Research Fellow

Spatial Analyst/Modeller

School of Life and Environmental Sciences

DEAKIN UNIVERSITY

About Deakin

Top 1% of the world's universities

No. 1 In Victoria for student satisfaction 2010-2017

No. 211 ARWU global ranking of world universities' research capabilities

Deakin's growing reputation is reflected in its rapid rise in international rankings; Deakin entered the prestigious Academic Ranking of World Universities for the first time in 2014 and now ranks an estimated 211 (AWRU 2018). Deakin is ranked 29 in the QS ranking of the world's top universities under 50 years.

Established in 1974, Deakin University was named after the leader of the Australian Federation movement and the nation's second Prime Minister, Alfred Deakin.

Deakin University has five campuses, one in Melbourne's eastern suburbs, two in the port city of Geelong and one in Warrnambool on the south-west coast of Victoria. Deakin's fastest growing campus is in the Cloud where over 15 000 students study predominantly online. All students, regardless of their campus or mode of study, benefit from Deakin's award-winning digital environment.

Deakin is proud of its inclusive and student-focused culture and its reputation for using innovative digital solutions to provide an engaging and personalised learning experience. Deakin is committed to lifelong learning, providing students with choices about how, when and where learning occurs.

Deakin prides itself on developing career-ready graduates, innovative, resilient, and well prepared for rapidly changing workforce needs. Deakin has a strong focus on teaching, with student satisfaction and the employability of its students, key indicators of success. Deakin ranks first in Victoria for student satisfaction (SES) and graduate employability (GOS).

Deakin's four faculties offer courses across the arts, design, science, sport, nutrition, Architecture, business, law, medicine, optometry, engineering, nursing, allied health, psychology and teaching.

With almost 62 000 students Deakin is one of Australia's largest universities and is ranked in the top 1% of the world's universities (ARWU 2018).

As an Australian university with a global impact, Deakin is translating its research into the commercial outcomes that will drive the innovation Australia's economy needs now and into the future. Research at Deakin focusses on innovation and robust partnerships with industry and business, and it is building a formidable international reputation in areas of emerging national social, economic and political priority in its core areas of health, sport, carbon fibre, energy and cyber security. Deakin's manufacturing innovation precinct provides an important link between technological innovation and successful industry outcomes, strengthening and streamlining pathways for commercial research.

Our strategy

Deakin's vision and mission is articulated in its strategic plan *LIVE the future: Agenda 2020*. Through *LIVE the future*, Deakin aspires to be Australia's premier university in driving the digital frontier, enabling globally connected education for the jobs of the future, and research that makes a difference to the communities Deakin serves.

Informed by its Australian and Victorian context and engaged locally in the communities it serves, Deakin advances:

* Learning – offering students a brilliant education where they are and where they want to go
* Ideas – making a difference through world-class innovation and research
* Value – strengthening our communities, enabling our partners and enhancing our enterprise
* Experience – delighting our students, our alumni, our staff and our friends.

These four interconnecting elements form the acronym *LIVE*, and together they articulate the Deakin promise to its students, staff, alumni, partners and friends

FACULTY OF SCIENCE, ENGINEERING AND BUILT ENVIRONMENT

The Faculty of Science, Engineering and Built Environment at Deakin University places great emphasis on excellence in its teaching and learning, research and research training, community engagement, and staff empowerment. We pride ourselves on our national and international activities and the partnerships we have formed with industry, community, government, and the professions.

The Faculty of Science, Engineering and Built Environment consists of four schools, each with a multi-discipline mix of teaching and research offerings and a strong emphasis on research excellence that informs our teaching programs.

School of Architecture and Built Environment
- Architecture
- Construction management
- Landscape architecture

School of Engineering
- Civil
- Electrical and electronics
- Electrical and renewable energy
- Engineering Management
- Environmental Engineering
- Mechanical
- Mechatronics
- Mechanical Design

School of Information Technology
- Computer science
- Creative technologies
- Cyber security
- Data science
- Software engineering
- Virtual reality
- Mathematics

School of Life and Environmental Sciences
- Biological science
- Biomedical science
- Biotechnology
- Fisheries and aquaculture
- Forensic science
- Environmental management and sustainability
- Marine biology
- Science
- Sustainable regional development
- Wildlife and conservation biology
- Zoology and animal science

The Faculty Executive includes the Executive Dean, the four Heads of School, the Deputy Dean and Associate Deans (Teaching and Learning; International and Partnerships; Research), the Director of Research Partnerships, and the Faculty General Manager. Collectively, this leadership team establishes and delivers on the Faculty's strategic activities.

Deakin's Promise to Equity, Diversity and Inclusion

At Deakin we value diversity, embrace difference and nurture a connected, safe and respectful community. We recognise that our academic workforce is increasingly diverse with a variety of backgrounds, experiences and responsibilities. In many cases, academic careers can be put on hold through career breaks or part-time work arrangements to take on caring duties, gain experience in other industries, for medical reasons or other personal circumstances.

Achievement relative to opportunity places more emphasis on the quality as opposed to the quantity of research outputs. In your application, we encourage you to comment on your achievements relative to opportunity.

SCHOOL OF LIFE AND ENVIRONMENTAL SCIENCES

The School of Life and Environmental Sciences specialises in a wide range of disciplines and provides its graduates with a sound platform for the diverse employment opportunities that will exist in the future.

The school's multidisciplinary nature is underpinned by a cluster of foundation disciplines comprising biology, chemistry, ecology, biomedical and earth science. This diversity of expertise allows us to offer a wide range of academic programs at both undergraduate and postgraduate level. Our courses are informed through active and ongoing research and industry connections and provide our students with work-integrated and industry based learning experiences. Through these means, the school produces globally capable graduates with knowledge, skills and experience to gain employment related to their discipline.

Our internationally and nationally renowned academics and research staff are supported by constantly evolving technologies and state-of-the-art infrastructure. Often in collaboration with government departments, industry and leading international scientists, we deliver high quality research outcomes, from 'blue sky' discoveries to applied research and development tailored to industry, attracting over $4 million in funding each year. The School fosters a synergistic, collaborative and vibrant research culture, an outstanding research environment for early career researchers as well as world-class research facilities. The diversity and breadth of our academic expertise means that our research program can prioritise issues which are important for the future social, economic and environmental development and well-being of Australia and the world.

The School of Life and Environmental Sciences is the largest of four schools in the Faculty of Science, Engineering and Built Environment which, in turn, is the fastest growing faculty at Deakin University. The school has close associations with a number of Deakin's strategic research centres – the Centre for Integrative Ecology (CIE), Centre for Regional and Rural Futures (CeRRF), Centre for Cellular and Molecular Biology, and Centre for Molecular and Medical Research (MMR).

Our mission is to produce well-informed and highly skilled graduates for the jobs of the future, and to conduct research that makes a positive difference to the communities we serve. By connecting people through education and research, we help to create a sustainable future.

Research Fellow, Spatial Analyst/Modeller

The Research Fellow will be responsible for undertaking research and publishing innovative science in the area of spatial modelling and analysis of sustainable future food and land systems for Australia. In particular, the Research Fellow will be part of the land-use futures modelling team, leading the acquisition and modelling of spatio-temporal processes related to land-use and its economic and environmental impacts. This will involve leading the modelling of various aspects of food and land systems sustainability and integrating this within the LUTO model of Australian land-use. This may include modelling aspects of land degradation, biodiversity, agricultural production, water resources, farm economics, and carbon sequestration. Specifically, the Research Fellow will be expected to model the potential economic and environmental impacts of potential sustainability interventions such as regenerative agriculture and bioenergy with carbon capture and storage. Day to day tasks will include GIS analysis and spatial data science, data manipulation, computer programming, data mining and visualisation, model development, and the application of land-use modelling to exploring sustainable futures for Australia's land and food system. The Research Fellow will also undertake research and publish in the area of sustainable futures, scenario analysis, ecosystem services, and sustainability transitions for Australian food and land systems. The position is primarily research with a focus on delivering research products to an existing external client. The appointee will promote the School and maintain links and partnerships with relevant academic, industry and professional communities.

RESEARCH LEVEL B

Level B research fellows typically perform these duties at the following levels:

RESEARCH AND SCHOLARSHIP

- An emerging reputation at the national level in research and scholarship, through publication in high quality and high impact outlets.
- Making a contribution within their specific areas of research, scholarship, professional practice or industry engagement.
- Making a significant contribution to research projects, including internal and external collaboration to create new insights and opportunities.
- Making a significant contribution to research collaborations and partnerships which have demonstrated outcomes.
- Making a significant contribution to the supervision, management and timely completion of HDR, Masters and Honours students.
- Making a significant contribution to a culture of research excellence in the University.

SERVICE

- Participating in the development and maintenance of links and partnerships with industry and relevant professional bodies and the community where applicable.
- Performing administrative tasks commensurate with position responsibilities and contributing to processes that enable the effective operation of the School.
- Participating in the University's Performance Planning and Review program.

OCCUPATIONAL HEALTH AND SAFETY

- Following safe work procedures and instructions.
- Taking reasonable care for the safety of self and others.
- Seeking guidance for all new or modified work procedures.
- Ensuring that any hazardous conditions, near misses and injuries are reported immediately to a supervisor.
- Participating in meetings, training and other health and safety activities.
- Using equipment in compliance with relevant guidelines, without willful interference or misuse.
- Cooperating with the University in relation to actions taken by the University in order to comply with the Occupational Health and Safety and Environmental legislation.

Performance expectations

Annual performance objectives and expected outcomes will be defined for this role in accordance with the Minimum Standards and Typical Duties for Academic Levels (MSTDALs) and Faculty Research Expectation Models (FREMs). Specific duties will be allocated with reference to the applicable Workload Allocation Model (WAM). These documents are updated from time to time and are available on request.

SELECTION CRITERIA

QUALIFICATIONS

- PhD (or equivalent) in a relevant field (e.g. spatial data science, geography, remote sensing, natural resource economics, environmental science, data science)

RESEARCH

- Demonstrated experience in spatial analysis and modelling using Geographic Information Systems
- Demonstrated high-level ability to handle, summarise, analyse and visualise spatial and temporal data via computer programming in Python, R, or Matlab
- Experience in working as a productive member of a research team
- Successful track record of scientific publication in spatial data science, environmental management, sustainable futures, land science, climate change, natural resource economics, social-ecological systems modelling, or other area of sustainability.
- An ability to engage with industry to achieve research outcomes that are beneficial to environmental sustainability.

OTHER

- Demonstrated ability to contribute to the development and maintenance of relationships and partnerships with industry clients.
- Demonstrated commitment to Equal Opportunity principles and practices, and Occupational Health and Safety.

PERSONAL QUALITIES

- Interpersonal skills that support the ability to establish and maintain highly effective working relationships with a diverse range of people including colleagues, students, the staff of the Faculty and School, and with other members of the University.
- Ability to adapt to changes in the environment and effectively meet new challenges.

ORGANISATIONAL RELATIONSHIPS

- The Research Fellow will be actively involved in research and professional activity. The appointee will interact with other staff within the School and the Faculty, their peers in other Universities, both nationally and internationally, and with community, professional and industry organisations where appropriate. The appointee will liaise with students at all levels.

ORGANISATIONAL CONTEXT

The Research Fellow will report to Alfred Deakin Professor Brett Bryan and will be based at the Melbourne Burwood Campus.

Appointment process and how to apply

How to apply

Please apply online via:

deakin.edu.au/about-deakin/work-atdeakin

Include cover letter, curriculum vitae and a response to the Selection Criteria.

Location

This position is located at the Melbourne Burwood campus but may include working at other Deakin University locations and campuses. The position will involve limited domestic and international travel.

Interview process

An initial screening of prospective candidates will take place.

Short-listed candidates will be interviewed by a panel of esteemed colleagues.

Details of professional referees will be required prior to interview.

Remuneration and benefits

An attractive remuneration package is offered. Salary will be commensurate with qualifications and experience.

Relocation support may also be available.

Term of appointment

The Research Fellow in Modelling Land-use Futures is a 3-year fixed term position.

Special Requirement/s

This role has been identified as having contact with children and requires the incumbent to apply for and maintain a Working with Children Check (refer to Deakin's Recruitment Procedure for further details).

Our locations

Deakin has five campuses, one in **Burwood**, two in Geelong (**Waterfront** and **Waurn Ponds**), one in **Warrnambool** and the vibrant Cloud Campus where over 25% of our students study. All students, regardless of their campus or mode of study, benefit from Deakin's award-winning digital environment.

Melbourne has been named one of the world's most liveable cities for more than 5 years running*.

Further information regarding our locations and relocating to Victoria can be found here:

Our locations

Considering Relocation

Melbourne timelapse

Geelong/SurfCoast timelapse

The Economist's annual study

MELBOURNE BURWOOD CAMPUS

Melbourne Burwood Campus is Deakin's thriving metropolitan campus, attracting over 32,000 undergraduate and postgraduate on-campus students. It boasts open and inviting spaces for socialising and studying, innovative architecture, spacious new buildings and wireless hotspots.

GEELONG WATERFRONT CAMPUS

Geelong Waterfront Campus is located on beautiful Corio Bay, in the central business district of Geelong. Originally built as Woolstores in 1893, the buildings have been extensively renovated to create a modern and impressive campus centre for over 5,000 students.

GEELONG WAURN PONDS CAMPUS

Geelong Waurn Ponds Campus is located on the western edge of Geelong and is a thriving regional campus attracting over 8,000 undergraduate and postgraduate on-campus students. It boasts open and inviting spaces for socialising and studying, innovative architecture, spacious new buildings and wireless hotspots. The campus features expansive landscaped grounds and extensive sporting facilities.

WARRNAMBOOL CAMPUS

Warrnambool Campus is set on the banks of the picturesque Hopkins River, close to local surf beaches and popular tourist attractions. The Warrnambool Campus is a friendly, close-knit community, with a personal and informal relationship.