POSITION DESCRIPTION

Position Title: Post-doctoral GIS / Spatial Modeller
Organisation Unit: School of Biological Sciences, Marine Spatial Ecology Lab
Position Number: New
Type of Employment: Fixed Term, Full Time
Classification: Academic Level A (Research)

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 Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (52), QS World University Rankings (47), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (65). UQ again topped the nation in the prestigious Nature Index and our Life Sciences subject field ranking in the Academic Ranking of World Universities was the highest in Australia at 20.

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 50,000-plus strong student community includes more than 13,000 postgraduate scholars and more than 12,000 international students from 144 countries, adding to its proud 240,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.8 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 $11 billion+ (see http://uniquest.com.au/our-track-record).

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

The Faculty of Science is an internationally recognised provider of world-class education and research. A research-intensive Faculty, with a gross budget in excess of $300M, employs approximately 1,500 continuing and fixed-term staff and teach around 6,000 full-time equivalent coursework students (EFTSL).

The Faculty teaches agriculture, biology, chemistry, earth sciences, food science, geography, marine science, mathematics, physics, planning, both environmental sciences and management and veterinary science, to undergraduate and postgraduate coursework students enrolled in a range of degree programs including science, engineering and health and medicine. The Faculty provides the community with the next generation of professionals and graduates who are sufficiently scientifically literate and numerate to be effective in understanding, managing and addressing complex problems, including those in energy, food supply, health, environment and sustainability.

Research conducted in the Faculty of Science includes fundamental research across a wide range of scientific disciplines and a vibrant portfolio of applied research, well linked to industry and government, particularly in its areas of Agriculture and Food Sciences, Geography and Earth Sciences, Ecology and Environment, and Veterinary Sciences.

The Faculty comprises six Schools: Biological Sciences, Earth and Environmental Sciences, Agriculture and Food Science, Chemistry and Molecular Biosciences, Mathematics and Physics, and Veterinary Science.

The School of Biological Sciences is part of the Faculty of Science and is one of the largest and most successful of its type in Australia, with 48 full-time academic staff, and over 200 enrolled PhD students. The School has broad expertise across ecology and evolution, molecular and quantitative genetics, paleobiology, developmental biology, behaviour, plant and animal physiology, and conservation biology. Our research programs involve a diverse array of taxa, ranging across microbes, animals and plants, including a particular focus in the areas of marine biology and entomology. Unique opportunities for biological research are provided by our proximity to a stunning array of marine and terrestrial subtropical habitats and their endemic biodiversity. A number of research programs in the School take advantage of major model-organism systems, including Drosophila, C. elegans, and Arabidopsis, and many include a strong quantitative and modelling focus.

Further information and details of the research interests of academic staff may be accessed on the school’s web site at http://www.biology.uq.edu.au

This position is held within the Marine Spatial Ecology Lab (MSEL), which undertakes a diverse portfolio of research regarding coral reefs. Research areas include reef ecology, ecosystem resilience, decision-support for coral reef management, marine reserve functioning, marine reserve design, rebuilding reef fisheries, and connectivity both within and among tropical ecosystems. Our work combines field studies (principally in Palau, Micronesia), large scale observations, lab studies, and ecological modelling. Current projects are based on the Great Barrier Reef, Palau, Indonesia, Philippines, Maldives, Belize, and the Antilles (Caribbean). The team comprises an academic lead, 8 post-docs, 8 PhD students, and a research support officer. For further information see
www.marinespatialecologylab.org. MSEL is part of the ARC Centre of Excellence for Coral Reef Studies.

Information for Prospective Staff

Information about life at UQ including staff benefits, relocation and UQ campuses is available at - http://www.uq.edu.au/current-staff/working-at-uq

The University of Queensland Enterprise Agreement outlines the position classification standards for Levels A to E.

DUTY STATEMENT

Primary Purpose of Position

Spatial modeller and GIS analyst to join a multi-disciplinary team who’re working with the Great Barrier Reef Marine Park Authority to develop a Guidance System for Resilience-Based Management.

The position will forecast the response of coral reefs to management interventions and optimise management response given the current and projected states of the ecosystem. Thus, the research activities require the integration of field data on reef state, GIS, ecological models and larval connectivity. This is a great opportunity to undertake applied ecological research that ties closely to management and also develop research partnerships between UQ, AIMS and CSIRO, all of whom are partnering on the project. The post will run for nearly 3 years and will start in the first quarter of 2018. The position holder will work as part of a team and receive strong mentoring and training in the nuances of connectivity modelling and coral reef ecology (if required). Papers will be written for both ecological and conservation audiences.

Duties

Duties and responsibilities include, but are not limited to:

Administration

- Support the reporting to the Reef and Rainforest Research Centre and fulfilling all project-related admin such as securing travel approvals
- Develop and maintain webGIS of data

Research

- Plan and lead modelling efforts for coral reefs that integrate ecosystem models (simulation and analytic) and larval connectivity.
- Travel and collaboration with partners at CSIRO, AIMS and the Great Barrier Reef Marine Park Authority
- Preparation of scientific papers from the research
- Presentation of research at conferences
- Co-supervision of students working in this research area
- Assist in communication of research results by liaising with press office, creating dissemination materials
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 of 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 Peter Mumby.
**SELECTION CRITERIA**

**Essential**
- PhD in modelling spatial ecological dynamics and use of GIS (preferred) OR MSc with specific experience coding GIS and population models
- Programming ability and willingness to use Matlab
- Proficiency in GIS with links to Google Earth
- Experience modelling ecosystems or populations
- Strong demonstrated organizational skills and attention to detail
- Excellent English written and oral skills
- Ability to work collaboratively with colleagues, students and volunteers, with strong interpersonal skills
- Ability to prioritise own workload, work independently and meet deadlines
- Ability to exercise independent judgement

**Desirable**
- Website design
- Experience with coral reef ecosystems or at least marine ecosystems
- Demonstrable interests in marine conservation
- Experience working in and supporting a team environment

**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 ([http://www.uq.edu.au/equity](http://www.uq.edu.au/equity)) for further information and points of contact if you require additional support.

Accessibility requirements and/or adjustments can be directed to the contact person listed in the job advertisement.