

Marine Spatial Ecology and Conservation (MSEaC) Lab

Deakin University, Geelong & Queenscliff, VIC, Australia



Dear colleagues,

I am seeking **Expressions of Interest** from potential candidates in the fields of ecology, oceanography, physics, and/or maths to join our MSEaC Lab at Deakin University, Australia. We endeavour to fill positions at three levels: i) a casual research assistant (0.5-0.8 FTE at \$43.31 to \$54.35/hr), ii) a PhD student, iii) a full-time 1-year postdoctoral research fellow (\$84,683 pa). Our broad research interests are in marine ecology, fisheries science, and conservation, specifically in understanding the causes and consequences of population connectivity and assisting in conservation planning. Along with field and lab research, we use a variety of tools, including geographic information systems, high performance computing, spatially-explicit dynamic modelling (e.g., MATLAB), spatial statistics (R), network analysis (R), programming, oceanographic modelling/data (e.g., ROMS, HYCOM), and remote sensing data.

I am particularly seeking individuals that have expertise in quantitative methods (e.g., maths, engineering, physics, IT) and a strong interest in marine science and ecology. Demonstrated skills in statistics, mathematics, programming, or ecological modelling is essential.

Although I am happy to discuss new project ideas from competitive individuals, I am seeking to build capacity across three specific research areas.

Current research areas:

1. Exploring the spatiotemporal patterns in broad-scale marine population connectivity and the influence on gene flow and biogeographic patterns. Although global in scope, there is a particular focus on the Indo-Pacific and the impact of spawning phenology, temperature, local habitat attributes, and climate drivers. This research relies heavily on GIS, biophysical modelling (MATLAB), high performance computing, and spatial analysis.
2. Quantifying the metapopulation dynamics and resilience in the subtidal rocky reefs of Port Phillip Bay, Australia. Using a variety of taxa (e.g., urchins and invasive sea stars), our goal is to identify key habitat patches and dispersal pathways to assist in the regional management of the Bay. This project involves field sampling (population surveys), lab experiments (larval development and behavioural studies), and metapopulation modelling.
3. Mapping the broad-scale structure and dynamics of the social (or political) and ecological interactions at regional and global scales. This work extends some of our recent work quantifying the ecological neighbours of geopolitical units [1] and identifying the fit and misfit between these social and ecological networks [2]. This research relies on some GIS skills and quite heavily on network analysis.

To inquire about these study/research opportunities, please send me an email containing i) one page letter describing your relevant experience, research interests, and professional goals, ii) a brief CV, iii) a copy of academic transcripts, and iv) the names and email addresses of two references. **EOIs are due by August 30, 2018.**

Kind regards,

Dr Eric Trembl

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