



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

Appointment of

Deborah Jin Research Fellow

ARC CENTRE OF EXCELLENCE FOR ENGINEERED QUANTUM SYSTEMS (EQUS)



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School of Mathematics and Physics

The School of Mathematics and Physics (SMP) sits within the Faculty of Science. It is one of the largest Schools at The University of Queensland (UQ). Its strengths lie in delivering high-quality teaching, conducting research that is recognised at national and international levels, and contributing to society through its engagement with industry, government and the broader community. It is a multidisciplinary School that pursues excellence across all of its academic endeavours.

SMP has sustained success in attracting research funding, particularly in Australian Research Council funding, annually winning significant numbers of Discovery Projects and a range of fellowships. In addition, the School has had considerable Centre of Excellence (CoEs) success, hosting the lead node for two CoEs in the period 2013-2022 and with staff being chief investigators in a further seven CoEs in that period. The School's research excellence is also evidenced by its performance in the most recent (2018) Excellence in Research for Australia (ERA) assessments, achieving ratings of 5 in both 2-digit fields of research (FoR), Mathematical Sciences and Physical Sciences, as well as in the 4-digit FoRs Pure Mathematics, Applied Mathematics, Statistics, Astronomical and Space Sciences, Condensed Matter Physics, Quantum Physics and Optical Physics, and also received a rating of 4 (above world standard) in Mathematical Physics, no rating of 5 (well above world standard) being awarded for any Australian institution in this FoR.

SMP is the leading provider of tertiary mathematics and physics education in Queensland. The School teaches a comprehensive undergraduate program in science, mathematics, statistics, and physics, as well as performing service teaching for students of engineering and the life sciences. There is also an extensive postgraduate research program, which has more than 100 Research Higher Degree students currently enrolled in the School. Undergraduate programs offered include BSc, BMath, BA (each with an Honours year) and BAdvSci; coursework postgraduate degrees (MSc, MFinMath, MDataSc, MQTech, MCyberSec, MBusAn) and research degrees (MPhil and PhD) are offered at postgraduate level. Staff in the School are highly recognised for their excellence in teaching and learning and have received a range of university and national teaching awards and citations, Higher Education Academy United Kingdom Fellowships, and significant Office of Learning and Teaching grants.

Engagement with national discipline-related bodies, societies, and institutes is also important to SMP, and the School maintains ongoing collaboration with the Australian Institute of Physics (AIP), the Australian Mathematical Society (AustMS), the Australian Mathematical Sciences Institute (AMSI) and the Mathematical Research Institute, MATRIX.

There are a total of 134 full-time academic staff members in the School, and 18 professional School staff who provide professional, technical and administrative support.

Further details of the School's achievement and the teaching and research interests of academic staff may be accessed on the School's web site at smp.uq.edu.au.



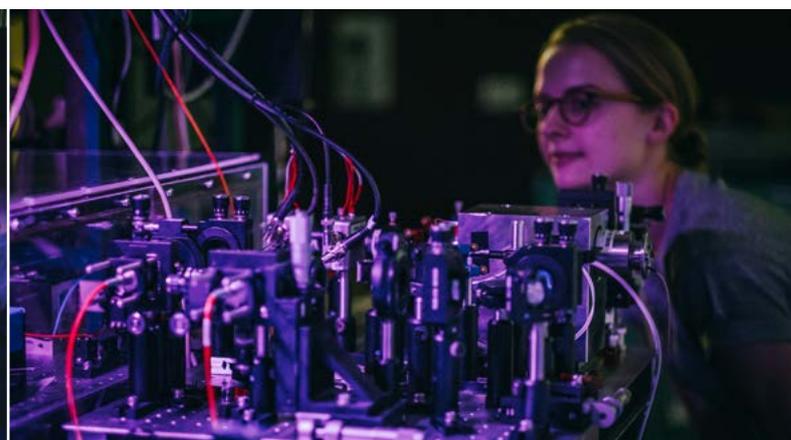
ARC Centre of Excellence for Engineered Quantum Systems (EQUS)

EQUS is engineering Australia's quantum future. Our Centre harnesses the underlying rules of the universe to build sophisticated quantum machines for practical applications. We pioneer the design of quantum materials, quantum engines, and quantum imaging systems to solve the most challenging research problems at the interface of fundamental quantum physics and engineering, and work with partners in industry to translate our research discoveries into practical technologies to the benefit of Australia's society and economy. Our capacity building programs are training the next generation of scientists, technologists and entrepreneurs in cutting-edge fundamental research, bench-to-product technology innovation, and ultimately deliver major impacts on Australia's high-tech economy.

EQUS' quantum technologies span critical sectors of Australian society including health, METS, communications, space, environment, and security. We move our cutting-edge research beyond the lab and towards practical prototypes and real-world applications. Our researchers work across five university nodes, The University of Queensland, The University of Sydney, Macquarie University, The University of Western Australia and The Australian National University. We collaborate with Australian research organisations, government, SMEs, and leading tech companies, and are training a new generation of STEM researchers within a culture of discovery, innovation, and translation.

EQUS sits within the School of Mathematics and Physics and the Faculty of Science at The University of Queensland.

For more information, please visit smp.uq.edu.au.



Our commitment to workplace diversity and inclusion

The historic and current under-representation of women in physics globally, nationally and at The University of Queensland (UQ) motivates us to accept only applications from women, non-binary, and gender diverse applicants for this position.

The School and EQUS are committed to supporting the career growth of women academics and support women in developing and achieving a fulfilling career at UQ through a range of School targeted measures and support in broader UQ initiatives:

- Amplify Women's Academic Research Equity (AWARE) Program
- Career Advancement for Senior Academic Women Program
- Career Progression for Women Program
- UQ Development Fellowships Advancing Female Academics
- Other initiatives from the Faculty of Science, the School of Mathematics and Physics and EQUS, such as travel and carer grants

The goal of these recruitment measures is to:

- encourage women to apply for these fellowships within an ARC Centre of Excellence;
- enable the selected women physicists to bolster their research output and associated career trajectory;
- retain high-potential researchers within the field of Quantum Physics.



Role of the Deborah Jin Research Fellow

About this opportunity

Deborah S. Jin was a brilliant American physicist who was one of the world's foremost experts on how ordinary atoms and molecules change their behaviour at extraordinarily low temperatures. Her visionary and methodical approach made it possible to use these ultracold gases as model systems to tease out the quantum principles that lead to behaviours in real materials, such as superconductivity. This Fellowship honours her legacy by supporting and encouraging early-and mid-career women physicists.

The ARC Centre of Excellence for Engineered Quantum Systems (EQUS) is seeking an outstanding early-to-mid-career researcher for this Fellowship. The Deborah Jin Fellow will perform outstanding and original, experimental or theoretical research; and will work with an EQUS Chief Investigator, as determined by the candidate's expertise and research aspirations. The Centre has active experimental and theoretical research programs, spanning physical architectures including quantum dots, neutral atoms, quantum phononics, quantum photonics, and superconducting circuits, and applications including quantum communication, quantum computation, quantum foundations, quantum imaging, quantum metrology, and quantum sensing.

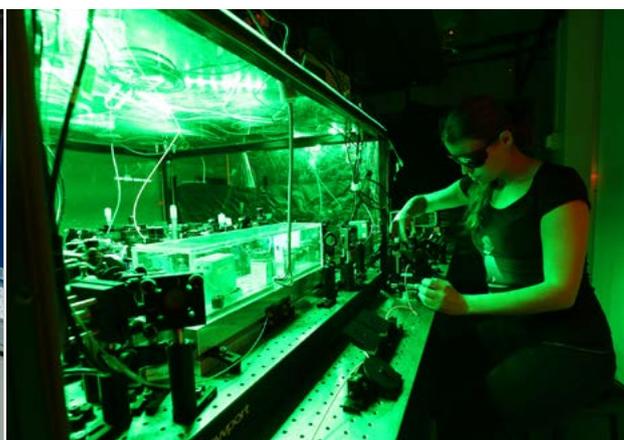
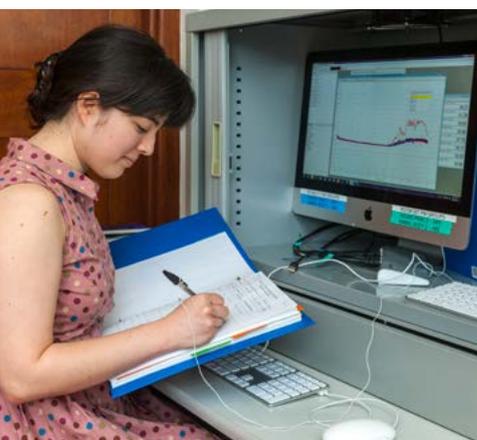
The ARC Centre of Excellence for Engineered Quantum Systems is committed to driving progress towards gender equality and ensuring diverse and balanced representation at every level of our organisation. To address the under representation of women in Quantum Physics, and to create empowering and safe workplaces for women in our Centre, these positions are only open to applicants who are women, non-binary or gender diverse.

Duties

Duties and responsibilities include:

Research

- Produce quality research outputs consistent with discipline norms by publishing in high quality outlets.
- Participate in applications for competitive research funding to support projects and activities.
- Work with colleagues in the development of joint research projects and applications for competitive research funding support.
- Contribute to progressing towards transfer of knowledge, technology and practices to research end users.
- Develop a coherent research program and an emerging research profile.
- Review and draw upon best practice research methodologies.



Supervision and researcher development

- Contribute to the effective supervision of Honours and Higher Degree by Research students (as appropriate).
- Demonstrate personal effectiveness in supervision and the management of researcher development.
- Effectively lead and develop supervisee performance and conduct by providing feedback, coaching, and professional development
- As appropriate, manage research support staff effectively throughout the employee lifecycle in accordance with University policy and procedures.
- Work to promptly resolve conflict and grievances when they arise in accordance with University policy and procedures.

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 will report to an EQUUS Chief Investigator.



About you

Essential

The filling of this position is intended to constitute an equal opportunity measure under Section 105 of the Anti-Discrimination Act 1991(Qld). The position is therefore only open to women, gender diverse applicants and those who identify as women.

Academic Level A

- A PhD in physics or a related field.
- Demonstrated potential to engage in research relevant to the field.
- Developing of a track record of independent, original research evidenced by publications in peer-reviewed journals and conference presentations.
- A track record of developing and maintaining collaborations within and across research institutions.

Academic Level B

In addition to requirements for Academic Level A:

- Previous postdoctoral research experience with demonstrable research outcomes.
- Strong track record of high-quality peer-reviewed publications.
- Evidence of participation in the supervision of postgraduate students.
- Track record of grant application individually or as part of a research group.

Applicants who identify as women, non-binary, or are gender diverse.



Conditions of employment

Employment type

This is a fixed-term position at Academic Level A or B for up to three years, commensurate with the relevant skills and experience.

Salary and benefits

For a Level A, the full-time equivalent base salary will be in the range of \$72,144 – \$96,530 per annum plus super of up to 17%. The total FTE package will be in the range \$84,408 – \$112,940 per annum.

For a Level B, the full-time equivalent base salary will be in the range of \$101,533 – \$120,570 per annum plus super of up to 17%. The total FTE package will be in the range \$118,794 – \$141,067 per annum.

The following flexible employment options may be available for this role:

- Part time
- Some working from home
- Variable start or finish times depending on teaching timetable
- Compressed hours.

How to apply

All applicants **must** upload the following documents in order for your application to be considered:

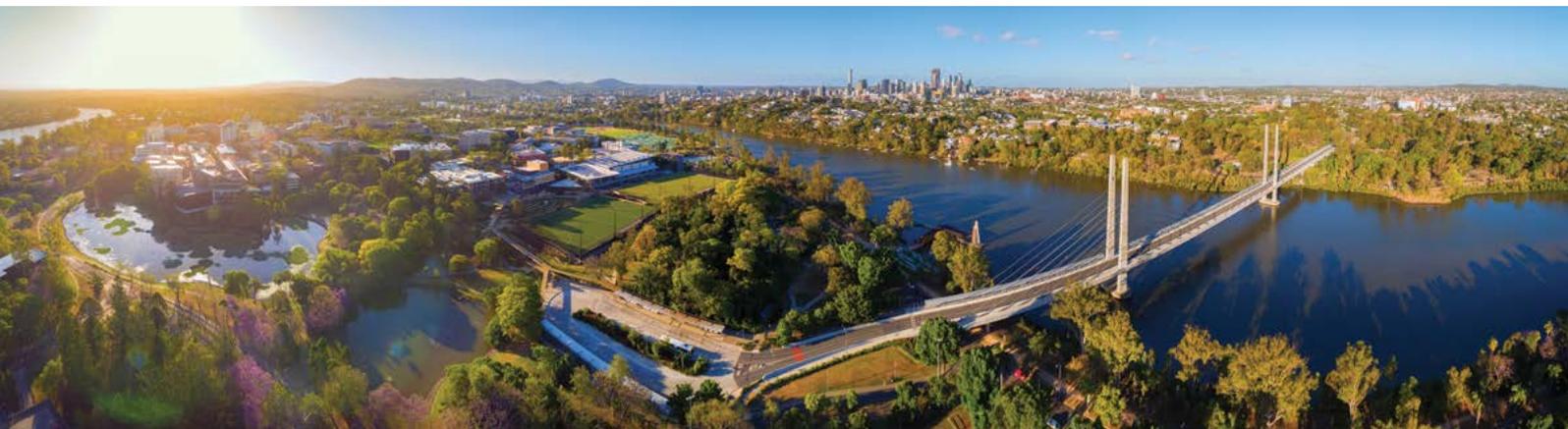
- Cover letter addressing the 'About You' section
- Resume, including the names and contact details of three people who are willing to write you reference letters.
- Research statement – please include a brief (maximum two page) outline of the research program you would plan to implement at the University of Queensland if successfully recruited into the position. Please write this in a way that is accessible to non-specialists.

*Please note that you will be asked to add **all** documents into the one upload box labelled 'resume', which is step one of the application form.*

To satisfy prerequisite questions and ensure your application can be considered in full, all candidates must apply via the [UQ Careers](#) portal by the job closing deadline. Late applications may not be accepted.

To discuss this role please contact Professor Andrew White via director@equs.org.

For application queries, please contact recruitment@uq.edu.au stating the job reference number in the subject line.



The University of Queensland

For more than a century, The University of Queensland (UQ) has created positive change for society by delivering knowledge leadership for a better world.

UQ ranks among the world's top universities, as measured by several key independent rankings, including the CWTS Leiden Ranking (32), U.S. News Best Global Universities Rankings (36), the Performance Ranking of Scientific Papers for World Universities (38), QS World University Rankings (50), Academic Ranking of World Universities (47), and Times Higher Education World University Rankings (=54).

At UQ, we're changing the way higher education is imagined and experienced. Our students enjoy innovative and flexible learning options, diverse and dynamic partnership opportunities, and an integrated digital and campus learning environment.

More than 56,000 students – including the majority of Queensland's highest academic achievers as well as top interstate and overseas students – study across UQ's 3 beautiful campuses in South East Queensland at St Lucia, Herston and Gatton. They include around 20,000 postgraduate and approximately 21,000 international students who contribute to a diverse, supportive and inclusive campus community.

With a strong focus on teaching excellence, having won more national teaching awards than any other Australian university, UQ is committed to providing students with the best opportunities and practical experiences during their time with us, empowering them with transferable knowledge and skills that will prepare them to exceed expectations throughout their careers.

UQ's 307,000 graduates are an engaged network of global alumni spanning more than 170 countries, and include more than 16,300 PhDs.

UQ's 6 faculties, 8 globally recognised research institutes and more than 100 research centres attract an interdisciplinary community of 1,500 scientists, social scientists and engineers, who champion research excellence and continue UQ's tradition of research leadership. This is reflected in UQ being the number one recipient of Australian Research Council Fellowships and Awards nationally across all scheme years (452 awards worth \$339 million).

UQ has an outstanding track record in commercialising innovation, with major technologies employed across the globe and gross product sales of more than US\$44 billion.

UQ is one of only 3 Australian members of the global Universitas 21; a founding member of the Group of Eight (Go8) universities; a member of Universities Australia; a member of the Association of Pacific Rim Universities (APRU); and one of only 3 Australian charter members of the prestigious edX consortium, the world's leading not-for-profit consortium of massive open online courses (MOOCs).

UQ employs more than 6,900 academic and professional staff (full-time equivalent) and has a \$2.385 billion annual operating budget.



Governance

The University is governed by a 21-member Senate representing University and community interests. Senate is led by a Chancellor and Deputy Chancellor. The Senate has delegated to the Vice-Chancellor many of its powers under the *University of Queensland Act 1998* to appoint staff, manage and control University affairs and property, and manage and control finances.

uq.edu.au/about/governance

Strategic direction

By 2032, UQ will be known as a university that:



Delivers highly sought-after graduates, who are prepared for future success through rich and broad educational experiences



Leads as a premier provider of high-quality postgraduate and lifelong learning opportunities



Leverages the breadth and depth of its research capabilities and vibrant precincts to address the world's most pressing challenges



Is a trusted and agile partner widely regarded as a leader in entrepreneurship, knowledge exchange and commercialisation



Has an extensive global reach in education and research with a strong commitment to capacity building in the Indo-Pacific



Breaks down barriers to education through the targeted and effective Queensland Commitment



Is values-led, deeply committed to delivering for the public good and supporting our people, leading reconciliation, and embracing different life experiences and perspectives



Strategic plan 2022-2025

Our vision

Knowledge leadership for a better world.

Our mission

Our core purpose is to deliver for the public good through excellence in education, research and engagement with our communities and partners: local, national and global.

Our values

What we strive for

Creativity

We apply our creativity as a way of seeking progress. We value new ideas, seek fresh perspectives and pursue game-changing innovations and opportunities

Excellence

We strive for excellence in everything we do. We apply the highest standards to our work to achieve the greatest impact for the benefit of communities everywhere.

Central to what we do

Truth

Truth is central to all that we do as a university. We seek truth through our focus on the advancement and dissemination of knowledge, and our deep commitment to academic freedom and freedom of expression.

How we work together

Integrity

We always act with integrity. As stewards of the University's resources and reputation, we are honest, ethical and principled.

Courage

We are courageous in our decision-making. We are ambitious, bold and agile. We demonstrate moral courage, so that we are always guided by a sense of what is right.

Respect and inclusivity

We provide a caring, inclusive and empowering environment for all. We engage respectfully with one another and promote the value that our diversity brings to our whole community.

about.uq.edu.au/strategic-plan



Leadership capability expectations

The UQ Leadership Framework identifies seven key capabilities that define leadership in the UQ context. The framework aligns with UQ's strategic direction, and mission, vision and values.

Achieves results and drives accountability

Leaders ensure engagement and performance, and motivate and empower others to achieve results.

Communicates and collaborates with influence

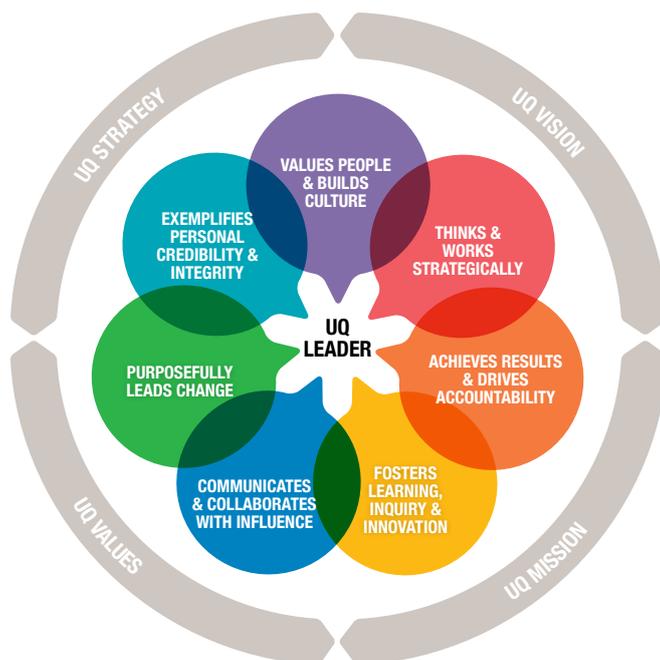
Leaders engage others in open and honest dialogue about important issues and actively seek common interests and goals.

Exemplifies personal credibility and integrity

Leaders strive for personal achievement and are visibly proactive and ethical in their dealings with others.

Fosters learning, inquiry and innovation

Leaders nurture an environment that allows for multiple perspectives, challenge assumptions, and model openness to new ideas.



Purposefully leads change

Leaders initiate and lead change and improvement agendas, modelling behaviour that embraces innovation and change.

Thinks and works strategically

Leaders create and communicate a clear direction for the future, aligned with UQ's vision.

Values people and builds culture

Leaders create a positive, constructive workplace where people feel connected and valued.



About Brisbane

Brisbane is the sunny, sophisticated capital city of Queensland and gateway to its many famous attractions. Australia's third largest city and fastest-growing capital with a population of more than 2.2 million, it offers a safe, friendly, multicultural environment. The inner city is characterised by the Brisbane River, parklands, convention facilities, museums, art galleries, a casino, malls, shopping districts and a host of cosmopolitan restaurants and cafes.

Brisbane offers a range of lifestyle benefits including climate, culture, family fun and sport. Residents and visitors can combine art and outdoor adventure in Brisbane, where South Bank's cultural institutions and restaurants meet riverside gardens and a lagoon. Take a paddle steamer or ferry down the Brisbane River, abseil Kangaroo Point cliffs and bike ride through the City Botanic Gardens. Go for a day trip to Moreton Island, Noosa, the Sunshine Coast or the Gold Coast with just a short drive to each beautiful destination. National Parks, rainforests and attractions such as Australia Zoo, Dreamworld and other theme parks are also a short drive away.

The perfect place to raise a family, Brisbane is one of the safest cities in Australia and boasts a wide range of cultural attractions, numerous theatres, art galleries and a world-class museum; the city is dubbed a food and drink lover's paradise. Brisbane is one of Australia's most liveable and affordable capital cities. Brisbane enjoys a subtropical climate providing sunny days almost all year round, with enough rainfall to keep the city and suburbs cool and green.

Just an hour south of Brisbane's CBD is the Gold Coast, where the high-rises are built around superb beaches like Surfers Paradise with lively nightlife, international theme parks and designer boutiques. A few hours drive north from Brisbane is the Great Barrier Reef, one of the 'natural wonders of the world'. As the largest World Heritage Area, it stretches more than 2,000 kilometres alongside the coast, and is home to around 1,500 species of fish and 350 types of coral. Stradbroke, Moreton and Fraser Islands are also world-famous attractions that are close to Brisbane, and offer some of the largest sand dunes in the world.

A leader in education

Brisbane has a wide range of high-quality schools at primary and secondary level, religious or non-denominational, single-sex or co-educational, with many offering excellence programs or other specialty features such as the International Baccalaureate. Brisbane also offers some of the greatest learning institutes in Australia, with three major internationally recognised universities on offer. Each Brisbane university offers a high-quality learning environment with access to some of Australia's finest institutions covering all areas of study from law and medicine through to business, marketing, tourism, IT and biotechnology. The University of Queensland (UQ) is one of Australia's leading research and teaching institutes, ranking among the world's top universities.

Lifestyle

In the heart of Brisbane city, Queen Street Mall is a vibrant shopping and lifestyle precinct and is Australia's most popular pedestrian mall. Brisbane is also the home for many of Queensland and Australia's major sporting events in rugby league, rugby union, AFL and cricket.

Brisbane residents have excellent access to healthcare in both public and private sectors, covering hospitals, general practitioners, dentists and other allied healthcare professionals. The numerous public and private hospitals include the Princess Alexandra Hospital, the Mater Hospital network, The Queensland Children's Hospital and the Royal Brisbane and Women's Hospital. Urgent and emergency medical care is readily available to everyone.



Further information

General information on the University is available through the University's website: uq.edu.au

Other documents which you may wish to refer to include:

- Annual Report:
about.uq.edu.au/organisation/policies-procedures-guidelines/annual-reports
- Governance:
about.uq.edu.au/governance
- Key statistics:
pbi.uq.edu.au/ClientServices/UQStatistics/index.aspx
- Organisation chart:
about.uq.edu.au/files/5643/org-chart.pdf
- Research at UQ:
research.uq.edu.au
- Strategic Plan 2022–2025:
about.uq.edu.au/strategicplan
- UQ Global Strategy:
global-strategy.uq.edu.au
- UQ Reconciliation Action Plan:
about.uq.edu.au/reconciliation/plan
- UQ Aboriginal and Torres Strait Islander Employment Strategy:
staff.uq.edu.au/files/24066/uq-indigenous-employment-strategy-2019.pdf





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