENVIRONMENTS

Bio: Prof. Ling Tim Wong is the Associate Head and Associate Professor in the Department of Building Environment and Energy Engineering at The Hong Kong Polytechnic University. He received the Hans B. Thorelli Award in 2006 and 2011 and the Emerald Literati Network Award for Excellence. He is a working commission member (W062) of the Council for Research and Innovation in Building and Construction and organized the 34th CIBW062 International Symposium in Hong Kong in 2008. He is the Editor-in-Chief of the journal *AIR*.

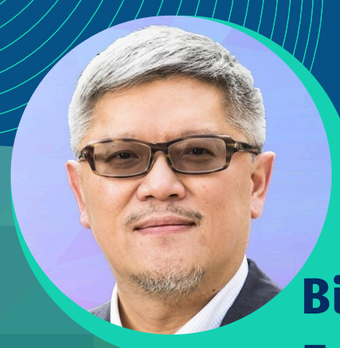
Abstract: This session will focus on the latest developments in effective ventilation strategies. We will explore critical design parameters, including Air Changes per Hour (ACH), optimal designs, and energy consumption considerations for healthcare-associated infections (HAIs) and airborne virus transmission. The insights will inform practical guidelines to mitigate airborne transmission risks in General Human Occupied Areas (GHOAs), ensuring a safer environment for patients and healthcare workers.

Prof. Liu Chun Ho

OUTDOOR URBAN MORPHOLOGY AND VIRUS TRANSMISSION

Bio: Prof. Chun Ho Liu is an Associate Professor in the Department of Mechanical Engineering at The University of Hong Kong. His research focuses on air pollution physics and chemistry, geophysical turbulence, and scientific computing. He currently investigates the urban atmospheric boundary layer, using large-scale computer models to examine how urban morphology modifies transport processes, refining land-surface parameterizations, particularly urban roughness.

Abstract: This seminar will explore how the physical layout of urban environments influences the spread of airborne viruses as passive scalars. We examine how urban structures can mitigate or exacerbate virus transmission. Key findings indicate that urban morphology—such as building density, street orientation, and green spaces—plays crucial roles in determining airflows and pollutant dispersion, affecting viral particle concentration and transmission likelihood in densely populated areas.



Prof. Lee Wai Ming, Eric

DYNAMICS OF IN-PIPE ENVIRONMENT

Bio: Ir Prof. Eric Wai Ming Lee is a Professor in the Department of Architecture and Civil Engineering at City University of Hong Kong. His research expertise includes building water supply and drainage systems and computational modeling of multi-phase flow. Prof. Lee is an active member of the HKIE and contributes to various technical committees under HKSAR Government departments.

Abstract: Air pressure fluctuations in building drainage systems can cause problems if proper venting is not provided. Excessive positive pressure may push foul air into the building through the trap seal, while excessive negative pressure can empty the trap seal. To reduce these fluctuations, cross-vents connect the drainage stack to the vent stack every two or three floors. This study uses computational fluid dynamics techniques to investigate cross-vent design.