

Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2020-132
Project Title:	Monitoring of the impact of the upgrade project of the Yuen Long Wastewater Treatment Works on the antibiotics concentration and the microbial community in the Shan Pui River and the Mai Po Nature Reserve (Phase 1 – Baseline establishment)
Principal Investigator:	Dr Xu Jingliang, Steven, Department of Science, School of Science and Technology, Hong Kong Metropolitan University
Total Approved Grant:	\$500,000
Duration:	1/8/2021 to 31/12/2023
Project Status/Remarks:	On-going
Project Scope:	<p>Antibiotics affects the structure and diversity of the microbial community in the water body and sediment. This, in turn, affects the biogeochemical process and the productivity of a habitat. The Yuen Long Wastewater Treatment Works (the Works) is located within the Wetland Buffer Area. It discharges treated wastewater into the Shan Pui River (the River). Pollutants in the discharges may also affect the water quality of the Mai Po Nature Reserve (the Reserve). As the Works will be upgraded to a tertiary wastewater treatment facility, it is expected that antibiotics concentration in the effluent will decrease. It may thus improve the water quality of both the River and the Reserve and result in changes in the microbial community in the two locations.</p> <p>The current phase of this study aims to collect baseline value of antibiotics concentration and the structure and diversity of the microbial community in the two locations for future comparison. Correlation between antibiotics concentration and the structure and diversity of the microbial community in the two locations will also be determined. The overall aim of this project is to determine the impact of the upgrade project on reducing antibiotics pollution in the surrounding area.</p>
Summary of the Findings/Outcomes:	To be available upon completion of the project