POSITION DESCRIPTION

Job Title: Postdoctoral Research Fellow: Organic Optoelectronic Device Fabrication and Testing

Organisation: Centre for Organic Photonics & Electronics

Unit: Centre for Organic Photonics & Electronics

Position Number: 3023562

Type of Employment: Full time, fixed term for 3 years

Classification: Academic Research Level A

Closing Date: 13 May 2011

BACKGROUND

Organisational Environment

The Federal Government’s 2010 Excellence in Research for Australia survey confirmed The University of Queensland as one of the nation’s top two universities, measured on a combination of research quality and breadth. ERA reported that research at UQ is above world standard in more broad fields than at any other Australian university: this reflects UQ’s leading global role in many areas of discovery. More researchers at UQ are working in research fields that ERA has assessed above world standard than at any other Australian university. UQ’s outstanding critical mass offers researchers significant interdisciplinary capability.

UQ integrates its research strengths with excellent teaching and learning and has won more national teaching awards than any other Australian university. The Times Higher Education-QS table ranks UQ in the top 100 universities globally, and the Shanghai Jiao Tong University World Rankings names UQ as a top 20 Asia-Pacific institution. UQ is one of Australia’s Group of Eight, and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

UQ’s 44,000-strong student community includes 10,000 postgraduate scholars and almost 10,000 international students from 134 countries. The University has 6300 academic and professional staff and a $1.4 billion annual operating budget. Its major campuses are at St Lucia, Ipswich, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city. The University has six faculties and eight institutes. The institutes — funded by government and industry grants, philanthropy and commercialisation activities — have built scale and focus in research areas that UQ regards as strategically important.

The Centre for Organic Photonics & Electronics (COPE) draws together expertise from Chemistry and Physics in a combined facility (www.physics.uq.edu.au/cope). COPE has >40 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. COPE is located within the School of Chemistry and Molecular Biosciences (SCMB), which combines the disciplines of Chemistry, Biochemistry & Molecular Biology, Microbiology and Parasitology into a single academic unit.
The Centre has extensive experimental and theoretical research programs in optoelectronic organic materials for organic photovolatics, organic light emitting diodes, organic field effect transistors and circuit elements, organic chemisensors and unconventional superconductors. Along with its partners Flinders University and University of Technology Sydney, the Centre has just been successful in gaining funding through the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Flagship Cluster Program to develop next generation transparent electrodes for use in plastic (organic) optoelectronics. This postdoctoral research fellow position is directly associated with this Flagship Cluster.

Information for Prospective Staff

Information can be found at https://www.uq.edu.au/ugjobs.

Schedule 10 of The University of Queensland Enterprise Agreement 2010 – 2013 outlines the position classification standards for Levels A to E.

DUTY STATEMENT

Primary Purpose of Position

The main area of study will be the fabrication and testing of organic optoelectronics devices namely OLEDs and OPVs. The position will focus on the integration of new transparent electrode materials into devices and is part of the CSIRO Flagship Cluster Project: Characterisation and Testing of Transparent Electrodes.

Duties

Duties and responsibilities include, but are not limited to:

- 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.

Administration

- Comply with the University’s Code of Conduct (see the University’s web site at http://www.uq.edu.au/hupp/?page=24987)
- 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)

Occupational Health and Safety:

- Comply with requirements of Queensland occupational health and safety (OH&S) legislation and related OH&S responsibilities and procedures developed by the University or School. (see the University’s web site at http://www.uq.edu.au/ohs/index.html?page=133956)

Reporting Relationships

The position reports to Prof Paul Meredith and Prof Paul Burn, Centre for Organic Photonics & Electronics.
SELECTION CRITERIA

Qualifications

Essential
• Hold a PhD in a relevant area of organic optoelectronic device physics and engineering with particular experience in organic light emitting diode (OLED) and organic photovoltaic (OPV) fabrication and testing.

Knowledge and Skills

Essential
• Have recent and extensive experience in the fabrication and testing of OLED and OPV devices;
• Have experience in physical, electrical and optoelectronic property characterisation of OLEDs and OPVs;
• Have an in depth understanding of basic processes in organic optoelectronic devices;
• Have experience in fabricating and/or characterising transparent conducting electrode materials for organic optoelectronic devices;
• Be expected to be able to demonstrate competence/success in any of these areas, eg as judged by publications (or papers in press) in peer reviewed journals;
• Be able to plan and execute fabrication and testing protocols 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 large multi-disciplinary teams across multiple sites 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.

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;
• Knowledge and experience with modern clean room practices and vacuum deposition systems;
• Knowledge and experience in physical characterisation techniques particularly film adhesion and barrier layer properties (gas / liquid permeability).

Personal Qualities

Essential
• Ability to work collaboratively with colleagues;
• High level communication, inter-personal and communication skills.

The University of Queensland is an equal opportunity employer.

Smoking is prohibited in all University buildings.