

POSITION DESCRIPTION

Position Title:	Postdoctoral Research Fellow
Organisation Unit:	Institute for Molecular Bioscience
Position Number:	3074427
Type of Employment:	Fixed-Term, Full-Time
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.

Organisational Environment

The University of Queensland's Institute for Molecular Bioscience, located on the main University campus, is Australia's leading biosciences research institute. Established in 2000, the Institute is home to over 420 staff and is located in thriving Brisbane, a city consistently ranked as one of the world's most vibrant and liveable cities.

The Institute, ranked in the Top 20 globally for life sciences research, pursues a multidisciplinary approach to solving some of the world's most serious challenges in the fields of health, disease and sustainable solutions for our cities, fuels and foods. The Institute is housed in a single building and is organized into technological platforms (Divisions) and research themes (Centres). The Divisions support state-of-the art facilities including the Centre for Microscopy and Microanalysis, which houses new cryo-electron microscopes; the NMR facility containing 500, 600 and 900 MHz machines; the Mass Spectrometry Facility accommodating a wide array of instrumentation; suites for work with a variety of model organisms; a plethora of next generation DNA sequencing technologies and the southern hemispheres leading program in complex trait genetics. The Research Centres accommodate 36 groups using a combination of genomics, chemistry and cell biology to take life science discoveries from the genome to drug design and application in the areas of antimicrobial resistance, inflammation, pain, cardiovascular disease and rare and developmental diseases.

The quality of our internationally recognised researchers underpins our research excellence. Over the past five years, our group leaders have attracted nearly \$250 M in research funding. They have leveraged funding from over 40 different national and international research sponsors including significant support from federal and state government sources. The success rate in federal funding schemes is amongst the highest in all of Australia. The accomplishment of our staff is reflected by the consistent contribution they make to the prestigious Nature science index and by the fact five are listed in the prominent 2018 Clarivate Highly Cited Researchers List.

A corner stone of the Institute is the strong emphasis on ensuring our discovery science has impact by translating our research discoveries to meet industry, community and clinical needs. The Institute has generated more than 30 patent families and has spun out multiple companies. The impact of our work is illustrated by two biopharmaceutical companies founded in the Institute, Protagonist Therapeutics Ltd and Inflazome Ltd. The former company entered into a \$1 B worldwide agreement to co-develop a drug for inflammatory bowel disease and the latter recently received \$70 M to develop treatments for inflammatory diseases. Our ambition to strengthen our translational portfolio continues.

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: <https://imb.uq.edu.au/>

Program in Complex Trait Genomics

The Program in Complex Trait Genomics (website: <http://cnsgenomics.com>) is a joint initiative between the Institute for Molecular Bioscience (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 and Prof Naomi Wray who were awarded a five-year Program Grant by the Australian National Health and Medical Research Council, commencing in 2017. In addition, Peter Visscher was awarded a five-year Australian Research Council Laureate Fellowship in 2018 to enhance capacity in human complex trait genetics and genomics, and Naomi Wray was awarded the highest leadership level Investigator grant from the National Health and Medical Research Council for the period 2020-2024.

Visscher and Wray 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, Nature Communications, 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 traits and diseases.

Information for Prospective Staff

The Institute recognises 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.

IMB 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.

Specific initiatives at IMB can be found at (<https://imb.uq.edu.au/about/equity-and-diversity-imb>)

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

A Postdoctoral Research Fellow (Level A) will focus their efforts on developing their expertise and emerging research profile in their discipline. At this level the incumbent will work with lead researchers on existing or new projects and be supported and guided by more senior academic staff with the expectation of an increasing degree of autonomy over time.

This position will be involved in the Research Project titled '**Analysis of genetic and genomic datasets for disease prediction and prediction of unknown effects of medication**' This project will require statistical genetics analyses of large genetic and genomic datasets (including lipidomic data), to improve our ability to predict cardiovascular disease, and also to predict the unknown (beneficial or adverse) side effects of cardiovascular medication.

Duties

The duties and responsibilities include, but are not limited to

Research

- Contribute to the PCTG research program and the development of joint research projects.
- Research in the broad field of statistical genomics, including analysis of data generated by the Program, by collaborators or in the public domain, method development and testing and writing computer code data analysis.
- Prepare research publications and progress reports and participate in regular meetings to discuss project objectives, methodology and outcomes.
- Participate in applications for external research funding.
- Display a work ethic expected for a researcher aspiring to a long-term career in science.
- Collaborate with other group members, and as part of national and international consortia.

Teaching and Learning

- Contribute to supervision of Honour student and Higher Degree by Research students (as appropriate).

Service and Engagement

- Contribute to activities that benefit PCTG and the Genetics & Genomics division, including participation in decision-making and contribute or serve on internal committees.
- 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
- 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.
- Ethical conduct of research using human genetic data following the data use agreements specific to each data set

Organisational Relationships

The positions report to NHMRC Early Career Fellow, Dr Sonia Shah

SELECTION CRITERIA

- PhD or progress towards PhD)in a relevant field e.g. statistical genetics, quantitative genetics, bioinformatics, or other relevant areas.
- Knowledge or expertise in the principles of genetics and genomics.
- Proven ability to code efficiently in programming languages (e.g. R).
- Evidence of research productivity, including publications or conference presentations
- Demonstrated high-level communication and interpersonal skills including the ability to effectively collaborate to ensure research aims are met.
- Ability to work independently with excellent problem solving and organisational skills, with high attention to detail
- Experience in analysis of large-scale genetic and genomic data, and Mendelian randomisation analyses, is highly desirable.

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.