

## Environmental Research, Technology Demonstration and Conference Project

<b>ECF Project:</b>	ECF 2020-115
<b>Project Title:</b>	Development of tyre/road noise sound power measurement technology in Hong Kong traffic based on close-proximity method
<b>Principal Investigator:</b>	Dr Leung Chi Kin Randolph, Department of Mechanical Engineering, The Hong Kong Polytechnic University
<b>Total Approved Grant:</b>	\$1,198,600
<b>Duration:</b>	1/7/2021 to 30/6/2024
<b>Project Status/Remarks:</b>	On-going
<b>Project Scope:</b>	<p>This project aims to design and fabricate, and carry out road tests locally, for the development of direct sound power level measurement capability that is possible only with a low background noise CPX tyre / road noise measuring system for road traffic environment in Hong Kong. The measured sound power level is believed to be a more accurate acoustic tyre / road noise metrics for tyre / road noise scenario in highly urbanised city environment. The capability also includes the development of numerical modelling noise propagation from tyre / road contact to noise sensitive receiver in pass-by measurement scenario given the measured sound power level as input. Its outcomes provide insight in establishing the relationship between the CPX and pass-by measurement results in physical sense. It is anticipated that the new CPX capability will provide an unambiguous way for characterising tyre / road noise problems in Hong Kong which allows more appropriate assessment of noise performance of various vehicle tyre and road surface combinations.</p>
<b>Summary of the Findings/Outcomes:</b>	To be available upon completion of the project