

THE UNIVERSITY OF
NEW SOUTH WALES



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Centre for Marine BioInnovation
School of Biological, Earth and Environmental Sciences

PhD Research Opportunity in Marine Macrophyte-Microbial Interactions – Centre for Marine BioInnovation (CMB), University of New South Wales (UNSW).

UNSW Australia is one of Australia's leading research institutions and has a large and vibrant group of marine scientists. An exciting new PhD research opportunity is available in the CMB, an international focal point for interdisciplinary basic and applied research, to integrate microbial and plant ecology to determine the role of microbes in mediating the successful establishment of invasive marine macrophytes.

Project Focus:

Invasive species are a source of significant biodiversity and economic loss globally. Our ability to manage invasive species is fundamentally limited by knowledge of the processes that govern their successful establishment and spread. In terrestrial ecosystems establishment of invasive species, and biotic resistance to invasion, is often mediated by sediment processes that are largely under microbial control. Despite the key role of microbes in also mediating marine sediment processes, their ability to influence the demography of invasive marine macrophytes remains untested. The goal of this project is to determine the role of microbes in mediating the establishment of invasive macrophytes in marine ecosystems.

This 3-year PhD project will combine experimental field ecology and cutting edge microbial techniques to determine the mechanisms underpinning the establishment of *Caulerpa taxifolia* – one of the 100 most invasive species in the world. *Caulerpa* has invaded estuaries around the world including many on the New South Wales coastline. This project will significantly advance our basic understanding of the processes determining invasion success, but also provide information critical for managing our precious marine ecosystems.

Candidate Background:

The successful PhD student will become a member of a highly collaborative research group and will be supervised by Assoc. Prof. Paul Gribben, Assoc. Prof. Torsten Thomas and Prof. Peter Steinberg (CMB, UNSW). The student will also utilise the Sydney Institute of Marine Science (SIMS), one of the premier marine science institutes in Australia, which has extensive facilities for conducting ecological experiments and microbial analyses.

Students with experience in experimental marine ecology and an interest in microbiological processes are encouraged to apply. Australian or New Zealand students will need to apply for an Australian Post-Graduate Award (APA – due 17th October 2014). International students are

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encouraged to apply for an International Research Candidate Scholarships (due February 2015). Details of both scholarship and the criteria for eligibility for a PhD at UNSW can be found at <http://research.unsw.edu.au/future-students>. The successful candidate will also receive a \$5000 top-up to their scholarship. Candidates are also eligible for a 6-months scholarship extension, if required, towards the end of their PhD studies. Therefore applicants will have a relevant 1st Class Honours degree (or equivalent for international applicants), as well as a good knowledge of experimental design and statistical analyses.

For further information, please email p.gribben@unsw.edu.au