



## POSITION DESCRIPTION

School of Electrical, Mechanical and Industrial Engineering  
Faculty of Engineering and Information Technology

### Research Fellow in Ocean Engineering

POSITION NO	0057857
CLASSIFICATION	Level A
SALARY	\$77,171 - \$104,717 p.a. (pro-rata for part time)
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-time (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)
BASIS OF EMPLOYMENT	Fixed term for 12 months
OTHER BENEFITS	<a href="https://about.unimelb.edu.au/careers/staff-benefits">https://about.unimelb.edu.au/careers/staff-benefits</a>
HOW TO APPLY	Online applications are preferred. Go to <a href="http://about.unimelb.edu.au/careers">http://about.unimelb.edu.au/careers</a> , select the relevant option ('Current Opportunities' or 'Jobs available to current staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Professor Alexander Babanin Tel +61 3 8344 1538 Email <a href="mailto:a.babanin@unimelb.edu.au">a.babanin@unimelb.edu.au</a> <i>Please do not send your application to this contact</i>

For information about working for the University of Melbourne, visit our website:  
[about.unimelb.edu.au/careers](http://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 the Faculty. Women, Aboriginal and Torres Strait Islanders, the LGBTIQ+ community, people living with disability and those from a culturally and linguistically diverse background, are strongly encouraged to apply.

## ***Position Summary***

The successful applicant will work on a project funded by the Department of Environment, Land, Water and Planning of Victoria (DELWP), intended to study current and future Metocean climate of Port Phillip Bay (PPB) and surrounding maritime areas. The project involves a complex set of tasks, based on field measurements in PPB and coupled wave-ocean models for PPB. This exciting multidisciplinary research aims at validating the models and simulating wave climate in PPB, with the purpose of its statistical descriptions, and exploring connections of the Metocean climate to sediment transport, biogeochemistry and other processes in the Bay.

The project team involves collaborations with researchers from DELPW, Bureau of Meteorology. You will conduct independent research, leading to the preparation and publication of research outcomes in conferences and journals. You will be located in the Department of Infrastructure Engineering in the Faculty of Engineering and Information Technology (FEIT) and will be expected to be an active member of the Department, collaborating with other researchers. You may undertake small amounts of teaching and research supervision directly related to your area of research, as required.

## ***1. Key Responsibilities***

### **1.1 RESEARCH AND ADVANCEMENT OF DISCIPLINE**

- ▶ Conduct numerical modelling research including pre/post-processing input/outputs, model calibration and validation, data (model and observations) analysis and visualisation,
- ▶ 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 data and microstructure analysis, and be responsible for qualitative and statistical analysis of research data and to communicate this information to the Chief Investigators and collaborators;
- ▶ Regularly write technical 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;
- ▶ Liaise effectively with collaborators with a variety of internal and external stakeholders;

- ▶ Assist other researchers in carrying out experiments in order to work as a team and further the department's research output;

## 1.2 ENGAGEMENT

- ▶ Active participation in some outreach activities relating to research and scholarship;
- ▶ Effective liaison with external networks to foster collaborative partnerships;
- ▶ 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.

## 1.3 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;
- ▶ Effective supervision of research support staff

## 1.4 OTHER JOB-RELATED INFORMATION

- ▶ This position requires the incumbent to hold a current and valid Working with Children Check.

# 2. Selection Criteria

## 2.1 ESSENTIAL

- ▶ A PhD (or near completion) in ocean/coastal engineering, physical oceanography, applied fluid dynamics or mathematics.
- ▶ Experience in coupled ocean/wave models (unstructured grid is highly desirable)
- ▶ Experience in extreme geoscience (e.g. ocean wave) data analysis and return period estimates, annual exceedance probability (AEP).
- ▶ Strong written and oral communication skills (evidence of scientific papers in peer reviewed journals, technical reports and presentation at international conferences).
- ▶ Experience with Linux-based systems (e.g. Ubuntu, Redhat) with programming skills (e.g. Python, MATLAB).
- ▶ Ability to perform independent research and a commitment to interdisciplinary research;
- ▶ Demonstrated capacity to communicate research concepts to technical and non-technical audiences;
- ▶ Excellent ability in analysing data, problem solving and maintaining accurate research records;
- ▶ Experience in using initiative, working with minimal supervision and ability to prioritise tasks to achieve project objectives within timelines;

- ▶ Excellent interpersonal skills, including an ability to interact with internal and external stakeholders (academic, administrative and support staff) in a courteous and effective manner.

### ***3. Equal Opportunity, Diversity and Inclusion***

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion, and reward on the basis of merit.

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 Advancing Melbourne strategy that addresses diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Advancing Melbourne.

### ***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 ELECTRICAL, MECHANICAL AND INFRASTRUCTURE ENGINEERING**

The School of Electrical, Mechanical and Infrastructure Engineering undertakes teaching and research across a range of disciplines that are internationally recognised for their contribution to fundamental research. It has a number of well-established industry linkages and international partnerships. It is building a vibrant profile of interdisciplinary research, working with industry with an aim to contribute to society. It offers a comprehensive range of accredited Masters of Engineering and Master of Information Technology programs taught through the Electrical, Mechanical and Infrastructure

departments as well as professional Masters programs. It has a substantial cohort of research higher degree students. A major focus of the school is to attract and retain outstanding and internationally recognised academic staff. The School is committed through strategy, culture and mentorship to increasing the number of female engineers and scientists on its staff.

## DEPARTMENT OF INFRASTRUCTURE ENGINEERING

Combining civil engineering, environmental engineering and geomatics in one department creates a broad scope for our research and engineering education. Our focus is to solve infrastructure problems in a sustainable way.

The Departmental philosophy is to attract and retain the highest quality staff available in order to maintain a vigorous research effort. Our strategic plan is to address the most urgent contemporary problems of our rapidly developing industrial society, with investigations into the engineered and natural environment.

[www.ie.unimelb.edu.au](http://www.ie.unimelb.edu.au)

## 5.2 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>

## 5.3 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide-range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

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

#### 5.4 ADVANCING MELBOURNE

The University's strategic direction is grounded in its purpose. While its expression may change, our purpose is enduring: to benefit society through the transformative impact of education and research. Together, the vision and purpose inform the focus and scale of our aspirations for the coming decade.

Advancing Melbourne reflects the University's commitment to its people, its place, and its partners. Our aspiration for 2030 is to be known as a world-leading and globally connected Australian university, with our students at the heart of everything we do.

- ▶ We will offer students a distinctive and outstanding education and experience, preparing them for success as leaders, change agents and global citizens.
- ▶ We will be recognised locally and globally for our leadership on matters of national and global importance, through outstanding research and scholarship and a commitment to collaboration.
- ▶ We will be empowered by our sense of place and connections with communities. We will take opportunities to advance both the University and the City of Melbourne in close collaboration and synergy.
- ▶ We will deliver this through building a brilliant, diverse and vibrant University community, with strong connections to those we serve.

The means for achieving these goals include the development of the University of Melbourne's academic and professional staff and the capabilities needed to support a modern, world-class university. Those means require a commitment to ongoing financial sustainability and an ambitious infrastructure program which will reshape the campus and our contribution to the communities we engage with. This strategy, and the priorities proposed, is centred around five intersecting themes; place, community, education, discovery and global.

#### 5.5 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at <https://about.unimelb.edu.au/strategy/governance>