

Research Fellow in Physics - Astronomy

College/Division	College of Sciences and Engineering (CoSE)
School/Section	School of Natural Sciences - Physics
Location	Sandy Bay
Reporting line	Professor/ Head of Discipline for Physics • Physics

Position Summary

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

This fixed-term, research-focused position will be filled by a scientist who will use a range of techniques in observational astronomy at near-infrared and visible wavelengths to detect and characterise exoplanets using light curve analysis and advanced modelling techniques applied to gravitationally microlensed stars. The position is funded for 2.5 years by the Australian Research Council Discovery Program grant “Lifting the Veil on Cold Planets in the Inner Galaxy”.

The Research Fellow will join a dynamic and growing team using the University of Tasmania’s local astronomical infrastructure to discover exoplanets between the Sun and the Galactic Centre and characterise their mass ratios and frequency as a function of stellar properties and Galactic neighbourhood.

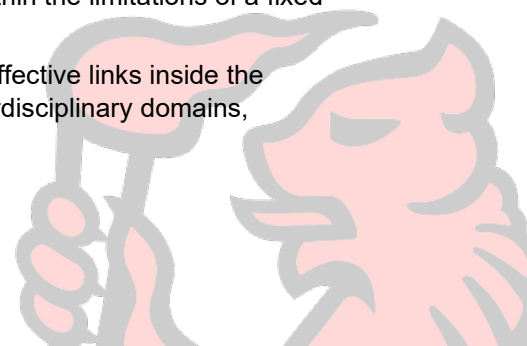
Using the University of Tasmania’s astronomical infrastructure, including 1.25 and 0.50 metre telescopes in Tasmania, and other telescopes around the world as needed, the Research Fellow will gather and analyse combined infrared, optical, and high spatial resolution (adaptive optics or space telescope) observations with detailed models of the distribution of stars in the inner Milky Way to derive the planet and host star parameters for multiple targets, and create the statistical distributions of planet masses and separations as a function of host star mass and location within the Milky Way. They will combine the individual measurements to place limits on the frequency of free- floating planets as a function of mass. The project will focus on the areas of higher dust-obscuration and stellar density, paving the way for the NASA Roman Galactic Exoplanet Survey.

The research will be carried out in a collaborative environment including colleagues in Mathematics & Physics and international project partner investigators. 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 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

- Make an effective and sustained contribution to the University in achieving its strategic objectives and fulfilling its operational responsibilities.
- Carry out high-quality research in observational and computational astrophysics, with an emphasis on work relating to gravitational microlensing measurements in the Milky Way, publish research findings and present at scholarly meetings.
- Contribute to the supervision of research higher degree students, within the limitations of a fixed term, research intensive appointment.
- 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.

- Contribute to the academic well-being of the astronomy group and the broader physics discipline through graduate teaching and outreach duties within the limitations of a fixed term, research intensive appointment.
- Undertake other duties as assigned by the supervisor.

What We're Looking For

- A PhD or equivalent in a relevant field.
- A good record of, and continuing commitment to, research that has achieved recognition and made worthwhile contributions to the field of astrophysics, demonstrated by a record of quality publications, presentations at conferences and preferably success in securing external competitive and other funding.
- Experience in planning observational programs and the reduction and analysis of optical and/or near-infrared astronomical data obtained from telescopes of various sizes and capabilities.
- Ability to communicate effectively with other researchers and research students in the context of a major research initiative.
- Experience in the supervision of student research.
- Experience in scientific computing and preferably high-performance computing.
- A record of contributing to building and maintaining effective and productive links locally and nationally with the discipline, profession, industry (where relevant) and wider community.

Other position requirements

- Frequent night-time work
- Occasional intrastate/ interstate/ international travel
- Occasional laboratory and workshop activities, with an emphasis on electronics and computing, assisting with group support and outreach
- Occasional undertaking of manual handling and lifting >10kg, assisting with group equipment

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.

