

# PhD Scholarship

## *Are protozoa driving the evolution and maintenance of virulence of opportunistic human and animal pathogens in the environment?*

We are seeking a PhD student to explore the hypothesis that protozoan predation and the associated expression of defensive traits by bacteria, is responsible for the evolution and maintenance of virulence factors in opportunistic pathogens. Understanding the selection pressures exerted on disease-causing organisms will improve our understanding and approach to disease prevention, control and surveillance.

This is an exciting opportunity for a PhD candidate to work in the i3 Institute, the internationally recognised infection-focused research institute within the University of Technology Sydney (<http://www.uts.edu.au/research-and-teaching/our-research/ithree-institute>)

The scholarship is ~\$25,000 per annum for three years.

### **Supervisors:**

Associate Professor Diane McDougald (i3 Institute) and Dr Shyang Sun

### **Project Description:**

The successful applicant will determine the impact of protozoa on virulence traits of bacteria. In addition predation is predicted to increase with increasing global temperatures, resulting in stronger selective pressure for the evolution of defensive traits. We will develop an understanding of the impact increased grazing pressure has on bacteria so we are better able to predict new, emerging pathogens or increased disease potential of known pathogens as climate changes.

### **Desirable Skills and Qualifications:**

Suitable applicants should have:

- > a First Class Honours degree in microbiology/microbial ecology
- > Previous experience in a microbiology laboratory
- > Experience in protozoology would be favorably considered but is not essential.

*Applicants for the scholarship must also apply to be admitted to the PhD degree at UTS, as per the instructions at: <http://www.uts.edu.au/research-and-teaching/future-researchers/research-degrees-uts/applying-research-degree-and-scholarship>*

Send your CV and a ½ page expression of interest to:

Associate Professor Diane McDougald: [diane.mcdougald@uts.edu.au](mailto:diane.mcdougald@uts.edu.au)