

## PhD OPPORTUNITY in Sydney, Australia

### Exploring the marine rhizosphere: seagrass root-microbe interactions and the role of chemotaxis in symbiont recruitment

We are seeking a highly motivated PhD student to join a research project focused on understanding the role of chemotaxis - the ability of microbes to direct their movement in response to chemical gradients - in mediating interactions between marine plants and their microbiome.



Marine plants such as seagrasses provide essential ecosystem functions and services to coastal communities worldwide. Emerging evidence suggests that root-associated microbes play key roles in driving marine plant performance, but we know almost nothing about how root-microbiome interactions establish and what their functions are. Chemotaxis drives critical interactions between microbes and a diversity of hosts, including terrestrial plants and planktonic microalgae, and likely plays a similar role in marine plants. This project integrates cutting-edge tools in microbiology with experimental marine ecology to determine the role of chemotaxis in driving such interactions.

**Supervisors:** [Dr Ziggy Marzinelli](#) (University of Sydney) & [Dr Jean-Baptiste Raina](#) (University Technology Sydney). Collaborators: Prof. Paul Gribben (UNSW), Prof. Justin Seymour (UTS).

**The Applicant** will need to have a strong interest in microbial ecology and marine ecology; a strong background in microbiology and experience conducting field experiments are essential. Underwater fieldwork experience (e.g., snorkel) is desirable.

**Start date:** August 2023

**Scholarships:** Students are expected to apply for an Australian Government Research Training Program (RTP) scholarships at The University of Sydney or UTS.

- Domestic applicants' deadline: [19 May 2023](#) (USYD)
- International applicants' deadline: [12 December 2022](#) (USYD) – please note the minimum requirements to be competitive for an International RTP scholarship are (i) BSc equivalent to First Class Honours, (ii) 1+ publications in ISI scientific journals (preferentially as first-author), (iii) work experience in microbial/marine ecology.

Please email Ziggy Marzinelli ([e.marzinelli@sydney.edu.au](mailto:e.marzinelli@sydney.edu.au)) or Jean-Baptiste Raina ([Jean-Baptiste.Raina@uts.edu.au](mailto:Jean-Baptiste.Raina@uts.edu.au)) and include your CV and academic transcript.