



Seminar Jointly Organized by
Hong Kong Institute of Acoustics and
Department of Mechanical Engineering - Hong Kong Polytechnic University

Novel Technology for Quantification of Tyre/Road Noise for Urban Noise Management

Date: 15 August 2024 (Thursday)

Time: 7:00 pm – 8:30 pm; registration starts at 6:30 pm (1.5 CPD Hours)

Venue: Room FJ303, 3/F, Chan Tai Ho Building (FJ), PolyU, Hung Hom, Kowloon, Hong Kong

Fee: Free of charge. Priority to HKIOA Members, PolyU Students and Staff.

Seminar Highlights

Road traffic noise is attracting increased attention in contemporary urbanized cities such as Hong Kong, owing to its wide-ranging detrimental effects on health, society, and the economy. With the growing popularity of electric vehicles (EVs), tyre/road noise is recognized as the primary contributor to traffic noise pollution. A pioneering technology has been developed to enhance the quantification capability of the widely-used close-proximity (CPX) technology for measuring tyre/road noise on urban roads. This advancement enables real-time measurement of the sound power level of tyre/road noise, providing an absolute engineering metric for tyre/road noise sources. The measurement results obtained from this technology are less susceptible to variations in background acoustic quality, which are commonly encountered when using the de-facto measurement standard ISO/CD 11819-2 (2017). During the seminar, the development of this technology will be outlined, and intriguing results from measurements conducted on Hong Kong roads will be shared. Furthermore, the potential for new prediction capabilities, stemming from the availability of tyre/road noise power levels, in the realm of urban noise planning and management will be discussed. These advancements have far-reaching implications for addressing the challenges posed by road traffic noise and contribute to the creation of quieter and more livable urban environment.



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Department of
MECHANICAL ENGINEERING
機械工程學系

Speaker



Ir Dr Randolph C. K. Leung is an Associate Professor in the Department of Mechanical Engineering at The Hong Kong Polytechnic University. His research interests lie in flow-induced sound and structural vibration, environmental noise, computational fluid dynamics and numerical acoustics, product noise and vibration control, and product sound quality design. He obtained his BEng in Mechanical Engineering in 1992 and his PhD in Fluid Dynamics and Acoustics in 1997, both from The University of Hong Kong. Subsequently, in 1998, he conducted postdoctoral research on acoustic resonance mitigation for marine gas turbine exhaust system at the Department of Engineering, University of Cambridge, UK. In 1999, he focused on flow-induced gas turbine blade vibration at the Department of Mechanical Engineering, The Hong Kong Polytechnic University. Following this, he transitioned to industry and held a position as a sound engineer at Emerson Climate Technologies, where he provided support for sound and vibration design for refrigeration compressors and systems for Asia-Pacific markets. In 2002, Dr Leung returned to The Hong Kong Polytechnic University as an Assistant Professor. In addition to his extensive research and teaching activities, he actively offers consultancy services on low-noise product and technology development, engineering noise control, flow-induced noise and vibration, to various industries in Hong Kong and the Greater Bay Area

Language

English

Registration

The visit is free of charge and open to all interested parties. The total number of participants is limited to 80 for this event. Registration is accepted on a first-come-first-served basis, with priority given to HKIOA members, PolyU students, and staff. An electronic CPD certificate of 1.5 hours will be granted via email to the participants after the seminar. For any queries, please don't hesitate to contact admin@hkioa.org. Please complete the online registration by 9 August 2024 (Friday). Email notification of successful registration will be delivered by 12 August 2024 (Monday)

Please register here: <https://form.jotform.com/242048996781471>

Remark: The participant's personal information will be sent to PolyU for access QR code application.