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## POSITION DESCRIPTION

<b>Position Title:</b>	Postdoctoral Research Fellow: Large area organic light emitting diodes (OLEDs) and photo-detectors
<b>Organisation Unit:</b>	School of Chemistry and Molecular Biosciences
<b>Position Number:</b>	
<b>Type of Employment:</b>	Full time fixed term for 2 years
<b>Classification:</b>	Academic Research Level A6 – A8

## 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 Performance Ranking of Scientific Papers for World Universities (45), the US News Best Global Universities Rankings (52), QS World University Rankings (51), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (60). UQ again topped the nation in the prestigious Nature Index; and secured a greater share of Australian Research Council grants in 2016 (\$24.5 million) than any other university nationally.

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://uniquiest.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 Centre for Organic Photonics & Electronics (COPE) draws together expertise from Chemistry and Physics in a combined facility ([www.physics.uq.edu.au/cope](http://www.physics.uq.edu.au/cope)). COPE has >30 senior research staff, postdoctoral fellows and research students and is housed in newly refurbished laboratories on the 9th Floor of the Chemistry Building that include state-of-the-art synthesis and materials characterisation facilities; a Class 1000 clean room incorporating gloveboxes with integral evaporators for device fabrication; and prototype measurement capability. The laboratory is located on the St. Lucia campus, one of the most spacious and attractive university campuses in Australia.

The Centre has extensive experimental and theoretical research programs in optoelectronic organic materials for organic photovoltaics, organic light emitting diodes, organic field effect transistors and circuit elements, organic light-emitting transistors and circuit elements. The laboratory is located in the School of Chemistry & Molecular Biosciences at the St. Lucia campus, one of the most spacious and attractive university campuses in Australia.

The School of Chemistry and Molecular Biosciences (SCMB) combines the disciplines of Chemistry, Biochemistry & Molecular Biology, Microbiology and Parasitology into a single academic unit. The School has modern research laboratories with state-of-the-art equipment and research infrastructure. The School includes over 50 academic staff, who are widely published internationally and have extensive research backgrounds. Information about the School and research interests of academic staff may be found on the web site <http://www.scmb.uq.edu.au>.

This postdoctoral research fellow position is directly associated with an Australia-India Strategic Research Fund (AISRF) project aims to develop lighting technology based on Organic Light-Emitting Diodes (OLEDs), and photo-sensor technology based on solution processed semiconductors. The project is at the frontier of the multidisciplinary field of organic-inorganic opto-electronics and has the potential for impact across a broad range of science and technology. The project also benefits from external collaboration at Monash University and organisations in India including Scientific and Industrial Research-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Indian Institute of Technology (IIT) Bombay, IIT-Kanpur and Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR).

## **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 Position

The main area of study will be the design, synthesis and characterisation of organic chromophores for organic light-emitting diodes for lighting and/or photo-detectors.

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## Duties

Duties and responsibilities include, but are not limited to:

### Research

- Conduct research in the area agreed with the supervisor and publish scholarly papers.
- Work with colleagues and postgraduates in the development and carrying out of joint research projects between Australia and India.
- Present research findings at group meetings, seminars, and conferences.
- Give weekly written progress reports.

### Service and Engagement

- Perform a range of administrative functions in the School
- Foster the School'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 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 reports to Drs Shih-Chun Lo and Ebinazar Namdas, Centre for Organic Photonics & Electronics.

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## SELECTION CRITERIA

### Essential

- PhD in Chemistry or post-doctoral experience in a relevant area of Chemistry (organic, materials synthesis) and preferably experience of organic optoelectronic materials synthesis and characterisation.
- Have recent and extensive experience in organic optoelectronic materials synthesis and characterisation;
- Have a sound knowledge of organic devices and the factors that are important in material designing organic materials for these applications;
- Have an in depth understanding of materials' thermal (DSC, TGA) and electrochemical properties;
- Be expected to be able to demonstrate competence/success in any of these areas, e.g. as judged by publications (or papers in press) in peer reviewed journals;
- Be able to plan and execute chemical synthesis and characterisation successfully and safely with minimal supervision;
- Have the ability to take accurate and reliable records of work carried out;
- Have demonstrated capacity to work in a multi-disciplinary team in an integrated program of work;
- Have a general broad working knowledge of modern organic optoelectronics science and technology, and the ability to convey this understanding, and the awareness of current important trends and developments reported in the recent literature. Particular evidence will be sought of deeper understanding of the applicant's previous fields of research and evidence of independent intellectual and practical contributions to previous research projects - as evidence that such attributes can be brought to bear on the present project.
- Ability to work collaboratively with colleagues;
- High level communication, inter-personal and communication skills.

### Desirable

- Familiarity with online database searching;
- The ability to work supportively in a laboratory environment with junior co-workers;
- The ability to present work to other scientists in the field in a clear and concise manner.

### **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.**

**Applications are particularly encouraged from Aboriginal and Torres Strait Islander peoples. For further information please contact our Australian Indigenous Employment Coordinator at: [atsi\\_recruitment@uq.edu.au](mailto:atsi_recruitment@uq.edu.au)  
Applications are also encouraged from women.**