

Faculty of Engineering

Summer Research Program 2023-2024

Project Title: 'Super-charging' native vegetation to cope with drought in water sensitive urban design.

Supervisor(s): Dr. Brandon Winfrey, Mr. Kanglin Tian (*potential co-supervisor*)

Department: Civil Engineering

Email: brandon.winfrey@monash.edu, kanglin.tian@monash.edu

Website profile of project supervisor:

<https://www.monash.edu/engineering/brandonwinfrey>

Objective

Investigate the impacts that adding a bioinoculant has to drought response in native vegetation used for stormwater biofiltration.

Project Details

This project provides lab experience for students who want to extend their understanding of stormwater management using nature-based solutions. From an ongoing experiment that involved the most popularly used biofilter plant species, students get hands-on training on sampling biofilter plants and measuring root features that were previously inoculated with mycorrhizal fungi (a type of bioinoculant that's of great potential for application in the field). By establishing this data set, students can make their own suggestions for future biofilter management and reveal the true potential of bioinoculants in stormwater biofilters.

Prerequisites

A keen interest to work in the lab is necessary. We will provide all of the training required to conduct this research.

Additional Information

If you have any questions about the project, don't hesitate to reach out to Brandon or Kanglin. We are looking for one student who is enthusiastic about water engineering and interested in nature-based solutions.