THE UNIVERSITY OF MELBOURNE

School of Geography, Earth and Atmospheric Sciences
Faculty of Science

Research Fellow in Physical Oceanography and Climate Variability

POSITION NO	0064114
CLASSIFICATION	Level A/B
SALARY	$83,468—$119,231p.a. (pro rata for part-time)
	(*PhD entry level is $105,518p.a.)
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-Time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed Term for 2.5 years
	FLEXIBLE EMPLOYMENT
	The University of Melbourne is strongly committed to supporting diversity and flexibility in the workplace. 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	http://about.unimelb.edu.au/careers/working/benefits
HOW TO APPLY	**Apply online**: Navigate to http://about.unimelb.edu.au/careers, select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Dr Navid Constantinou
	navid.constantinou@unimelb.edu.au
	*Please **do not** send your application to this contact.*

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.

Position Summary

We invite applications for a postdoctoral fellowship as part of a new Discovery Project funded by the Australian Research Council titled "An ensemble approach to studying the ocean's role in climate change". This project blends ocean flow physics, climate dynamics, climate modelling, and scientific computing.

The postdoctoral fellow will conduct research investigating the ocean's role in climate and disentangling the ocean's natural variability from the forced change on a variety of times scales. Ensembles of eddy resolving global ocean model output and utilise model software and hardware tools will be used to achieve this goal. We will be using a newly developed ocean model that harnesses the power of graphical processing units (GPUs) instead of the common central processing units (CPUs) allowing us to perform computation at about 1/50th the cost. Utilising this speed up, we aim to pioneer a modelling framework to perform ensembles of eddy-resolving global ocean simulations under various climate-change scenarios. This ensemble approach will enable us to separate the changes we see in future projections that are due to climate change from the changes that occur due to the natural variations of the climate system.

The project's team is based across the University of Melbourne (Navid Constantinou) and the Australian National University in Canberra (Nicola Maher and Andy Hogg). The successful candidate will be based in Melbourne but visit(s) to Canberra will be both encouraged and supported.

We encourage applicants from under-represented groups, including Aboriginal and Torres Strait Islander people. To allow us to consider performance relative to opportunity, we also invite applicants to optionally provide a brief statement (**up to 1 page**) that describes circumstances that may have affected their career development or progression, including career interruptions or delays, periods of part time work, or forms of bias they have experienced.

1. *Key Responsibilities*

As with all positions, career achievements will be interpreted relative to opportunity, including career disruptions due to caring responsibilities, time in industry, illness etc.

The position description should be read alongside Academic Career Benchmarks and Indicators. Level A academic is acquiring skills and building academic achievements (oriented towards the benchmarks). Level B academic has well developed academic skills and strong academic performance (approaching or progressing towards the benchmarks).

Applicants may apply for Level A, or Level B, or for Level A/B and leave it up to the selection committee to decide. Please note the level you are applying to in the **Cover letter**.

1.1 RESEARCH AND RESEARCH TRAINING

The appointee is expected to:

- Significantly contribute towards the research effort of the project and develop their research expertise with an increasing degree of autonomy.
- Significantly contribute towards model development via GitHub for the efforts of the project.
- Collaborate effectively (including via GitHub) with other researchers involved in the project that reside in the University of Melbourne, in Australia, and worldwide.
- Under the guidance and support of supervisor staff conduct internationally competitive research, resulting in publications in high impact journals.
- Actively participate in research seminars and conferences to disseminate research findings as opportunities arise.
- Contribute to the preparation, or where appropriate individual preparation of research proposal submissions to internal or external funding bodies as relevant.
- Undertake administrative functions and obligations primarily connected with the staff member's area of research.
- Contribute to and assist in the co-supervision and training of research students primarily at undergraduate level.
- Engage with relevant professional and industry bodies and stakeholders to foster collaborative partnerships.

1.2 TEACHING AND LEARNING

The appointee will be expected to:

- Contribute to teaching, training, scientific mentoring and supervision of students.
- Contribute to the effective supervision of junior research staff in the appointee's area of expertise.

1.3 LEADERSHIP AND SERVICE

The appointee will be expected to:

- Actively participate at School meetings and with guidance, contribute to planning activities or committee work to support capacity building in the School/discipline.
- Contribute to, or present research to the public to elevate public awareness of educational and scientific developments and promote critical enquiry and public debate within the community where appropriate.
- Effective demonstration and promotion of University values including diversity and inclusion and high standards of ethics and integrity.

1.4 OTHER DUTIES

The appointee will be expected to:

- Perform other tasks as requested by the supervisor or the Head of School
- Actively participate in the University Professional Development Framework
- Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 4.

2. Selection Criteria

Applicants *must* submit a response to the selection criteria. (**maximum 4 pages using font size and line spacing like this document**)

We do not require applicants to excel in all selection criteria to be considered for the job. But please *do* respond to each of them. If a particular criterion does not fall under your current experience, then consider elaborating whether that would be of interest to you.

2.1   ESSENTIAL

- Completion (or near completion) of a PhD in Physical Oceanography, or Dynamical Meteorology, or Climate Science, or Physics, or Geophysical Fluid Dynamics, or a related discipline. If your discipline is not directly related with the project, then explain why you think you'd be a good fit.
- Demonstrated knowledge of oceanography, climate science, or fluids and turbulence with emphasis on the computational aspect.
- Demonstrated experience with high-performance computing, including working on large codes in a version-controlled environment.
- Strong computational skills in a programming environment such as Julia or Python.
- Demonstrated capacity to publish in high-quality peer reviewed journals.
- Demonstrated capacity to effectively communicate and present science findings.
- Demonstrated ability to work co-operatively and positively in a research-based team environment and liaise with people from diverse backgrounds.

2.2   DESIRABLE

- Experience in developing or modifying components of a climate model.
- Experience in analysis of climate model output and other large datasets.
- Experienced GitHub user (please include your GitHub handle in your response)
- Experience in assisting with supervision of students undertaking undergraduate or higher degree research projects.
- Ability to attract external funding through grant applications and/or support in funded joint projects with others internal or external to the university.
- Experience in engaging communicating science to general audience.
- Experience in engaging with government or industry stakeholders.

2.3   OTHER JOB-RELATED INFORMATION

- Occasional work out of ordinary hours, e.g., domestic and/or international travel for conference/workshops, etc.

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:

http://safety.unimelb.edu.au/topics/responsibilities/

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, EARTH AND ATMOSPHERIC SCIENCES

http://sgeas.unimelb.edu.au

The School of Geography, Earth and Atmospheric Sciences synergizes discipline strengths in geography, atmospheric science and geoscience. The School offers undergraduate and graduate research programs in these core discipline areas, and in the multi-disciplinary fields of Climate Change, Environmental Science and Archaeological Science. The research within the School is built upon extensive expertise in geography, geoscience and atmospheric science, ranging from the social sciences through to the quantitative physical sciences. In addition to internationally recognised discipline expertise, we have strengths in a number of multi-disciplinary areas including: climate change; resource futures; space, place and social change; environmental hazards; Indigenous knowledge; and Earth system interactions. With strengths in both the spatial (local to global) and temporal (deep time as well as recent) dimensions of environmental change, the School is committed to achieving a better future for our students, society and the environment. We are committed to advancing reconciliation with Indigenous Australians through involvement with the Indigenous Knowledges Institute which is hosted within the Faculty of Science, research and teaching partnerships with Indigenous communities, and archaeological science. The School contributes strongly to the key areas of Place, Community, Education, Discovery, and Global in the University's Advancing Melbourne Strategy.

5.2 FACULTY OF SCIENCE

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

Science at Melbourne is a global leader across fundamental and impactful scientific research and education. Science begins with curiosity, and we are dedicated to understanding the universe from the level of sub-atomic particles to the solar system. We aim to be leaders who positively impact the community locally and globally, addressing major societal issues from climate change to disease. Our discoveries help build an understanding of the world around us.

Our strength is our breadth of expertise. We are the second largest faculty in the University comprising seven schools: Agriculture, Food & Ecosystem Sciences, BioSciences, Chemistry, Geography, Earth & Atmospheric Sciences, Mathematics & Statistics, Physics and Veterinary Science.

This depth of knowledge positions the faculty to better understand, explore and impact our world and humanity, within a truly comprehensive Faculty of Science.

We have more than 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. We aim to train students with the knowledge and intellectual flexibility to drive the industries of tomorrow and lead across all levels of society.

We offer a range of undergraduate, honours, graduate and research degrees, enrolling more than 11,500 undergraduate and 3,750 graduate students.

We are dedicated to delivering leading transformative educational outcomes, underpinned by research, and an inclusive and inspiring student experience.

Excellence comes in many forms and diversity of thought, perspective and disciplines is essential to deliver globally leading science. At the core of our success is our focus on an inclusive environment for all in our community. Our Faculty's focus on equity, inclusion and belonging is grounded in our endeavour to ensure we are best placed to advance research, teaching and serve diverse national and global communities.

As a Science community we sit across five of the University's campuses – Parkville, Dookie, Burnley, Creswick and Werribee. This reach provides us with a unique perspective that is beneficial to our teaching and research. It also means we can offer our students a greater variety of learning experiences and internships to engage with industry partners to solve real-world issues.

The Faculty is custodian of the Bio21 Molecular Science and Biotechnology Institute, Melbourne Energy Institute, Melbourne Biodiversity Institute, Office for Environmental Programs, Australian Mathematical Sciences Institute (AMSI) and the Indigenous Knowledge Institute and home to numerous Centres.

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 http://www.unimelb.edu.au/governance