POSITION DESCRIPTION

Position Title: Research Fellow
Organisation Unit: Queensland Alliance for Agriculture and Food Innovation
Position Number: NEW
Type of Employment: Full time, fixed term
Classification: Research Academic Level B

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 well within the top 100 universities worldwide, measured through a number of major independent university rankings: the Academic Ranking of World Universities, Times Higher Education World University Rankings, US News Best Global Universities Rankings, QS World University Rankings and Performance Ranking of Scientific Papers for World Universities, and is indeed in the top 50 in some of these rankings.

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 Australian Teaching and Learning Council Awards for Teaching Excellence 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, and a founding member of Universitas 21, an international consortium of leading research-intensive universities. UQ is also the largest university in Queensland.

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 215,000-plus alumni. The University has more than 7,000 academic and professional staff and a $1.6 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 Queensland Alliance for Agriculture and Food Innovation (QAAFI) is a research institute of the University of Queensland (UQ) which was established in 2010 and comprises of four research centres – the Centre for Crop Science, the Centre for Horticultural Science, the Centre for Animal Science and the Centre for Nutrition and Food Sciences.

QAAFI’s team of 450 researchers, postgraduate students and support staff undertake high impact science for agriculture and food industries. The institute’s strong partnership with the Queensland Government provides our researchers with a direct link to the agriculture industry in Queensland, and world class field research facilities throughout Queensland. Agriculture is one of UQ’s highest ranked research fields nationally and internationally and QAAFI is a global leader in agricultural research in subtropical and tropical production systems.

QAAFI scientists are driven to make a difference to the agriculture and food industries and have over 150 collaborators worldwide.

The Hy-Gain project (Hy-Gain), funded by the Bill and Melinda Gates Foundation is a multi-party international research project comprising seven world leading teams aiming to develop a novel technology to increase seed yield and productivity in sorghum and cowpea crops for smallholder farmers in sub-Saharan Africa. This exciting 5-year project, is led by QAAFI with the project director, Prof Anna Koltunow, based in the Centre for Crop Science. The project director’s location is split between Brisbane and Adelaide. Hy-Gain aims to ensure the technology is compatible with plant breeding to support the future, rapid delivery of new high yielding sorghum and cowpea hybrids and improved varieties. Hy-Gain involves research work at multiple sites in Queensland (Hermitage at Warwick; Gatton and St. Lucia) and collaboration with five international research organisations and a multinational seed company. The project has some fundamental discovery work, however its key aim is building and testing the utility of the technology in plants under controlled glasshouse and field conditions with evaluations involving input from African sorghum and cowpea breeders. The research objectives span molecular work in the laboratory to field work involving genetic, genomic and transgenic technologies and testing reproductive productivity of plants in glasshouse and in the field. Communication and collaboration between the parties to efficiently achieve goals, protection of discoveries, dissemination of data to the public via scientific publications and web-based media are important outcomes of the project.

Details of the research interests of the Institute may be accessed on the Institute’s web site at http://www.qaafi.uq.edu.au

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
DUTY STATEMENT

Primary Purpose of Position

This position will support research in the area of cowpea and sorghum transformation to develop new plant prototypes with altered reproductive development. It forms a critical part of a team working on the Hy-Gain for smallholders project funded by the Bill and Melinda Gates Foundation. The role involves engaging in cutting-edge research and postgraduate supervision, with some administrative duties and other activities associated with the Hy-Gain project. The primary purpose of this position is to help identify, clone and transform key genetic components into cowpea. A combination of laboratory, glasshouse, and potentially some field work will be required. The role also aims to support analysis of reproductive modes and seed yield in prototypes, including genetic analyses of cowpea plants.

Duties

Duties and responsibilities include, but are not limited to:

Research

- Contribute to high quality research associated with the Hy-Gain project, predominately relating to the identification of genes of interest, cloning and genetic transformation of cowpea, in addition to growing and maintaining cowpea plants, making genetic crosses and phenotyping cowpea varieties.
- Participate in the planning, development and conduct of plant research in laboratory and glasshouse environments. Help to maintain overall strategic direction of the project.
- Use appropriate scientific, computer and laboratory technology in the conduct of technical work.
- Excellent research management skills including accurate records of project activities and an ability to communicate them effectively to the project leader.
- Contribute to the preparation of papers for conference presentations, and reports for funding bodies.
- Conduct research and publish scholarly papers in high quality outlets.
- Maintain absolute confidentiality regarding the results of the project where appropriate and when requested.
- Present research findings at collaborative and lab meetings and research conferences.
- Supervise and assist other projects, staff and students with laboratory, glasshouse and field experimentations as required.
- Proactively work with other colleagues and postgraduates in the crop science group to grow effective research capabilities.
- Work with colleagues and postgraduates in the development of joint research projects.
- Genuine enthusiasm for research and ambitions for high achievement.

Teaching and Learning

- Participate in events to attract students to the project
- Contribute to supervision and training of research assistants, Honours and Research Higher degree students
Service and Engagement

- Perform a range of administrative functions as needed.
- Contribute to activities that benefit the Hy-Gain project, including participation in decision-making and serving on internal committees.
- Foster the Hy-Gain project’s relations with industry, government departments, professional bodies and the wider community.
- 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

This position is supervised by Associate Professor Brett Ferguson in collaboration with Professor Ian Godwin and overseen by project lead Professor Anna Koltunow. The position will be located at The University of Queensland’s St Lucia Campus in Brisbane, with field research based at the Gatton Crop Research Unit.
SELECTION CRITERIA

Essential
- PhD in plant molecular genetics, or equivalent.
- Expert knowledge of plant molecular genetics, particularly in areas of gene discovery, cloning, genetic transformation and plant developmental biology, ideally with a strong knowledge of legumes.
- Strong research experience and publication record in plant molecular genetics.
- Experience with bioinformatics and using plant genomes and associated databases.
- Experience with plant experimental systems in laboratory, glasshouse and possibly field settings
- Knowledge of apomixis and heterosis.
- Demonstrated skills in the independent design, execution and reporting of research projects
- High level of professional integrity, with excellent organisational and problem-solving skills and the ability to use and maintain molecular laboratory equipment
- Excellent interpersonal skills including the ability to communicate effectively and work collaboratively within a team
- Experience with supervision of staff and students
- Time management skills and demonstrated ability to work within deadlines with limited supervision.

Desirable
- Experience with analyses of plant reproductive development

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.

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