



## POSITION DESCRIPTION

School of Geography  
Faculty of Science

# Research Fellow - Coastal Shoreline Modelling

<b>POSITION NO</b>	0044979
<b>CLASSIFICATION</b>	Level A
<b>SALARY</b>	\$69,148 - \$93,830 p.a (Level A PhD entry level \$87,415 p.a)
<b>SUPERANNUATION</b>	Employer contribution of 17%
<b>WORKING HOURS</b>	Full Time
<b>BASIS OF EMPLOYMENT</b>	Fixed Term position available for 2.5 years from 1 June 2018
<b>OTHER BENEFITS</b>	<a href="http://about.unimelb.edu.au/careers/working/benefits">http://about.unimelb.edu.au/careers/working/benefits</a>
<b>HOW TO APPLY</b>	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 Staff' or 'Prospective Staff'), then find the position by title or number.
<b>CONTACT FOR ENQUIRIES ONLY</b>	A/Prof David Kennedy Tel +61 3 8344 9168 Email <a href="mailto:davidmk@unimelb.edu.au">davidmk@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)

## ***Position Summary***

The Research Fellow will conduct research on the embayment/coastal compartment-scale shoreline dynamics using numerical modelling for the prediction of sediment transport pathways. Numerical modelling is a key tool for understanding shoreline change and predicting shoreline position in the future. The difficulty is models are often theoretical and difficult to down-scale to a particular embayment and/or sediment compartment.

The Research Fellow will bring the latest shoreline modelling techniques to Victoria to produce evidence-based predictions of shoreline dynamics in Victoria, Australia. The Research Fellow will work closely with colleagues from joint academic (The University of Melbourne, Deakin University) and government (Department of Environment, Land, Water & Planning) Victorian Coastal Monitoring Program. They will also build on existing collaborations between the program and the National Centre for Coasts and Climate through the School of Geography, CSIRO, IMOS and DHI. The incumbent is also expected to provide technical and professional advice and supervision of postgraduate students.

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

- ▶ Conduct numerical modelling of sandy shorelines to establish future coastal sediment dynamics in Victoria
- ▶ Work closely with researchers within the Victorian Coastal Monitoring Program to integrate those datasets on terrestrial and marine sediment dynamics in order to predict shoreline response to climate change.
- ▶ Contribute to the preparation of research proposal submissions to external funding bodies.
- ▶ Preparation of manuscripts for publication in ISI-Listed journals.
- ▶ Undertake administrative functions and obligations primarily connected with the incumbent's area of research
- ▶ Engage with relevant professional and industry bodies and stakeholders to foster collaborative partnerships
- ▶ Assist in the co-supervision and training of research students.
- ▶ Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 5.

### ***2. Selection Criteria***

#### **2.1 ESSENTIAL**

- ▶ PhD in physical geography and numerical modelling or related discipline.
- ▶ Demonstrated knowledge of coastal geomorphology and numerical modelling.
- ▶ An excellent record of research productivity and publication.
- ▶ Demonstrated ability to work independently and as part of a team in a professional and collegial manner.
- ▶ Excellent oral and written communication skills to engage with industry, government, research groups, diverse student cohort and a variety of other stakeholders.
- ▶ A willingness and ability to supervise graduate research students.

- ▶ High level knowledge and demonstrated experience of field work including analysing data collected from aerial and land-based surveying as well as skills in Geographical Information Systems.

## 2.2 DESIRABLE

- ▶ Experience of the microtidal Australian coast or similar wave-dominated coastal systems.
- ▶ Experience in obtaining competitive research funding, either individually or as part of a team.

### ***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 University's People Strategy 2015-2020 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.

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 Growing Esteem.

### ***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:

<http://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 GEOGRAPHY

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

In 2015 the School of Geography was formed within the Faculty of Science. The research and teaching strengths of Geography are in international development, urbanisation, earth surface processes, and biogeography. Environmental change is an overarching theme of interest, and is analysed with reference to both social and natural sciences. Geography teaching is currently in the following programs: undergraduate majors in Geography are offered in the BSc and the BA; Masters teaching is in the MGeog and in the University-wide Master of Environment; research teaching is in the MPhil and PhD.

The School is now embarking on an exciting period of growth. It aims to be Australia's pre-eminent Geography program, and a world-leading centre for geographical research. Information on the School of Geography can be found on the website.

### 5.2 FACULTY OF SCIENCE

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

Science at the University of Melbourne is the most highly ranked Faculty of Science in Australia.\* Science is defined by its research excellence in the physical and life sciences and is at the forefront of research addressing major societal issues from climate change to disease. Our discoveries help build an understanding of the world around us.

We have over 150 years of experience in pioneering scientific thinking and analysis, leading to outstanding teaching and learning and offer a curriculum based on highly relevant research, which empowers our STEM students and graduates to understand and address complexities that impact real world issues and the challenges of tomorrow.

We aspire to engage the broader community with the impact that Science has on our everyday lives. Through the strength of our internships and research project offerings, our students are provided opportunities to engage with industry partners to solve real-world issues.

The Faculty of Science has over 40,000 alumni and is one of the largest faculties in the University comprising seven schools: BioSciences, Chemistry, Earth Sciences, Ecosystem and Forest Sciences, Geography, Mathematics and Statistics, and Physics.

The Faculty is custodian of the Bio21 Molecular Science and Biotechnology Institute, Office for Environmental Programs and home to numerous Centres.

Science manages more than \$280 million of income per annum, with a staff base in the order of 220 professional staff, and more than 540 academic staff.

We offer a range of undergraduate, honours, graduate and research degrees; enrolling over 7,500 undergraduate and graduate students. The Faculty of Science is the custodial Faculty for the BSc (Bachelor of Science) with enrolments of approximately 6,200 students.

The Faculty of Science is a leader in research, contributing approximately \$50 million in HERDC income per annum. The Faculty of Science is highly research focused, performing strongly in the ARC competitive grants schemes, often out-performing the national average. The Faculty of Science is currently growing its competitiveness and standing in the NHMRC space.

The Faculty of Science provides community services and industry partnerships based on a solid foundation of research in the pure and applied sciences. The Faculty has an endowment of approximately \$50 million. The annual income from the endowment supports more than 120 prizes, scholarships and research awards

<http://www.science.unimelb.edu.au/departments>

\*Figures from the latest available data for 2015, including published international rankings data.

### 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 GROWING ESTEEM, THE MELBOURNE CURRICULUM AND RESEARCH AT MELBOURNE: ENSURING EXCELLENCE AND IMPACT TO 2025

Growing Esteem describes Melbourne's strategy to achieve its aspiration to be a public-spirited and internationally-engaged institution, highly regarded for making distinctive contributions to society in research and research training, learning and teaching, and engagement. <http://about.unimelb.edu.au/strategy-and-leadership>

The University is at the forefront of Australia's changing higher education system and offers a distinctive model of education known collectively as the Melbourne Curriculum. The new educational model, designed for an outstanding experience for all students, is based on six broad undergraduate programs followed by a graduate professional degree, research higher degree or entry directly into employment. The emphasis on academic breadth as well as disciplinary depth in the new degrees ensures that graduates will have the capacity to succeed in a world where knowledge boundaries are shifting and reforming to create new frontiers and challenges. In moving to the new model, the University is also aligning itself with the best of emerging European and Asian practice and well-established North American traditions.

The University's global aspirations seek to make significant contributions to major social, economic and environmental challenges. Accordingly, the University's research strategy *Research at Melbourne: Ensuring Excellence and Impact to 2025* aspires to a significant advancement in the excellence and impact of its research outputs.

<http://research.unimelb.edu.au/our-research/research-at-melbourne>

The strategy recognises that as a public-spirited, research-intensive institution of the future, the University must strive to make a tangible impact in Australia and the world, working across disciplinary and sectoral boundaries and building deeper and more substantive engagement with industry, collaborators and partners. While cultivating the fundamental enabling disciplines through investigator-driven research, the University has

adopted three grand challenges aspiring to solve some of the most difficult problems facing our world in the next century. These Grand Challenges include:

- ▶ Understanding our place and purpose – The place and purpose grand challenge centres on understanding all aspects of our national identity, with a focus on Australia's 'place' in the Asia-Pacific region and the world, and on our 'purpose' or mission to improve all dimensions of the human condition through our research.
- ▶ Fostering health and wellbeing – The health and wellbeing grand challenge focuses on building the scale and breadth of our capabilities in population and global health; on harnessing our contribution to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences; and on addressing the physical, mental and social aspects of wellbeing by looking beyond the traditional boundaries of biomedicine.
- ▶ Supporting sustainability and resilience – The sustainability and resilience grand challenge addresses the critical issues of climate change, water and food security, sustainable energy and designing resilient cities and regions. In addition to the technical aspects, this grand challenge considers the physical and social functioning of cities, connecting physical phenomena with lessons from our past, and the implications of the technical solutions for economies, living patterns and behaviours.

Essential to tackling these challenges, an outstanding faculty, high performing students, wide collaboration including internationally and deep partnerships with external parties form central components of Research at Melbourne: Ensuring Excellence and Impact to 2025.

## 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 <http://www.unimelb.edu.au/governance>