



POSITION DESCRIPTION

School of Chemical and Biomedical Engineering
Faculty of Engineering and Information Technology

Research Fellow in Supercapacitors

POSITION NO	0058818
CLASSIFICATION	Level A
SALARY	\$77,171 - \$104,717 p.a. (PhD entry level A.6 - \$97,558 p.a.)
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-time
BASIS OF EMPLOYMENT	Fixed-term for 18 months Applications for part-time or other flexible working arrangements will be welcomed and will be fully considered subject to meeting the inherent requirements of the position
OTHER BENEFITS	https://about.unimelb.edu.au/careers/staff-benefits
CONTACT FOR ENQUIRIES ONLY	Professor Dan Li Tel +61 3 8344 3460 Email dan.li1@unimelb.edu.au

For information about working for the University of Melbourne, visit our website:
about.unimelb.edu.au/careers

Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of country throughout Australia. The University recognises the unique place held by Aboriginal and Torres Strait Islander peoples as the original custodians of country and their continued connection to the land, waterways, songlines and culture. The University respects all Aboriginal and Torres Strait Islander People and warmly embrace those students, staff, Elders and collaborators who identify as First Nations.

Commitment to Diversity and Inclusion

The Faculty of Engineering and Information Technology (FEIT) is committed to creating a diverse and inclusive environment that welcomes and values all people. We recognise that diversity is essential in contributing to the success of FEIT. Women, Aboriginal and Torres Strait Islanders, the LGBTIQ+ community, people living with disability and those from a culturally and linguistically diverse background.

Position Summary

Funded by the Australian Research Council (ARC) through the ARC Training Centre in Future Energy Storage Technologies (IC180100049), this project aims to develop next-generation high voltage and high energy density supercapacitors in collaboration with industry partners and other research institutions. The Research Fellow will conduct independent research, leading to the preparation and publication of research outcomes in conferences and journals and patent applications. The position sits within the Department of Chemical Engineering in the Faculty of Engineering and Information Technology and will be expected to be an active member of the Department, collaborating with other researchers and being responsible for undertaking research supervision directly related to the area of research or a small amount of teaching, as required. In addition, the candidate will also have the opportunity to work in an industry environment to commercialize the technology developed through this project, with future career opportunities in the industry.

1. Selection Criteria

1.1 ESSENTIAL

- ▶ PhD (or near completion) in Materials or Chemical Engineering, or closely related discipline.
- ▶ Experience in material synthesis, processing and nano-engineering technology for lithium-ion batteries or supercapacitors and excellent understanding in electrochemistry.
- ▶ Experience in fabrication, characterisation and testing of electrochemical energy storage devices.
- ▶ A record of quality and innovative research as evidenced by publications in leading journals or books or patent applications.
- ▶ Ability to perform independent research and a commitment to interdisciplinary research.
- ▶ Experience in using initiative, working with minimal supervision and ability to prioritise tasks to achieve project objectives within timelines.
- ▶ Familiar with OHS management of wet chemistry labs.

1.2 DESIRABLE

- ▶ Experience in industrial collaboration
- ▶ Demonstrated capacity to communicate research concepts to technical and non-technical audiences.
- ▶ Excellent verbal communication skills demonstrated by oral presentation of research results at international conferences.
- ▶ Excellent interpersonal skills, including an ability to interact with internal and external stakeholders (academic, administrative and support staff) in a courteous and effective manner.

2. Key Responsibilities

The position description should be read alongside the [Academic Career Benchmarks](#).

2.1 CONTRIBUTION TO TEACHING AND LEARNING

- ▶ Contribute to teaching, training, scientific mentoring and supervision of postgraduate students if required.
- ▶ Co-supervise junior research staff in the appointee's area of expertise.

2.2 RESEARCH AND ADVANCEMENT OF DISCIPLINE

- ▶ Independently plan and carry out research on the nominated research project and work towards completion of the aims of the project.
- ▶ Develop effective timelines and milestones based on goals of the research programme.
- ▶ Perform experiment design, and data analysis, and be responsible for qualitative and statistical analysis of research data and to communicate this information to the Chief Investigator and collaborators.
- ▶ Regularly write progress reports on the outputs of the experiments conducted, and maintain accurate and detailed records of all experiments conducted.
- ▶ Participate in preparation of manuscripts for publication in peer-reviewed journals and research proposals for external grants.
- ▶ Liaise effectively with collaborators with a variety of internal and external stakeholders.
- ▶ Assist other researchers in carrying out experiments and simulations or preparing manuscripts in order to work as a team and further the department's research output;
- ▶ Contribute to the development of the Department's and the School's strong research program in materials science and nanotechnology;
- ▶ Work towards building an independent research project.

2.3 ENGAGEMENT

- ▶ Active participation in some outreach activities relating to research and scholarship, particularly related to ARC Training Centre in Future Energy Storage Technologies;
- ▶ Effective liaison with external networks to foster collaborative partnerships including relevant industry partners;
- ▶ Involvement in professional activities, including consultations and referrals;
- ▶ Present results at local, national forums;
- ▶ Attend and actively participate in departmental seminars, meetings and/or committee memberships.

2.4 LEADERSHIP AND SERVICE

- ▶ Active participation in the communication and dissemination of research.
- ▶ Identify sources of funding to support individual or collaborative projects, relating to teaching, research and engagement practice in the discipline.
- ▶ Provide strong mentorship through the supervision of research support staff and PhD Students.

2.5 OTHER JOB RELATED INFORMATION

- ▶ Undertake Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in Section 4
- ▶ Occasional work out of ordinary hours, travel, etc.
- ▶ Perform other tasks, including administration, as requested by the supervisor.

3. *Equal Opportunity, Diversity and Inclusion*

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the University's People Strategy and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

All FEIT employees are required to behave in a manner that creates; supports and encourages an inclusive and safe work environment for all.

<https://eng.unimelb.edu.au/diversity>

4. *Occupational Health and Safety (OHS)*

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

<https://safety.unimelb.edu.au/people/community/responsibilities-of-personnel>

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

5. *Other Information*

5.1 SCHOOL OF CHEMICAL AND BIOMEDICAL ENGINEERING

<https://eng.unimelb.edu.au/about/departments/school-of-chemical-and-biomedical-engineering>

The School of Chemical and Biomedical Engineering encompasses both the Department of Chemical Engineering and the Department of Biomedical Engineering. This fusion of engineering disciplines provides a dynamic and interdisciplinary environment that is world leading in both research and teaching.

5.2 DEPARTMENT OF CHEMICAL ENGINEERING

<http://www.chemeng.unimelb.edu.au>

The Department of Chemical Engineering hosts several Research Centres including the Peter Cook Centre for Carbon Capture and Research, the ARC Dairy Innovation Research Hub, the Particulate Fluids Processing Centre and the ARC Centre of Excellence in Convergent Bio-Nano Science and Technology.

Our laboratories are housed across four locations including a substantially renovated main building, a second building devoted exclusively to research, two floors within the nearby Chemistry building and a presence within the Bio21 Institute. Our academics have been elected as Fellows of the Royal Society, the world's oldest scientific society, the Australian Academy of Science, and the Australian Academy of Technological Sciences and Engineering.

Strong collaborations with industry, government and community partners inform teaching and research programs with real-world requirements. Industry Engagement is a key focus area for the Department. We carry out research projects based on deep collaborations with government and business and we also work with organisations that provide internship project opportunities for students.

We offer four Masters of Engineering degrees (Chemical, Chemical with Business, Biochemical, and Materials) with over 250 students, as well as undergraduate majors within the Bachelor of Science and Bachelor of Commerce.

5.3 FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY

The Faculty of Engineering and Information Technology (FEIT) has been the leading Australian provider of engineering and IT education and research for over 150 years. We are a multidisciplinary School organised into three key areas; Computing and Information Systems (CIS), Chemical and Biomedical Engineering (CBE) and Electrical, Mechanical and Infrastructure Engineering (EMI). FEIT continues to attract top staff and students with a global reputation and has a commitment to knowledge for the betterment of society.

FEIT has never been better positioned as a global leader, anchored in the dynamic Asia Pacific region, creating and curating knowledge to address some of the world's biggest challenges. Through our students and our relationships with communities, we can not only respond to society's needs but anticipate and create engineering and IT solutions for the future.

<https://eng.unimelb.edu.au/>

<https://eng.unimelb.edu.au/about/join-feit>

Our ten-year strategy, FEIT 2025, is our School's commitment to bring to life the University-wide strategy Advancing Melbourne and reinforce the University of Melbourne's position as one of the best in the world.

To achieve our ambitions, we will continue to build new infrastructure to enable our teaching, research and engagement; we continue to recruit outstanding people from around the world;

and we continue to attract high-quality students from across the globe who are at the heart of our enterprise.

<https://eng.unimelb.edu.au/about/feit-2025>

5.4 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a public-spirited institution that makes distinctive contributions to society in research, learning and teaching and engagement. It's consistently ranked among the leading universities in the world, with international rankings of world universities placing it as number 1 in Australia and number 32 in the world (Times Higher Education World University Rankings 2017-2018).

The University's 10-year strategy, *Advancing Melbourne* will enable the University to contribute to advancing the state and national interest and make vital contributions to Australia's standing on the world stage. We seek to be a leading force in advancing Australia as an ambitious, forward-thinking country while increasing its reputation and influence globally. <https://about.unimelb.edu.au/strategy/advancing-melbourne>

Further information about working at The University of Melbourne is available at <http://about.unimelb.edu.au/careers>