

Postdoctoral Research Associate - Under Ice Mapping

College/Division	College of Sciences and Engineering
School/Section	Institute for Marine and Antarctic Studies – Ecology and Biodiversity
Location	Hobart – Salamanca
Classification	Academic Level A/B
Reporting line	Reports to Centre Head, IMAS Research and Education Centres

Position Summary

The University of Tasmania (UTAS) is building a vision of a place-based University with a mission to enhance the intellectual, economic, social and cultural 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.

This position is part of the ARC-funded 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. Further information is available on the [ACEAS](#) website.

The successful candidate will contribute primarily to ACEAS Program 2. This Program 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 the East Antarctic under past, present and future conditions? Specifically, the successful candidate will contribute to collecting in-situ data and work together with the team to use this as both validation data and prediction data to model future scenarios. This is an exciting project that utilises new technologies to capture fine scale remote sensing data to address questions with climate-level significance. The Postdoctoral Research Associate in Under Ice Mapping will co-design and co-lead the underwater and aerial imaging spectroscopy and photogrammetric campaign for the first ACEAS survey in the Marginal Ice Zone (MIZ) in September 2023. They will be responsible for the collection of bio-physical sea-ice data sets using a suite of novel technologies. Working across the other programs to ensure that data at appropriate temporal and spatial scales is cognisant with data collected in those teams. They will perform the analysis of the new data and assimilate this with known information in the region, providing support to those working on process modelling and response to sea ice changes under a changing climate.

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

- Participate in Antarctic fieldwork to deploy imaging spectroscopy equipment that records fine-scale data on sea-ice properties, both *in situ* (mapping) and in ice cores processed at sea.
- Participate in a field campaign to Cape Evans Antarctica (October/November 2022) to refine data collection capabilities in preparation for 2023 voyage.
- Analyse spectroscopy data on sea-ice properties in relation to ocean processes and ecological facets.
- Produce models describing the linkages between remote sensing and bio-physical data to predict future status of sea-ice ecology in East Antarctica in collaboration with postdocs working on process studies and those synthesising observations from other remote sensing platforms (i.e. satellites).
- Communicate results through oral presentations, scientific journal articles and adhere to FAIR data management principles.
- Develop an under-ice positioning and machine vision camera system for high-frequency spectroscopy and RGB imaging to be used within the MIZ process study.
- Develop detailed documentation on field sampling methodologies.
- Co-supervise related research projects at the Honours and/or HDR level.
- Undertake other duties as assigned by the supervisor.

What We're Looking For (success criteria)

- A PhD, or equivalent postdoctoral experience, in a relevant area (e.g., marine remote sensing, field based remote sensing and sensor development or similar).
- A record of contributing to building and maintaining effective and productive relationships nationally and internationally within the discipline, profession, industry (where relevant) and wider community.
- Demonstrated expertise and experience using image processing software for remote sensing and techniques in spatial analysis.
- Competence in the use of image analysis and statistical software packages such in R, Matlab and Python.
- Demonstrated ability to work efficiently with minimal supervision, with a capacity to set and prioritise strategic research directions, and to design and engage in collaborative research projects to achieve scientific goals, allocate resources and report against project milestones.
- Demonstrated ability to work collaboratively in a research team covering multiple disciplines and achieve collective as well as individual outcomes.
- Experience in field work in remote environments and the ability to participate in remote fieldwork which will include extended periods of time in the field in Antarctica and the Southern Ocean.

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>

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.

