

Junior Researcher Mentoring Programme

2023

Code:	JRMP2023_07
School / Department:	Department of Civil and Environmental Engineering
Name of Research Team Member(s):	Dr Zhao Qi, Assistant Professor
Research Topic:	Listening to the Vibration of the MTR Rail Track
Short Description of the Research Project:	Crack damage on the train rail can cause increased railway noise and jeopardise traffic safety. Vibration monitoring is one of the commonly used non-destructive methods for rail crack detection, however, significant challenges still exist. In this project, we aim to improve the understanding of vibration related to rail track cracking by quantitative signal analysis. This includes absolute calibration of the sensors, laboratory testing on rail track samples, and numerical simulations. With these methods, we will identify the characteristics of vibration related to rail track cracking and identify the proper sensor for monitoring the cracking event. The outcome of this project will facilitate the research on rail crack monitoring in the field.
No. of Places Offered:	2
Frequency of Meetings:	Monthly
Special Requirement(s):	The participating students should be good at Maths and Physics.

** The information presented above is subject to change.*