POSITION DESCRIPTION

Position Title: Surface Analysis Scientist
Organisation Unit: Centre for Microscopy and Microanalysis
Position Number: 3015952
Type of Employment: Fixed Term
Classification: HEW 8

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 Centre for Microscopy and Microanalysis (CMM) has a world standard laboratory equipped with state-of-the-art instrumentation and techniques in electron and X-ray microscopy and analysis. The Centre has a wide range of cutting edge instruments and techniques including, conventional and cryo electron microscopes, cs corrected S/TEM, X-ray analysis instrumentation, electron based nano-fabrication tools as well sample preparation facilities for material and life science and data processing workflows. The centre provides leading edge capability in microstructural analysis to the staff and students across a broad range of disciplines at the University of Queensland.

The Centre’s strengths lie in training clients in relevant techniques and in solving characterisation problems relevant to a wide range of industrial, environmental and biological processes.

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-ug

DUTY STATEMENT

Primary Purpose of Position

This role is to principally manage, maintain and operate the X-ray Photoelectron Spectrometer which is located in the Centre for Microscopy and Microanalysis (CMM). The role involves a number of aspects including the training of new users in the proper and effective usage of the instrumentation, conducting experiments for clients and the production of high spectra and experimental results and the development of new workflows for in operando and correlative experiments. In addition, aiding clients in experimental design and in the interpretation of high quality data will be a highly significant aspect this management position.

Duties

Duties and responsibilities include, but are not limited to:

Training and Assisting Clients in:
- Advanced X-ray techniques such as X-ray spectroscopy and imaging,
- X-ray photoelectron spectroscopy and other surface science techniques e.g. SIMS/REELS/Raman,
- UHV technology,
- Sample preparation,
- Analysis of data, and
- Radiation safety.
Provision of service to client projects including:
- Consultation and guidance of clients in surface science challenges,
- Conducting surface analysis or other measurements,
- Data analysis and presentation of results,
- Assisting in manuscript preparation where appropriate, and
- Report writing.

Laboratory Upkeep:
- Coordination of preventative and emergency maintenance of instruments,
- Writing and updating of user manuals, safety protocols and standard operation procedures,
- Ordering of consumables and laboratory materials, General laboratory maintenance,
- Assisting in planning for and securing the next generation of instruments and infrastructure, and
- Adopting sustainable practices and implementing efficient workflows.

Administration:
- Administration, documentation and reporting of client activities,
- Maintaining up-to-date client and instrument risk assessments,
- Assisting in the ensuring the overall compliance of the laboratory with the University’s Code of Conduct, OH&S responsibilities and X-ray safety regulations, and
- Assisting in administration of financial activities of the laboratory.

Outreach, Engagement and Development:
- Engage externally in areas of relevance to CMM and Research Platforms including activities of the National Microscopy Platform (Microscopy Australia),
- Support of R&D projects in novel experiments, improved workflows or analysis methods,
- Learning (upskilling) of current or future methods relevant to function in CMM,
- Teaching in X-ray and surface analysis methods in lecture series, workshops, technique schools, demonstrations for lectures, visitors or schools etc.

Other
- Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including but not exclusive to:
  a. the University’s Code of Conduct
  b. 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
  c. the adoption of sustainable practices in all work activities and compliance with associated legislation and related University sustainability responsibilities and procedures
  d. 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 the Manager of the X-ray diffraction, spectroscopy and imaging laboratory.
SELECTION CRITERIA:

Essential

- Postgraduate qualifications in Chemistry, Physics or Chemical or Materials Engineering with a focus in surface analysis and X-ray methods or progress towards postgraduate qualifications and extensive relevant experience.
- Strong understanding of the principles of X-ray characterisation and vacuum technologies including cryo-vacuum handling.
- Strong understanding of the principles of surface science methods and spectroscopy methods, including in situ and in operando methods.
- Best practice knowledge in sample preparation for surface science applications including UHV, Cryogenic, in-situ, in operando samples
- Best practice knowledge of computational processing and analysis of X-ray data.
- At least 3 years of direct experience in soft X-ray spectroscopy techniques, with expertise in handling samples in UHV, using instruments and evaluating data.
- Research or practical experience in the theory and simulation of surface science spectroscopy methods data acquisition and analysis
- Experience in applying scientific and engineering principles and practices to perform technical services and support.
- Experience in working in teams.
- Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents.

Desirable

- Previous experience in the management of scientific instrumentation.
- Developed industry liaisons and professional contacts.
- Experience in liaising and collaborating with external agencies to develop co-operative research initiatives.
- Previous experience in operating within a client focused research platform.
- Experience in complementary X-ray or surface science methods.
Vaccinations and Immunisation

It is a condition of employment for this role that if you are required now or in the future, to work or interact in Queensland Health clinical facility; or in an equivalent clinical health facility; or health care role; or will be required to perform work tasks that put you at risk of exposure to vaccine-preventable disease you are required to be immunised against, and remain immunised against, certain vaccine preventable diseases (VPDs) in accordance with the University’s Vaccinations and Immunisation Guidelines (PPL 2.60.08). The employee is required to provide evidence of immunisation against VPDs.

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.