RESEARCH FELLOW

DEPARTMENT/UNIT	School of Earth, Atmosphere and Environment
FACULTY/DIVISION	Faculty of Science
CLASSIFICATION	Level A
DESIGNATED CAMPUS OR LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu.

The Faculty of Science contributes to the University's goals via research, teaching and partnerships with industry, government and individual supporters. Our five Schools cover a large and diverse range of disciplines in undergraduate and postgraduate courses. Ten Schools from other university faculties contribute to science teaching at all levels, allowing students to choose their studies from physical, biological, biomedical, behavioural, environmental, mathematical and computer sciences. The research in the Faculty of Science is carried out by world-class researchers. Their work spans the theoretical to the applied, contributes to new knowledge and technologies, and challenges how we interact with the world. To learn more about the Faculty of Science, please visit our website: www.monash.edu/science/.

The **School of Earth, Atmosphere & Environment** is a highly multidisciplinary, world-class centre for research in the diverse areas of Atmosphere, Climate, Geography, Environment and Solid Earth. The School is ranked equal 40th in the world for Geography (GS Subject rankings 2021), and 84th in the world for Physical Sciences (QS Subject rankings 2021). The School is actively involved in several research Centres, such as the Australian Research Council's Centre of Excellence for Climate System Science, the Australian Research Council's Centre of Excellence for Climate Extremes, and the Corporative Research Centre for Water Sensitive Cities. The School has strong links with outside institutions such as the Australian Antarctic Division, CSIRO, the Bureau of Meteorology, the Australian Synchrotron, and Geoscience Australia as well as a large number of research institutes and universities globally. Read more at www.monash.edu/science/schools/earth-atmosphere-environment.

The Australian Research Council (ARC) and Special Research Initiative (SRI) Securing Antarctica's Environmental Future (SAEF) is a leading international research program which will deliver interdisciplinary research to forecast environmental change across the Antarctic region, to deploy effective environmental stewardship strategies in the face of this change, and to secure Antarctica as a natural reserve devoted to peace and science. SAEF uses the benchmark social-ecological systems approach as the basis for reciprocal integration of theory, observations, modelling and data, with the information requirements of structured decision-making, to enable the delivery of informed, future-ready environmental policy. SAEF is led from Monash University's Clayton campus and brings together 30 organisations, both national and international, to deliver its program. The team includes 57 researchers and practitioners from across the disciplinary spectrum, including geology, atmospheric science, marine and terrestrial ecology, mathematical modelling, optimisation, conservation biology, conservation practise, evidence-based policy and law.

SAEF's university partners include Monash University, University of Wollongong, Queensland University of Technology, University of New South Wales, James Cook University and the University of Adelaide.

SAEF's domestic partner organisations include Geoscience Australia, the Australian Nuclear Science and Technology Organization, the Bureau of Meteorology, South Australian Museum, Western Australian Museum and in a program collaboration role the Australian Antarctic Division.

Internationally, partner organisations include the University of Massachusetts Amherst, the University of Colorado Boulder, Berkeley Geochronology Centre, Tulane University, University of Waikato, University of Otago, Auckland University of Technology, Victoria University of Wellington, King Juan Carlos University, University of the Balearic Islands, University of Exeter, University of Pretoria, Universidad de Santiago de Chile, the Norwegian Polar Institute, Chilean Antarctic Institute, British Antarctic Survey, New Zealand Department of Conservation and the International Association of Antarctica Tour Operators.

With over $46M investment from the ARC and contributing organisations, SAEF is in an extraordinary position to change the future of Antarctic and Southern Ocean Environments through the application of leading informatics, robotics, environmental technologies and decision-support approaches. Strong partnerships with those involved in decision-making and operations in Antarctica will ensure new environmental policies for new environmental challenges and a workforce ready to take forward the legacy.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

The Research Fellow will be a key member of SAEF's *Theme 1: Climate Processes and Change*, designed to answer fundamental scientific questions about the interactions between ice sheets, climate and sea level. The primary purpose of this position is to investigate the impact of climate variability and change on regions of the East Antarctic Ice Sheet, over multiple timescales. This research will lead to improved understanding of ice sheet dynamic processes, and insight into how and when East Antarctica might respond to climate change. The key components of the work will include a) using observational and climate model data, and statistical approaches, to develop past reconstructions and future projections of climate forcing timeseries across East Antarctica; and b) applying climate forcings in numerical ice sheet models to investigate past and future change.

Reporting Line: The position reports to the Head of School

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research
2. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise
3. Limited administrative functions primarily connected with the area of research of the academic
4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff
5. Occasional contributions to teaching in relation to their research project(s)
6. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures
7. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees
8. Advice within the field of the staff member's research to postgraduate students
9. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
    - Doctoral qualifications in a relevant discipline (ice sheet modelling or climate modelling, glaciology, or climate science)

Knowledge and Skills

2. A strong track record in carrying out independent research leading to peer-reviewed research publications and emerging evidence of contributions to competitive research grants
3. Demonstrated experience in the modelling of ice sheets and their dynamics and/or demonstrated ability to process and analyse climate model or large climate datasets
4. Sound knowledge of and experience in at least one scientific computing language; demonstrated computer literacy and proficiency; and/or specific experience in working with a range of analytical software
5. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines
6. Excellent written communication and verbal communication skills with proven ability to produce clear, timely and succinct written work
7. A demonstrated awareness of the principles of confidentiality, privacy, and data and information handling
8. A demonstrated capacity to work in a respectful, collegiate and egalitarian manner with all other staff and students in the workplace

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- Travel to Antarctica and the sub-Antarctic for periods of up to three months at a time may be possible
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.