



Poipoia Kia Rere – Māori Internship Programme 2022-23
PROJECT DETAILS

Project: Thermal tolerance of plant metabolism under a warming climate

| | |
|------------|-------------------------|
| Supervisor | Liyin Liang |
| Team | Land Use and Ecosystems |
| Site | Palmerston North |

Goal of project

Developing a measuring protocol to quantify the thermal tolerance of leaf metabolism using the state-of-the-art technique.

Location of project

Palmerston North

Programme of work to be carried out

Development of a measuring protocol using the portable GFS-3000 gas exchange system/ chlorophyll fluorometer to determine the maximum temperature and critical temperature of leaf metabolism, leaf respiration and photosynthesis.

Day-to-day nature of work

- Measuring the temperature response curve of leaf respiration and minimal chlorophyll a fluorescence in the lab
- Data analysis/computer programming
- Literature review

Skills the student will learn

- Gas exchange measurement technique
- Understanding the impact of climate change on ecosystem
- Matlab/R programming skills

Objectives of the Manaaki Whenua Māori Summer Intern Programme:

- to empower Māori across the science outcome areas through research that is kaupapa Māori, Māori-centred or involves significant knowledge transfer to Māori.
- to work collaboratively to develop the interface between science and mātauranga Māori.

Programme Aspirations

- Research utilising kaupapa Māori and Māori-centric approaches and methodologies.
- Research utilising transdisciplinary approaches to Mātauranga Māori and Western Science (including Social Science).
- Science empowering Māori.

How does this project align to the programme objectives and aspirations?

- This project provides a communication channel for both the scientists and Māori students. It helps further understand the research needs of kaupapa Māori and how the research in Manaaki Whenua can contribute to kaupapa Māori. Knowledge gained from this project will better inform decision-making on the efficient use of the 1.4 million hectares of Māori freehold land assets under a warming climate.

How to apply

Please email your CV, along with a covering letter stating which project you are applying for. Please also include your interest in, and suitability for, that project to:

Jo Petrie

petriej@landcareresearch.co.nz