

Research Associate - Ecological Modelling

College/Division	College of Sciences and Engineering
School/Section	Institute for Marine and Antarctic Studies, Ecology and Biodiversity
Location	Hobart
Classification	Academic Level A/B
Reporting line	Reports to Prof Julia Blanchard - ARC Australian Centre for Excellence in Antarctic Science

Position Summary

The University of Tasmania is building a vision of a place-based University with a mission to enhance the intellectual, economic, social and culture future of Tasmania, and from Tasmania, contribute to the world in areas of distinctive advantage. The University recognises that achieving this vision is dependent on the people we employ as well as creating a people-centred University that is values-based, relational, diverse, and development-focused.

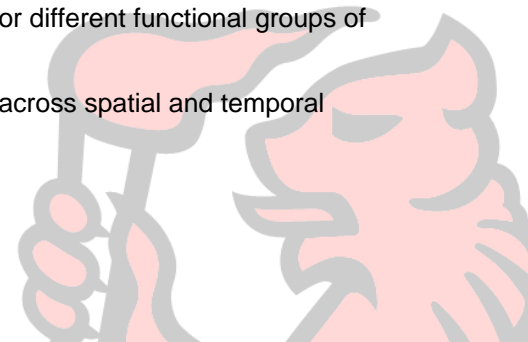
The Ecological Modeller will develop size- and trait-based modelling approaches for the Southern Ocean, by integrating models with observational datasets collected across different spatial scales and across spanning different taxonomic groups and trophic levels. This position is part of the ARC Australian Centre for Excellence in Antarctic Science (ACEAS), a national-scale, University-led, international centre focused on helping the world community prepare for climate risks emerging from East Antarctica and the Southern Ocean by integrating knowledge of the ocean, atmosphere, cryosphere and ecosystems, and their interplay. ACEAS will grow to support the activities of around 150 researchers, administrative staff, and students, with exciting opportunities to collaborate across disciplinary and institutional boundaries.

The 3 year Ecological Modeller position will gather and work with existing data required to couple biogeochemical and lower trophic level processes and data into a size and trait-based model of the Southern Ocean, evaluate initial model performance, and to carry out initial numerical simulations, at the regional scale, to inform ecosystem impacts of climate change. The successful candidate will contribute to ACEAS Program 1 – Circum Antarctic and East Antarctica, which addresses the overarching question: “How can shifts in carbon, heat and moisture transport in the Antarctic and Southern Ocean system be better constrained to improve projections of future climate and sea level changes?” and Program 2 – Regional East Antarctica and its provinces, which addresses the overarching question: “What are the causal linkages between atmosphere, ocean, cryosphere, and their consequent effects on open water and under ice biogeochemistry and ecology in East Antarctica for past, present and future conditions?”

We are an inclusive workplace committed to ‘working from the strength that diversity brings’ reflected in our Statement of Values. We are dedicated to attracting, retaining and developing our people and are committed to inclusive principles. We celebrate the range of diverse assets that gender identity, ethnicity, sexual orientation, disability, age and life course bring. Applications are encouraged from all sectors of the community. Tell us how we can make this job work for you.

What You'll Do

- Work on the development of new modelling approaches in an internationally renowned team at the forefront of size and trait-based modelling tools.
- Work closely with a team of researchers collecting field-based data for different functional groups of organisms in the Southern Ocean.
- Develop and apply tools for statistically fitting size spectrum models across spatial and temporal



scales observational data (e.g imagery, floats tagging, fisheries catches).

- Participate in research group meetings and interactions with Honours, Masters and PhD students.
- Develop methods for improved representation of multiple drivers under climate change (e.g biogeochemistry links, species redistribution, temperature, primary productivity, zooplankton composition) across scales.
- Use these tools to analyse and carry out improved model projections and skill reassessment.
- Organisation of workshops and meetings as a part of the ACEAS and AAPP communities.

In addition, a position at Level B will involve general duties:

- Make an effective and sustained contribution to the University in achieving its strategic objectives and fulfilling its operational responsibilities.
- Undertake high-quality research of national and increasingly of international standing, secure external competitive and other funding, publish research findings and contribute to the successful supervision of research higher degree students, in order to meet and regularly exceed the University's research performance expectations for Level B.
- Contribute to the development and maintenance of productive and effective links inside the University and locally and nationally with the discipline, relevant interdisciplinary domains, profession, industry and/or wider community.
- Undertake other duties as assigned by the supervisor.

What We're Looking For (success criteria)

- A PhD or equivalent in the field of marine ecology with a strong quantitative component and knowledge of Southern Ocean marine ecosystems.
- A good record of, and continuing commitment to, research that has achieved national recognition and made worthwhile contributions to the field of ecology, demonstrated by publications, presentations at conferences and preferably success in securing external competitive and other funding.
- Demonstrated skills in the R, with familiarity of the 'mizer' R package
- Demonstrated knowledge of and experience in developing and/or applying size spectrum models.
- Understanding of potential ways to link physical/biological oceanographic data in size spectrum models.
- Demonstrated ability to work collaboratively in a research team covering multiple disciplines and achieve collective as well as individual outcomes.
- Strong statistical skills and experience in data manipulation and visualisation.
- Field and/or lab-based empirical experience, preferably ship-based sea-going experience.
- Experience in student supervision and/or teaching.



Other position requirements (delete those not applicable)

- Regular intrastate/ interstate/ international travel
- Regular travel may be between campus is required to deliver teaching and learning outcomes
- Visiting and working in the field in remote locations
- Undertaking manual handling and lifting >10kg
- Willingness to undertake a medical assessment based on meeting the inherent position requirements

University of Tasmania

The University of Tasmania is an institution with an enduring commitment to our state and community, and a strong global outlook. We are committed to enhancing the intellectual, economic, social and cultural future of Tasmania. Our [Strategic Direction](#) strongly reflects the University community's voice that our University must be place based but globally connected as well as regionally networked and designed to deliver quality access to higher education for the whole State.

We believe that from our unique position here in Tasmania we can impact the world through the contributions of our staff, students and graduates. We recognise that achieving this vision is dependent on the people we employ, as well as creating a university that is values-based, relational, diverse, and development-focused.

Check out more here:

<https://www.utas.edu.au/jobs>

<https://www.utas.edu.au/careers/our-people-values-and-behaviours>

The intention of this position description is to highlight the most important aspects, rather than to limit the scope or accountabilities of this role. Duties above may be altered in accordance with the changing requirements of the position.

