POSITION DESCRIPTION

Postdoctoral Research Fellow in Thermal Mechanical Engineering

March 2026

UNIVERSITY of TASMANIA

Position Summary

Area / Division	Sciences and Engineering
School / Section	School of Engineering
Location	Hobart
Classification	Academic Level A
Reports to	Professor of Engineering
Direct reports	Nil
Delegation level	No Delegation
Workload Allocation	Research Intensive

The Opportunity

We are seeking a highly motivated Postdoctoral Research Fellow to join a cutting-edge ARC-funded project focused on developing a thermal energy management platform in electric vehicles using AI technology. The role aims to advance thermal performance through innovative energy distribution and waste heat recovery strategies. The Postdoctoral Research Fellow will undertake experimental and theoretical research, contribute to HDR supervision, support teaching in mechanical engineering courses, and work collaboratively within a dynamic team advancing sustainable transport and climate-safe engineering.

The successful candidate will bring their expertise in thermal energy management and conversion, particularly in areas such as heat pump, battery energy systems and thermal comfort in electric vehicles. You will bring an enthusiasm for interdisciplinary research and a commitment to fostering a collegial and supportive team research environment. This is an exciting opportunity to contribute to impactful research while living in Tasmania – renowned for its exceptional quality of life, stunning natural landscapes, including many National Parks and World Heritage Areas.

About the University of Tasmania

The University of Tasmania is a mission-driven institution dedicated to making a difference for Lutruwita/Tasmania and a distinctive contribution from Tasmania to the world. As the sole university on the island, the University is deeply embedded in the social, economic, and environmental fabric of Tasmania, working in close partnership with communities, industry, and government to address key challenges in education, health, productivity, and climate action. The University takes pride in its place-based identity, leveraging Tasmania's unique geography, culture, and resources to offer world-leading research and education.

With a networked presence across Tasmania and beyond, the University of Tasmania is transitioning towards a more accessible, regionally connected, and innovative educational model. As it looks toward 2050, the University remains committed to fostering excellence, collaboration, and transformative education, preparing graduates to navigate the challenges of a rapidly changing world while remaining grounded in its place and purpose in Tasmania.

Accountabilities and outcomes

Purpose

This role will conduct research on AI-based energy management in electric vehicles and contribute to teaching climate-safe engineering courses within mechanical engineering.

Accountabilities and Outcomes

- Undertake research on AI-based energy management in electric vehicles including heat pump, battery thermal management and waste-heat recovery from power electronics and electric motors, publishing findings in high-quality international peer-reviewed journals, and assist in supervision of PhD and undergraduate research students.
- Lead the development of AI-based energy management platform to coordinate the energy distribution and recovery in real-time driving conditions.
- Participate in collaborative and collegial research as part of a team of inter-disciplinary researchers focused on the renewable energy and power systems.
- Undertake high-quality research/scholarly activities under limited supervision either independently or as a member of a team, publish research findings to meet and regularly exceed the University's research performance expectations for Level A.
- Undertake scholarly undergraduate coursework teaching of a high quality, including consultation with students, marking and assessment connected with courses taught, production of teaching materials, and development of course material with appropriate guidance from the course or program coordinator in mechanical engineering.
- 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.

Behavioural Expectations

We aim for everyone to have a positive experience at our university, and all staff contribute toward creating a university culture that is safe and supportive, enabling our community to flourish by:

- Treating all others – staff, students and community with fairness, equity and respect.
- Ensuring the workplace is an inspiring and safe place to be.
- Ensuring the workplace is free from harassment, bullying, victimisation and discrimination.

Success profile

Personal Attributes

- Investigative: Readily takes up opportunities to learn and acquire new skills and is able to identify issues and make intuitive judgements.
- Innovative: Able to produce new ideas and adopt radical solutions. Readily applies theories and concepts to form strategies and navigate future trends.
- Structured: Works methodically to organise and plan tasks, upholds standards and works quickly, able to multitask to produce outcomes.
- Supportive: Understands others through listening and empathy, works well in a team and actively involves others by valuing individuals' unique perspectives.

Core Capabilities

- Growth Mindset: Adopts a growth mindset and consistently seeks feedback, makes others comfortable with taking risks and experimenting to improve over time.
- Innovation Management: Effectively facilitates idea generation within and across teams. Brings cohorts of people together to incubate ideas from concept to design to implementation. Fosters and enables safe spaces for creative thinking and contribution.
- Self Awareness and Interpersonal Skills: Recognises and regulates emotions and behaviour in the work context and effectively builds relationships with others to create a collaborative and empowering environment that enables people to achieve and thrive.
- Strategy into Action: Able to set, operationalise and activate strategy into specific actions, timelines and responsibilities to enable the University to deliver on key strategic goals.

Role Specific Skills, Knowledge and Experience

- A demonstrated ability and understanding of research in the field of thermal and mechanical engineering, evidenced by a record of quality publications, presentations at conferences and preferably success in securing competitive and other funding, appropriate at this level.
- A record of contributing to building and maintaining effective and productive networks with the discipline, profession, and wider community, including evidence of effective collaborative research contributions.
- A clear desire and capacity for developing artificial intelligent approaches, preferably with experience in its application to energy management in electric vehicles.
- Experience of working effectively within a team environment.
- Excellent oral and written communication skills, with demonstrated experience presenting research findings, and preparing research reports.
- Experience in teaching undergraduate courses in mechanical engineering.

Qualifications and Licences

- A PhD or equivalent in thermal and mechanical engineering or a closely related field.

Other Requirements

As part of our commitment to a safe and inclusive workplace, employment history and National Police Checks may be conducted as part of the selection process.

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CRICOS Provider Code 00586B/OOM0610043