POSITION DESCRIPTION

Position Title: Research Assistants in Complex Trait Genomics
Organisation Unit: Institute for Molecular Bioscience
Position Number: Multiple positions
Type of Employment: Full time or part-time, fixed term for up to 2 years
Classification: HEW5 or HEW6

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. Over the past 3 years for which audited data are available UQ has attracted the highest (2013) or second highest (2012, 2014) amount of research funding of any Australian university.

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 230,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.7 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 will have further success in this area as an important strategic aim going forward.

**Organisational Environment**

The University of Queensland’s Institute for Molecular Bioscience (IMB) is a leading global life sciences research institute committed to improving quality of life through research. IMB was established in 2000 as UQ’s first research institute and is the cornerstone of one of the largest bioscience research precincts in Australia.

The Institute is home to more than 450 researchers, postgraduate students and support staff from more than 40 countries who work in partnership with their academic, industry and clinical colleagues around the world to advance knowledge in areas including pain, rare diseases, inflammation, superbug infection, cardiovascular disease, environmental research, drug discovery and development, cancer, diabetes and obesity, and reproductive health. Our mission is to drive the bioeconomy and create better health; our vision is to be a life sciences institute with global impact.

By investigating how we grow and develop at the genetic, molecular, cellular and organ levels, IMB researchers can better understand the development processes and pathways involved in human and animal health and disease. The Institute also has the technical capacity to translate its new knowledge into drugs, diagnostics and technologies to more effectively prevent, detect and treat disease; and pursue opportunities in a range of biotechnology applications for health, industry and the environment.

IMB’s research outcomes are protected and commercialised by UQ-owned technology transfer group UniQuest.

Details of the research interests of the Institute may be accessed on the Institute’s website at: [http://www.imb.uq.edu.au](http://www.imb.uq.edu.au).

**Program in Complex Trait Genomics**

The Program in Complex Trait Genomics (website: cnsgenomics.com) is a joint initiative between the Institute for Molecular Biosciences (IMB) and the Queensland Brain Institute (QBI). Physically located in IMB, the broad research focus is towards a better understanding of complex traits and disorders, including psychiatric and neurological disorders. A key research strength is the development of underpinning computational and statistical analysis methods. The Program is led by an Executive comprising Prof Peter Visscher, Prof Naomi Wray and A/Prof Jian Yang, who were recently awarded a Program Grant by the Australian National Health and Medical Research Council, commencing in 2017.

Visscher, Wray and Yang and their colleagues are internationally recognised for pioneering the use of multi-marker statistical methods in human genetics and for innovative methods in the analysis of genetic and genomic data of complex traits. Their research is regularly published in top journals such as Nature, Science, Nature Genetics, Genome Research, American Journal of Human Genetics, PLoS Genetics and Molecular Psychiatry.
Research in the Program covers four major themes: Statistical Genomics, Systems Genomics, Psychiatric Genomics and Motor Neuron Disease Genomics. The Program consists of over 20 postdoctoral research staff as well as PhD students, research assistants and visiting academics. Current research involves; the development of novel statistical genetics methodology and software; analysis of genotype, expression and methylation array data alongside DNA and RNA sequencing data; application of statistical genetic methods to infer the genetic control of diseases.

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 the Positions

The appointee(s) will be required to support researchers on a wide range of research projects. The nature of the research in the Program is analysis of large scale genome-wide data sets (millions of genetic markers on up to half a million people) of DNA variants, DNA methylation or gene expression data. The applications of the research in the Program are to understand and interpret the nature of variation of complex genetic traits (e.g.height as a model trait) and diseases (e.g., psychiatric disorders, neurological disorders). The appointee with conduct analyses of large scale data sets under supervision of a postdoctoral researcher.

Duties

Duties and responsibilities include, but are not limited to:

Research
  • Implement routine analyses of new genetic data sets including quality control pipelines.
  • Download and organise data sets that will be used for analysis by researchers within the Program
  • Provide research support including analysis of data generated by the Program, by collaborators or in the public domain, testing and writing computer code data analysis
  • Writing wrappers and apps for software
  • Preparation of graphs and figures for presentations and manuscripts
  • Supporting role in manuscript preparation
  • Presentation of results in lab meetings
  • Displaying a high level work ethic
  • Administrative aspects that underlie scientific research
  • In discussion with lab heads and post-doctoral researchers, development of timelines
  • Record-keeping
  • Collaboration with other group members, and as part of national and international consortia
  • Other duties as reasonably directed by your supervisor

Community Service
- Foster the Institute’s relations with industry, government departments, professional bodies and the wider community.

**Administration**
- Perform a range of administrative functions in the Institute
- Contribute to the processes that enable the academic team to manage the work of the Institute, including participate in Institute decision-making and serve on committees
- Comply with the University’s Code of Conduct (see the University’s web site at [http://ppi.app.uq.edu.au/content/1.50.01-code-conduct](http://ppi.app.uq.edu.au/content/1.50.01-code-conduct))
- Adopt sustainable practices in all work activities and comply with associated legislation and related sustainability responsibilities and procedures developed by the University (see the University’s web site at [http://www.uq.edu.au/sustainability/responsibilities](http://www.uq.edu.au/sustainability/responsibilities))

**Other**
Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including:
- the *University’s Code of Conduct*
- requirements of the Queensland occupational health and safety (OH&S) legislation and related [OH&S responsibilities and procedures](http://www.uq.edu.au/sustainability/responsibilities) 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](http://www.uq.edu.au/sustainability/responsibilities)
- requirements of the Education Services for Overseas Students Act 2000, the National Code 2007 and associated legislation, and related [responsibilities and procedures](http://www.uq.edu.au/sustainability/responsibilities) developed by the University

**Organisational Relationships**
Each position will report to one of the Program Executive.

**Part-time appointments**
Part-time appointments may be considered for exceptional candidates.
SELECTION CRITERIA

Essential

For appointment at level HEW5
- A degree in a relevant field e.g. statistical genetics, quantitative genetics, bioinformatics, computer programming, statistics or other relevant areas

For appointment at level HEW6
- At least two years post-graduate experience or equivalent and demonstrated research support productivity consistent with this experience

Knowledge and Skills

Essential
- Knowledge of the principles of genetics and genomics
- Computing skills, including in scripting language and programming

Desirable
- Knowledge of quantitative genetics models and theories
- Knowledge of molecular genetics
- Interest in disorders of the brain
- Interest in genetic differences between individuals and the contributions to genetic variation
- Expertise in the statistical programming language R

Experience

Desirable
- Experience in the analysis of large-scale genetic data
- Past track record in genetics related research demonstrating ability to both work within teams and independently to successfully complete research projects

Personal Qualities

Essential
- Excellent attention to detail and record-keeping skills
- Self-reliance and motivation
- A high level of written, oral and interpersonal communication skills
- Ability to work collaboratively with colleagues
- Initiative and problem solving skills

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 social inclusion.

Employment opportunities are not limited by race, ethnicity, religion, disability, age, sexuality, gender or other protected attributes. Applications are encouraged from Aboriginal and Torres Strait Islander peoples. For further information please contact our Indigenous Employment Coordinator at: atsi_recruitment@uq.edu.au