POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow
Organisation Unit: School of Biological Sciences
Position Number: NEW
Type of Employment: Full time, Fixed term (24 months)
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 Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (45), QS World University Rankings (48), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (69). UQ again topped the nation in the prestigious Nature Index, and our Academic Ranking of World Universities result in the field of Life and Agricultural Sciences is 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 $11billion+ (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.

Organisational Environment

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 49 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 and teaching 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

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.

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

To engage in full time research, as a Postdoctoral Research Fellow, on spatial mechanisms of plant species coexistence. The primary purpose of this position is to conduct experimental field research on how species differences, species interactions and local-scale environmental heterogeneity promote and maintain plant diversity. The successful candidate is expected to be an active participatory member of Dr John Dwyer’s laboratory (primary supervisor for this position) and actively collaborate with the co-CI on this project, Professor
Margie Mayfield. The field component of this position requires the successful applicant to spend 1-4 months each year living in South West Western Australia with other researchers while conducting fieldwork.

The successful applicant will be in charge of overseeing and conducting field observational and experimental field studies associated with Dwyer and Mayfield’s ARC funded project: “Diversity maintenance in patchy environments.” With this project, we aim to quantify the importance of spatial mechanisms of species coexistence, including the spatial storage effect. In particular, we aim to determine how within-community environmental variation interacts with species’ functional differences (and trade-offs) to promote and maintain diversity. This position allows some flexibility in project development, and we are willing to consider applicants interested in purely field-based research or a combination of field, modelling and analysis-based projects. The York Gum woodlands, our study system, has been well-studied by the Dwyer and Mayfield groups over the past eight years. Past studies of this system involve large-scale observational and experimental studies of the factors influencing patterns of species and functional diversity and the coexistence of native and exotic species across environmental gradients. Past datasets from this system are available to supplement new field studies conducted as part of this position.

**Duties**

Duties and responsibilities include, but are not limited to:

**Research**

- Conduct field-based experimental and observational studies on coexistence dynamics in the annual plant communities within the York gum woodlands of SW Western Australia
- Collect ecological field data, including: plant diversity, plant functional traits, and soil nutrient data
- Prepare and publish peer-reviewed scientific publications
- Analyse data using modern ecological statistical and modelling tools, such as: mixed effects models
- Ability to manipulate and analyse data in R
- Willingness to travel extensively for fieldwork
- Attend and present research at national and international conferences
- Participate as a co-mentor (with Dr John Dwyer and Prof. Margie Mayfield) of honours and PhD students

**Service and Engagement**

- Attend School based meetings and Seminars.
- Any other duties as reasonably directed by your supervisor.
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 Dr John Dwyer.

SELECTION CRITERIA

- PhD in ecology or related area of biological sciences and/or applied maths
- Evidence of ability to publish peer-reviewed papers in internationally recognised journals
- License to drive a motor vehicle
- Proficient with and experienced in experimental design in the context of observational and experimental field ecology
- Knowledge of modern concepts of coexistence theory, community ecology and functional ecology
- Ability to conduct, interpret and understand common ecological statistics in R
- Experience with, or the necessary computing skills to learn, some of the following types of analyses: structural equation modelling, Bayesian modelling, population modelling, integral projection models and simulation-based approaches for testing expanded modern coexistence theory
- Plant taxonomic and identification training (formal courses or experience working with natural plant communities, experience identifying plants in the field)
- Ability to work collaboratively with colleagues and willingness to be an active participant in lab group activities, such as lab meetings, lab projects and mentoring of students

Seminar and research statement

A short-listed group of applicants will be asked to submit a short research statement, in addition to the cover letter, responses to selection criteria and CV requested as part of the initial application. After evaluation of applications and research statements, a small number of applicants will be invited for an interview - in person or via Skype. As part of this interview process applicants will be expected to present a short seminar (15 minutes) on their previous research.
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) 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 (science.recruitment@uq.edu.au).