

## Technical Webinar on

Advancement in Trailer Acoustic Design for Close-Proximity (CPX) Tyre/Road Noise Measurement in Highly Urbanized Cities

## Speakers and Project Team Members

Mr Dong Fang LI

- PhD student working on the advancement of CPX technology for Hong Kong urban environment at Department of Mechanical Engineering under Dr Leung's supervision.

Dr Randolph Chi Kin LEUNG

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- Former associate professor in the Department of Civil and Environment Engineering and is the pioneer of road traffic noise research in Hong Kong more than a decade.

## Introduction

Tyre/road interaction noise is one of the major contributors to the overall traffic noise when vehicles are travelling at high speeds in free flow traffic. The Close-Proximity (CPX) method is a standard method (ISO/CD 11819-2) for on-road measurement of tyre/road noise. Based on the methodology of this standard, the PolyU Mark II Twin-wheeled CPX trailer was developed and has been the major facility for measurement of tyre/road noise in Hong Kong urban environment. Its acoustic enclosure is equipped primarily for shielding the contamination from external noise. It would be ideal to be anechoic so as to give a free field radiation for generated noise from running tyres; however, this radiation condition is often influenced by multiple internal reflection inside enclosure. As such, better CPX trailer acoustics is required for more accurate and faithful measurement of tyre/road noise. The fine tuning of CPX enclosure acoustic field design is very time consuming and ineffective. This seminar reports an approach for designing CPX trailer acoustic quality by means of numerical simulation. The verification and validation of numerical approach with acoustics of existing PolyU Mark II trailer is reported. A numerical parametric study of various conceptual CPX enclosure designs is discussed. Road testing results with optimal acoustic quality design (Mark III) on selected Hong Kong roads will be presented. This work is supported by a funding from Environmental Conservation and Wheelock Green Fund (ECF).



## Webinar Details

Date: 21 Aug 2020 (Friday)  
Time: 7:00 pm – 8:30 pm

Webinar Platform: ZOOM  
Medium: English

Free of charge

Please register online via

[https://docs.google.com/forms/d/e/1FAIpQLScbvzP1\\_IIFs2TgSKv6rjTQZe87PjaJCE-zWTxmPqTIQsOhlw/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLScbvzP1_IIFs2TgSKv6rjTQZe87PjaJCE-zWTxmPqTIQsOhlw/viewform?usp=sf_link) .

CPD Certificate in electronic format will be provided via email after the seminar.

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