Postdoctoral Research Fellow – Fire Modelling

College/Division	College of Science and Engineering
School/Section	School of Natural Sciences
Location	Hobart
Classification	Academic A
Reporting line	Chief Investigator

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.

We are seeking to appoint a Postdoctoral Research Fellow in the School of Natural Sciences https://www.utas.edu.au/natural-sciences is part of the College of Science and Engineering https://universitytasmania.sharepoint.com/sites/CoSE.

This position will contribute to excellent research in two projects focused on landscape fire modelling and pyrogeography. In the first project, the Postdoctoral Research Fellow drive the research into the development of spatially explicit fire risk forecasting methods for SE Australia's forest regions using combinations of machine learning and process-based models, to achieve accurate novel medium-range forecasts of fire risk. The successful applicant will work on the ARC Discovery Grant (DP220100795) on the development of physics-aware machine learning models for spatially explicit fire risk forecasting in Southeast Australia's forest regions. This project builds on the UTAS Fire Centre's distinguished record in pyrogeography and application of spatial and computational methods to fire modelling and involves strong collaboration with fire and machine learning experts with collaborating institution, Western Sydney University. Additionally, the Postdoctoral Research Fellow will join the University of Tasmania node of the NSW Bushfire and Natural Hazards Research Centre and contribute to the Professor Bowman's ARC Laureate Program, applying geospatial skills to developing decision support tools and monitoring methods related to bushfire risk, impact and recovery, and analysis of fire regime dynamics.

The Research Fellow will join the UTAS Fire Centre led by Professor David Bowman, working under direct supervision with Dr Grant Williamson, and in collaboration with Professor Matthias Boer (Hawkesbury Institute for the Environment) and Professor Paul Hurley (International Centre for Neuromorphic Systems) at Western Sydney University, on the project supported by an Australian Research Council Discovery grant, and under the supervision of Dr Williamson and Prof. Bowman and collaborating with a diverse national team on the NSW Bushfire and Natural Hazards Research Centre project. The position will be based at the University of Tasmania Sandy Bay Campus, within the School of Natural Sciences.

Successful applicants will receive mentoring within a supportive, dynamic research group, with opportunities to engage with researchers from across a broad range of fields, to acquire new skills, and to contribute to co-supervision of HDR students.

The position is full time and of 2 years duration, with the possibility of up to a 3-year extension, dependant on funding.

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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

- Undertake high-quality original research and meet agreed research objectives on the modelling and simulation of fire spread in SE Australian forests, applying physics-aware machine learning techniques.
- Undertake high-quality original research and meet agreed research objectives on the development of tools, methods and models of bushfire risk, impact, fire regimes and ecosystem change.
- Develop productive collaborative ties with team members and external project partners. Communicate research findings to project end-users and other stakeholders.
- Drive day-to-day execution of research-related tasks and provide support to project supervisor (Dr Grant Williamson) as part as an interdisciplinary and multi-institutional team, including preparation of reports and manuscripts for publication in refereed journals, and preparing and presenting research findings at national and international seminars, conferences, and workshops.
- Assist in student supervision and mentoring where appropriate.
- Ensure that project practices, research data and code management conforms to the Australian Code for the Responsible Conduct of Research, and the UTAS Framework for the Responsible Conduct of Research.
- Undertake other duties as assigned by the Supervisor.

What We're Looking For

- A PhD degree or equivalent professional experience (eg progress toward the formal completion of or recently submitted PhD thesis for examination) in a relevant biological, environmental or geosciences field.

- Demonstrated strong knowledge and experience in geospatial data analysis, statistical analysis, machine learning and simulation modelling of vegetation and/or fire behaviour.

- Demonstrated knowledge and experience in understanding of Australian fire regimes and contemporary fire management challenges.

- Demonstrated knowledge and experience in working with a variety of remotely sensed, thematic and climate data.

- Good statistical knowledge, and demonstrated advanced experience in using R, Matlab, Python or other software for data processing, simulation, analyses and visualisation, and demonstrated proficiency in management of data and code for reproducible research.

- Demonstrated ability to write manuscripts for publication in internationally recognised scientific journals, and a track-record of publications appropriate for the applicant's career stage.

- Demonstrated organisational skills and excellent communication and interpersonal skills, including the ability to be self-directed, but also to work effectively and harmoniously as part of a research team

Other position requirements

- Occasional interstate travel.

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.