POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow in Quantitative Ecology
Organisation Unit: School of Biological Science
Position Number: 3028808
Type of Employment: Full time, fixed term
Classification: Research Academic Level A

THE UNIVERSITY OF QUEENSLAND

The University of Queensland (UQ) contributes positively to society by engaging in the creation, preservation, transfer and application of knowledge. UQ helps shape the future by bringing together and developing leaders in their fields to inspire the next generation and to advance ideas that benefit the world. UQ strives for the personal and professional success of its students, staff and alumni. For more than a century, we have educated and worked with outstanding people to deliver knowledge leadership for a better world.

UQ ranks in the world’s top universities, as measured by several key independent ranking, including the CWTS Leiden Ranking (32), the Performance Ranking of Scientific Papers for World Universities (40), the US News Best Global Universities Rankings (42), QS World University Rankings (47), Academic Ranking of World Universities (54), and the Times Higher Education World University Rankings (66). Excluding the award component, UQ is now ranked 45th in the world in the ARWU, and is one of the only two Australian universities to be included in the global top 50.

UQ has an outstanding reputation for the quality of its teachers, its educational programs and employment outcomes for its students. Our students remain at the heart of what we do. The UQ experience – the UQ Advantage – is distinguished by a research enriched curriculum, international collaborations, industry engagement and opportunities that nurture and develop future leaders. UQ has a strong focus on teaching excellence, winning more national teaching excellence awards than any other in the country and attracting the majority of Queensland’s highest academic achievers, as well as top interstate and overseas students.

UQ is one of Australia’s Group of Eight, a charter member of edX and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

Our 53,000-plus strong student community includes more than 16,400 postgraduate scholars and more than 17,000 international students from 135 countries, adding to its proud 260,000-plus alumni. The University has more than 6,600 academic and professional staff (full-time equivalent) and a $2.15 billion annual operating budget. Its major campuses are at St Lucia, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city. The University has six Faculties and four University-level Institutes. The Institutes, funded by government and industry grants, philanthropy and commercialisation activities, have built scale and focus in research areas in neuroscience, biomolecular and
biomedical sciences, sustainable minerals, bioengineering and nanotechnology, as well as social science research.

UQ has an outstanding track-record in commercialisation of our innovation with major technologies employed across the globe and integral to gross product sales of $11billion+.

UQ has a rapidly growing record of attracting philanthropic support for its activities and this will be a strategic focus going forward.

School of Biological Sciences

The School of Biological Sciences is part of the UQ Faculty of Science and delivers world-class research and teaching within a broad range of fundamental biological disciplines and is a vibrant and supportive community of life scientists.

Diverse investigations spanning microbe, animal and plant taxa are underpinned by a strong quantitative focus. Interdisciplinary research addresses key societal issues of conservation and biodiversity, food security, climate adaptation and vector biology, and areas of expertise include ecology and evolution, molecular and quantitative genetics, palaeobiology, developmental biology, behaviour, plant and animal physiology, and conservation biology.

Many of the School’s research and study opportunities feature terrestrial and marine fieldwork in some of the world’s most unique biodiversity hotspots, and its researchers and students have access to world-class laboratories and facilities, including UQ’s island research stations on Heron Island on the Great Barrier Reef and North Stradbroke Island in Moreton Bay.

For more information, visit the School of Biological Sciences’ website: biological-sciences.uq.edu.au.

Diversity and Inclusion

The School recognizes and values equity and diversity, and encourages applications from any individual who meets the requirements of this position irrespective of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes. The School strives to provide an inclusive working environment, and along with the University is committed to supporting staff with family and caring responsibilities by providing policies, programs and initiatives to help balance work and family responsibilities.

The School is home to one of the primary nodes of the Australian Research Council Centre of Excellence for Coral Reef Studies. The ARC Centre of Excellence is a global leader in coral reef research, headquartered at James Cook University in partnership with the Australian National University, The University of Queensland, and the University of Western Australia and with leading research centres around the world. The ARC Centre currently encompasses >250 researchers and graduate students, with ongoing research projects in 30 countries. The vision of the Centre is to provide the scientific knowledge necessary for understanding the world’s coral reefs and their interaction with people in order to foster their sustainable use, secure the benefits they provide to tropical societies and economies, and enhance the effectiveness of coral reef management world-wide. The Centre fosters a multi-disciplinary, multi-institutional approach to its research programs drawing on expertise from its collaborating universities and other national and international partners.
We are seeking to fill a new Research Fellowship in the Centre’s research Program 2: *Ecosystem dynamics: past, present and future*. This program brings together ecologists, evolutionary biologists, geneticists, oceanographers and palaeontologists to examine the dynamics of reefs across the full spectrum of scales from population dynamics to macro-evolution. We are interested in recruiting someone who can bring new perspectives and approaches to these disciplines.

**Information for Prospective Staff**

Information about life at UQ including staff benefits, relocation and UQ campuses is available online.

The University of Queensland [Enterprise Agreement](#) outlines the position classification standards for Levels A to E.

**DUTY STATEMENT**

**Primary Purpose of Position**

To engage as a Postdoctoral Research Fellow as part of the Marine Palaeoecology Lab in the School of Biological Sciences and the ARC Centre of Excellence, the position duties are primarily related to the implementation of novel quantitative approaches applicable to marine organisms that test fundamental hypotheses in climate science and redistribution ecology. We are seeking candidates with postdoctoral research interests and experience in historical and contemporary species range dynamics. Primary data will be gathered from public databases that include biodiversity data from a variety of sources (e.g. scientific survey, museum collections, citizen science) and climate data from diverse atmospheric agencies and collaborative frameworks. In addition, the ideal candidate would have a strong grounding in quantitative ecology.

**Duties**

Duties and responsibilities include, but are not limited to:

**Research**

- Develop an internationally recognised and innovative research program testing species range dynamics theory using innovative techniques and empirical data
- Publish research frequently in high quality, peer-reviewed journals
- Plan, prepare and submit research proposals to external funding agencies, including the Australian Research Council DECRA program
- Conduct research independently and as part of a team and make original contributions to the research aims of the ARC Centre of Excellence for Coral Reef Studies
- Where appropriate, supervise research program staff
- Contribute to the research culture and foster research excellence within the Centre
- Work with colleagues and postgraduates in the development of joint research projects.
- Coordinate with other team members
• Conduct quantitative research into understanding the range dynamics of marine organisms, including but not limited to scleractinian corals, using ecological, climate, and modelling tools.

• develop innovative techniques to test ecological hypotheses that underlie patterns of species redistribution under climate change

**Teaching & Research Supervision**

• Co-supervise Honours or postgraduate research projects within the field of research where appropriate.

• Contribute to the teaching program in the School of Biological Sciences within the field of the postdoctoral research fellows area of research when required.

**Administration, Service and Engagement**

• Assisting in communication of research results by liaising with press office, creating dissemination materials

• Perform administrative tasks applicable to the project.

• Perform limited administrative functions primarily connected with the area of research and the School of Biological Sciences, UQ.

• Liaise with project collaborators, including the Great Barrier Reef Marine Park Authority, and colleagues and postgraduates at UQ and the ARC Centre of Excellence for Coral Reef Studies.

• Attendance at meetings associated with research or the work of the organizational unit to which the research is connected.

**Other**

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including but not exclusive to:

• the [University’s Code of Conduct](#)

• requirements of the Queensland occupational health and safety (OH&S) legislation and related [OH&S responsibilities and procedures](#) developed by the University or Institute/School

• the adoption sustainable practices in all work activities and compliance with associated legislation and related University [sustainability responsibilities and procedures](#)

• requirements of the Education Services for Overseas Students Act 2000, the National Code 2007 and associated legislation, and related [responsibilities and procedures](#) developed by the University

**Organisational Relationships**

The position reports to Professor John Pandolfi (CI) at the ARC Centre of Excellence for Coral Reef Studies who is housed in the [Marine Palaeoecology Laboratory](#) at the School of Biological Sciences, UQ.
**SELECTION CRITERIA**

- PhD in the area of *quantitative ecology, redistribution ecology, or biogeography* with a background in geospatial analysis, remote sensing and species redistribution ecology
- Strong familiarity with a variety of biodiversity data and appropriate data manipulation approaches to ensure quality of source data. Expert knowledge of database management languages and tools such as SQL, Apache Hadoop/Hive
- Extensive experience with climate models, such as Coupled Model Intercomparison Project (CMIP) models, and a strong familiarity with GIS tools, such as ArcGIS, QGIS, and GIS modules in Python/R. Skills in compiling and summarising model ensembles, and utilising them in geospatial analyses
- Demonstrated expert knowledge in scripting languages including Python and R, and experience with multivariate statistical methods and hierarchical Bayesian approaches to model patterns of species redistribution. The successful candidate should demonstrate expertise in novel quantitative approaches to address the impacts of climate change on species range dynamics
- High-level communication and inter-personal skills, both oral and written (in English). Excellent publication record for the stage of career. Publications or submitted/planned manuscripts in quantitative ecology, evolutionary ecology, biogeography, or statistical ecology
- Evidence of contribution to research, including successful external grant applications
- Well-developed organisational skills, including the ability to manage priorities and multiple projects, exercise independent judgment, undertake leadership roles, and act independently on assigned tasks
- Demonstrated ability to work collaboratively with colleagues and to cooperate with and maintain effective relationships with staff and students at all levels, and work effectively as part of a team. Established national and international links with appropriate research organisations and personnel
- A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context

**Qualification Verification**

An appointment to this position is subject to the verification of the highest academic qualification from the conferring institution.

*The University of Queensland values diversity and inclusion and actively encourages applications from those who bring diversity to the University. Please refer to the University’s Diversity and Inclusion webpage for further information and points of contact if you require additional support.*

*This role is a full-time position; however flexible working arrangements may be negotiated.*

*Accessibility requirements and/or adjustments can be directed to recruitment@uq.edu.au.*