Faculty of Engineering
Summer Research Program 2021-2022

Project Title: Estimation of the pollutant load of Natural Water System in Victoria
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Objective

In order to make a proper strategy to improve the water quality of the natural water bodies such as rivers and sea ports, it is very important to understand the pollutant load in the natural water ways. Therefore, taking water samples from the natural water bodies is essential to estimate the pollutant load. By using some innovative devices, automatic sampling will be controlled remotely instead of setting up in person. Water samples will be collected from the field for pollutant analysis, and innovative sensors will be calibrated to better understand the pollutant load.

Project Details

By taking water samples from 10 sites around Melbourne which covers some main streams flowing into Port Phillip and the Western Port, the pollutant concentration can be tested and analyzed to estimate the annual pollutant load of the receiving water body. With the help of the innovative controller BoSL Board, the autosampler can be remotely triggered and the real time data can also be sent to the website logger. The innovative low-cost sensors such as BoSL Depth, EC and temperature sensor and BoSL turbidity sensor will be implemented in the field to compare their performance with the high-end sensors.

The collected samples will be selected and tested in the lab, and the data will be processed to understand the loads of different pollutants.

The selected students who work with this project will improve their manipulative ability, learn how to solve the real engineering problems in the field. Also, this project will provide an opportunity to learn how to analyze microbes in the laboratory. Data analysis skills will also be enhanced.

Prerequisites
Simple data analysis skills.