

PhD Opportunities – Life at low pH:

## **THE UNIVERSITY OF QUEENSLAND**

The University of Queensland (UQ) contributes positively to society by engaging in the creation, preservation, transfer and application of knowledge. UQ helps shape the future by bringing together and developing leaders in their fields to inspire the next generation and to advance ideas that benefit the world. For more than a century, we have educated and worked with outstanding people to deliver knowledge leadership for a better world.

UQ ranks within the top 100 universities worldwide, measured through a number of major independent university rankings. UQ, the largest university in Queensland, has an outstanding reputation for the quality of its teachers, its educational programs and employment outcomes for its students. UQ has a strong focus on teaching excellence, attracting the majority of Queensland's highest academic achievers, as well as top interstate and overseas students. UQ is one of Australia's Group of Eight, and a founding member of Universitas 21, an international consortium of leading research-intensive universities. Our 50,000-plus strong student community includes more than 13,000 postgraduate scholars and more than 12,000 international students from 144 countries. The University has more than 7,000 academic and professional staff and a \$1.6 billion annual operating budget. Its major campuses are at St Lucia, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city.

### **Organisational Environment**

Two PhD opportunities are available in the ECO-Laboratory (<http://www.uq.edu.au/eco-lab/content/home>) headed by Professor Craig Franklin in the School of Biological Sciences at UQ to work on an Australian Research Council funded project looking at the physiological tolerance of naturally acidic waters by Australian frogs. The School of Biological Sciences is part of the Faculty of Science and includes the disciplines of Botany, Zoology and Entomology. These research strengths are reflected in a number of research centres housed within and affiliated with the School. Information about the Faculty and the School may be accessed on the School's web site at <http://www.biology.uq.edu.au/>. The Franklin laboratory is located in the Goddard building and is a modern, fully equipped facility designed for field-based as well as whole animal, tissue and subcellular biology.

### **The Role**

Low pH waters are toxic to most animals, yet some freshwater vertebrates have managed to colonise some of the most acidic waters on Earth. This project will investigate tolerance of low pH freshwaters, focusing on the mechanisms that underpin acid tolerance, physiological plasticity, the interactions between low pH and other environmental variables (e.g. temperature), and the costs and/or trade-offs to living in such physiologically challenging environments. In our rapidly changing world, this study will provide an important fundamental understanding of the capacity of some organisms to flourish at environmental extremes and their ability to respond to increased variability both within and between environmental stressors.

The successful candidate(s) will apply a range of methodologies including metabolic rate, ion transport studies, PCR, immunohistochemistry, microscopy (electron/light) and integrative data analysis. Supervision will be provided by Professor Craig Franklin and Dr Rebecca Cramp.

### **The candidate**

Both Australian and international applicants are welcome to apply. Candidates should have a First Class Honours degree (or equivalent) in physiology, ecology, molecular biology, biochemistry or a related discipline. Strong academic performance, a commitment to conduct high quality interdisciplinary research, and published output will be the key assessment criteria.

Applicants must be eligible to enrol in a PhD with the University of Queensland. For a complete list of the University of Queensland's minimum entry requirements please refer to:

<http://www.uq.edu.au/grad-school/our-research-degrees>.

Students that hold, or obtain an Australian Postgraduate Award (APA) at UQ (or equivalent scholarship), are highly desirable.

### **Scholarship Remuneration**

Prospective students will be provided with assistance to apply for a scholarship. Domestic students will be expected to apply for an Australian Postgraduate Award (APA) or equivalent scholarship, while international students will be expected to apply for UQ International Student Scholarships for stipend and tuition support (<https://graduate-school.uq.edu.au>). The current scholarship rate for the APA is AUD\$26,288 per annum (2016 rate, indexed annually) tax-free for three years with the possibility of a six month extension in approved circumstances. Appointment to the project is contingent upon receipt of a scholarship through one of UQ's scholarship rounds and an unconditional offer for entry to the PhD program at UQ.

To discuss this project further, please contact Professor Craig Franklin via email [c.franklin@uq.edu.au](mailto:c.franklin@uq.edu.au) or via telephone +61 7 3365 2355.