

Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2022-15
Project Title:	Environment and Conservation Fund - Smart Improvement of Air Quality Monitoring, Awareness and Management in Non-Centrally Ventilated Classrooms
Principal Investigator:	Professor Lau Kai Hon Alexis, Division of Environment and Sustainability, The Hong Kong University of Science and Technology
Total Approved Grant:	\$495,000
Duration:	1/9/2023 to 31/8/2024
Project Status/Remarks:	On-going
Project Scope:	<p>In Hong Kong, many classrooms are equipped with individual air conditioners and exhaust fans that are not centrally controlled. As such, it may appear difficult to manage the air quality in these classrooms and they are not even eligible for certification under the Indoor Air Quality (IAQ) Certification Scheme. However, nowadays, smart technologies should be able to improve air quality and ventilation and protect the health of the students and teachers in these classrooms.</p> <p>This project aims to develop a smart system to monitor and report the real-time air quality conditions in these classrooms; when the air quality is not good, the system can also remotely control the individual equipment to improve ventilation and circulation. On the other hand, when the classroom is unoccupied and the air quality is good, the system can also turn off the equipment to save energy. The system will allow students to access the quantitative data and examine the relationships between the environmental parameters with the operational setting of different control devices. Allowing the students to work on data directly related to them, the simple smart system setup should also help enhance their interest and understanding of science and engineering fundamentals.</p>
Summary of the Findings/ Outcomes:	To be available upon completion of the project