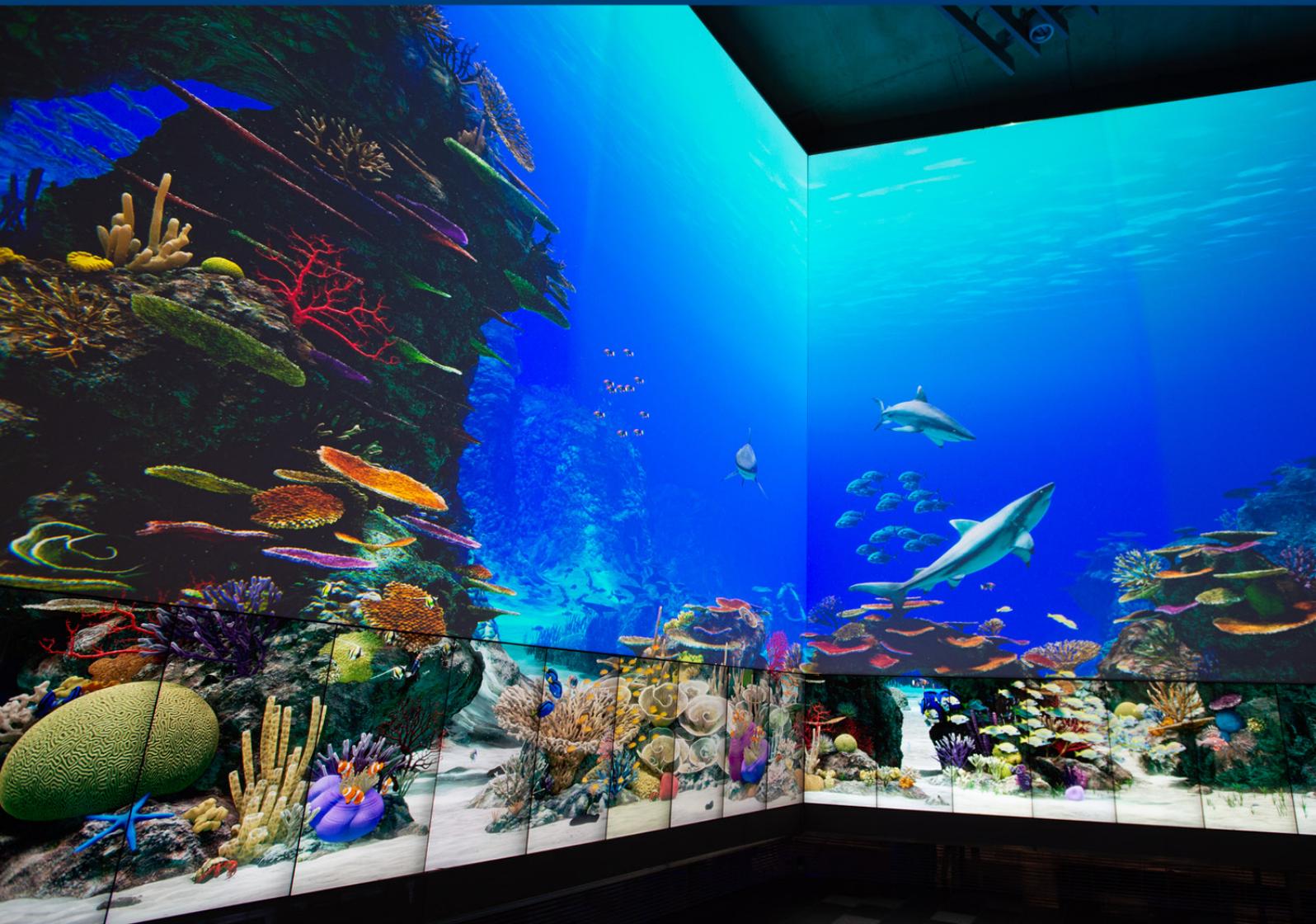# Lecturer in Statistical Inference for Complex Models

FACULTY OF SCIENCE

ACADEMIC DIVISION

About the Position

The School of Mathematical Sciences at QUT is looking to recruit a Lecturer (Level B) who is able to provide strategic capacity in both research and learning and teaching within the school with expertise in statistical inference for complex models.

We are seeking applicants with expertise in the development of novel statistical methods and algorithms to perform parameter estimation and model selection for complex models, which can have varying levels of intractability. There is an opportunity to collaborate with researchers in domains where complex models are prevalent, such as mathematical biology and epidemiology.

The ideal candidate will have demonstrated expertise in Bayesian statistics, particularly in new computational algorithms and their associated theory. Applicants for this position will ideally have a strong publication track-record (relative to opportunity) in statistics and/or machine learning with an emphasis on computational Bayesian methods.

The candidate will have an ability and strong interest in providing high-quality statistics and data science learning experiences for students in the QUT BMath and BDataSc degrees, as well as for students from other fields where statistics is used, such as engineering, science and health.

This position reports to the Head of School for supervision, workload management and for Performance Planning and Review (PPR).

Key responsibilities include:

- Undertaking research including publication in high quality peer reviewed journals and application for external research funding.
- Engaging and collaborating with researchers engaged in similar fields of research in other universities and research institutions.
- Facilitating excellence in undergraduate and postgraduate teaching, through the development of innovative teaching methods, authentic assessment practices and blended learning.
- Coordinating and teaching units across all levels of programs.
- Actively participating in unit and curriculum review and design.

- Supervising student research projects at both undergraduate and postgraduate level.
- Implementing and administering University policy within the Faculty with respect to equitable access to education and workplace health and safety.

To ensure job flexibility the successful appointee may be required to:
- perform any other duties as nominated by the University consistent with the relevant classification descriptors detailed in the Enterprise Agreement. Staff undertaking any new duties will receive training;
- participate in job rotation or multiskilling in consultation with their supervisor;
- work across campuses.

To be appointed as a Lecturer the successful applicant must meet the position classification standards outlined in the [QUT Enterprise Agreement (Academic Staff)](#).

Type of appointment

This appointment will be offered on a fixed-term, full-time basis for four (4) years.

Location

Gardens Point campus.

Selection Criteria

1. Completion of a doctoral qualification in statistics or a highly related discipline.
2. Demonstrated ability to develop and maintain a research program that supports and complements existing research strengths in the School of Mathematical Sciences and the Centre for Data Science.
3. Demonstrated academic research excellence and originality in computational statistics with a particular focus on the development of new Bayesian methods, evidenced by publications in high quality research journals and conferences.
4. Capacity to support a research program with significant external research funding, preferably from both traditional funding sources, as well as, from industry and the government sector.
5. Leadership skills and drive to supervise a team of higher degree research students.

6. Demonstrated ability to implement innovative teaching practices including blended learning and authentic assessment.
7. Capacity to coordinate and teach a range of undergraduate units including specialised classes in the Bachelor of Mathematics and Data Science degrees as well as large service classes.

Remuneration and Benefits

The classification for this position is Academic Level B (LEVB) which has an annual remuneration range of $119,829 to $142,312 pa. Which is inclusive of an annual salary range of $101,257 to $120,255 pa and 17% superannuation.

In July 2020 QUT staff voted in favour of a variation to its Enterprise Agreements. The variations were approved by the Fair Work Commission in August 2020.

The variation impacts leave loading (for new staff no loading will be paid or accrued during the period the variation is in effect), salary increases (the salary increase which was due to occur in the first full pay period of December 2020 was deferred until the first full pay period of December 2021, however it has been brought forward by the Vice-Chancellor to be paid in June 2021) and superannuation (superannuation will be paid to staff as though the salary increase which would have been paid in December 2020 has taken effect and, subject to the rules of the superannuation fund, a defined benefit member will continue to make contributions in alignment with the contributions made by the University). A link to the variation is here.

Beyond personal and professional fulfilment, a career at QUT brings a broad range of tangible benefits. With competitive remuneration including superannuation, the University offers real and generous benefits.

QUT is a high quality and flexible organisation that is proud of its excellent employment conditions which include but are not limited to:

- Reduced working year scheme
- Parental leave provisions
- Study support encompassing leave and financial assistance
- Comprehensive professional development
- Salary Packaging

Further benefits can be found at the Life at QUT page.

Information for applicants

The position is open to applicants who have unrestricted work rights in Australia for the duration of the fixed-term appointment. In support of our strategic priority of Indigenous Australian success, Aboriginal Australians and Torres Strait Islander people are encouraged to apply.

For further information about the position, please contact Professor Chris Drovandi, on (07) 3138 1756; or for further information about working at QUT contact Human Resources on (07) 3138 5000.

Candidates who are interested in the position are encouraged to apply even though they may feel they are not strong on individual selection criteria.

In assessing merit, the panel will take into consideration "performance or achievement relative to opportunity". We recognise that many staff today have a range of personal circumstances, and career histories that challenge traditional ideas of an academic staff member. This may mean, for example, prioritising the quality of achievement rather than the quantity, as considerations of part-time employment, career interruptions and significant periods of leave are taken into account when assessing performance or achievement.

The selection panel is also committed to conducting a process which is fair and free from bias, including unconscious bias.

How to Apply

For further information and to apply, please visit www.qut.edu.au/careers for reference number **211429**.

When applying for this position your application must include the following:

- A current resume
- A statement of your achievements against each of the selection criteria
- The names and contact information of two referees.

Applications close 9 January 2022

About QUT

QUT is a major Australian university with a global outlook and a 'real world' focus. We are one of the nation's fastest growing research universities and our courses are in high demand.

We are an ambitious and collaborative institution that seeks to equip our students and graduates with the skills they will need in an increasingly disrupted and challenged world.

We are transforming the student experience we offer our 50,000 students and we place a premium on the international and national accreditation of our various professional degrees.

We offer academic programs in fields spanning business, creative industries, education, engineering, health, law, science, and social justice across five faculties.

We are transforming the learning experience and embed work integrated learning in courses and have a strong focus on developing entrepreneurial skills. QUT provides executive education and professional development to both individuals and organisations through QUTeX, and QUT Online lets students learn when it suits, through courses delivered entirely online. QUT College offers pathways for all students into our undergraduate programs.

QUT has two inner-city campuses in Brisbane at Gardens Point and Kelvin Grove.

Well known for our strong links to industry and government, the high impact of our research which involves multidisciplinary teams, QUT has been named one of the fastest rising universities in the world for scientific research.

Further information about QUT can be obtained from the website at www.qut.edu.au.

Our Vision

QUT's Blueprint 6 is our institutional strategic plan. The Blueprint formalises QUT's ambitions and declares our strong sense of purpose which is to provide transformative education and research relevant to our communities. It provides a framework and strategies to enable QUT to realise our vision to be the university for the real world and identifies the following priorities:

- support aspiration and inclusion
- encourage creativity and entrepreneurship
- embrace digital transformation and technology
- embed principles of health and wellbeing
- support Indigenous Australian engagement, success and empowerment
- enable professional engagement and ethical leadership and,
- focus on the environment and sustainability

Aligned to and supporting our vision are the QUT Values. These Values highlight what makes QUT distinct and successful. Providing a compass for our decisions, actions and behaviours and strengthening our community.

QUT Values

- Ambition
- Curiosity
- Innovation
- Integrity
- Inclusiveness

About the Academic Division

Academic Division includes the University's faculties and research centres. It is responsible for education (learning and teaching), research, research services and support, and digital business solutions. The Academic Division is led by the Provost.

About the Faculty

The Faculty of Science aims to explore the frontiers of our physical and digital worlds to drive innovation and develop solutions to complex, real-world challenges. We deliver distinctive programs in Information Technology, Mathematics and Science to meet industry demands for data-driven and technological solutions.

Strong connections and long-standing partnerships with governments and industry enable us to address complex challenges though learning, teaching, research, and innovation. We facilitate learning that is delivered on campus, online and in the real-world through relevant and practical learning experiences.

Our Schools are established around disciplines that promote collaboration in teaching and research. These include:

- School of Biology and Environmental Science
- School of Chemistry and Physics
- School of Computer Science
- School of Earth and Atmospheric Sciences
- School of Information Systems
- School of Mathematical Sciences

The Faculty is renowned for its translational research expertise in areas such as climate change, energy, geosystems, food security and water resource management led by world-class and internationally recognised researchers. The Faculty is home to both University and Faculty based Research Centres, including:

- Centre for Agriculture and the Bioeconomy
- Centre for Data Science
- Centre for Materials Science
- Centre for Clean Energy Technologies and Practices
- Centre for the Environment
- Centre for Waste Free World

The Faculty is led by the Executive Dean and the Executive Management Team which includes the Deputy Dean, Associate Deans, Heads of School, and the Faculty Operations Manager.

About the School of Mathematical Sciences

The School of Mathematical Sciences (SMS) is a vibrant, multidisciplinary school with extensive teaching and research programs covering the fields of statistics, operations research and applied and computational mathematics.

There are currently 29 full-time academic staff members employed in the School, including 12 Professors.

Over the past five years staff of the school have held ten prestigious Australian Research Council fellowships including a Laureate fellowship, four ARC Discovery Early Career fellowships and five Future fellowships. Three of our professors are recognised among Australia's seven most highly cited researchers in mathematics, and QUT's Centre for Data Science is led by a Fellow of the Australian Academy of Science.

The School offers Bachelor degrees in both Mathematics and Data Science, as well as a postgraduate program at Masters (research) and PhD levels. The Bachelor of Mathematics degree has majors in our three

key areas of expertise; Statistics, Operations Research and Applied and Computational Mathematics.

In November 2019, QUT officially opened the Centre for Data Science which has a vision to be a national and global leader in the development of frontier methods for the use of data to benefit our world. In collaboration with government and industry, this Centre will draw together capability in data science across Australia to solve global challenges across all sectors. The Centre also has a strong remit in education to provide rigorous training of current and future data scientists.

About the Centre for Data Science

The Centre's vision is to be a national and global leader in the development of frontier methods for the use of data to benefit our world. Drawing together capability in data science from across Australia to deliver world-class research, unique training opportunities and active external engagement

To deliver on its vision, the centre will:

- build Australia's data science network and research profile
- bridge the gap between deep research applications
- access a trusted source for advice on data science issues
- bring together a critical mass of data science researchers to develop state-of-the-art solutions
- create partnerships through an Australian data science network
- provide research and professional training opportunities for undergraduate students through to mid-career researchers and senior professionals leverage investment in data science.

https://research.qut.edu.au/qutcds/