



Top-up scholarships of up to \$10,000 per year available for PhD students in molecular microbial ecology

Two PhD projects are available at the Centre for Marine Bio-Innovation (CMB) at the University of New South Wales (UNSW), Sydney, Australia. The CMB undertakes leading research into how microorganisms support the function and health of higher marine organisms, such as sponges. Our recent work has discovered novel molecular factors (so called ELPs) that bacterial symbionts use to control their interaction with eukaryotic cells (see Reynolds & Thomas Molecular Ecology 2016) and we have shown that these ELPs are highly expressed in sponges (Diez-Vives et al., Molecular Ecology 2017). We have recently received funding to expand this exciting research and now offer two PhD projects:

Project 1: Determine the environmental factors that control ELP expression and how this influence the symbiosis

This project will apply meta-transcriptomic analyses to sponges and their symbionts under different stress conditions to understand, if and how ELP expression controls sponge health and function. A background or interest in -omics analysis, bioinformatics, manipulative ecology and/or statistics is desirable for this project.

Project 2: Use ELPs as a tool to create artificial symbioses between bacterial and eukaryotic cells

This project will use molecular approaches to create bacteria that recombinantly express ELPs and then investigate how they interact with a range of eukaryotic cell types. A background or interest in molecular biology, physiology and/or microbe-host interaction is desirable for this project.

The two PhD projects will be directly supervised by Prof. Torsten Thomas. More information on him, his research and the CMB can be found here: (<http://www.cmb.unsw.edu.au/>).

Potential candidates are required to apply and succeed in obtaining a domestic or international PhD scholarship to study at UNSW Sydney, which will then be topped-up at a rate of up to \$10,000 per year for three years. For a list of available scholarships please see:

<https://research.unsw.edu.au/graduate-research-scholarships>

If you are interested in this opportunity or have any question, then please contact Torsten Thomas via email (t.thomas@unsw.edu.au) and attach a CV and a recent academic transcript.

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