

CSIRO

Engineering Nitrogen Fixation in Plants

Internship available for Semester 1, 2021

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Project: Engineering Nitrogen Fixation in Plants

Internship Details:

- Internship Availability: Semester 1, 2021
- Internship Discipline: Molecular Biology
- Internship Level: Undergraduate 2nd or 3rd year; Postgraduate coursework
- Available to International Students: Yes
- Preferred Project Skills:
 - Molecular Biology
- Clearances Required: No
- Host Supervisor: Dr Rob Allen, (Ph: 02 62465076; E: rob.allen@csiro.au)
- Location: CSIRO, Black Mountain, Acton, Canberra - mainly lab work. Computer will be provided as required.

Summary:

Industrial nitrogen fixation is the largest contributor to the world's population expansion over the past century. It is remarkable that this chemical process requiring high temperature (>400°C) and pressure (150 atm) can be accomplished at room temperature by the bacterial enzyme nitrogenase. Harnessing this enzyme for ammonia production in plants has been a longstanding goal of biotechnology. More recently, increasing environmental pollution associated with fertilizer production and usage, as well as food security concerns, have lent urgency to this aspiration.

In this project you will work on assembling components of the nitrogenase enzyme complex in plants. This will involve bioinformatic research and lab based molecular biology work.

Note from Science Internships Office:

This project has been approved for credit. Please note that ANU does not have a formal agreement with CSIRO, and the intern must abide by CSIRO's terms and conditions.