POSITION DESCRIPTION

Position Title: Scientific Officer
Organisation Unit: Centre for Microscopy and Microanalysis
Position Number: 3049582
Type of Employment: Fixed Term, Part Time
Classification: HEW Level 6

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) operates world-class facilities for the characterisation of natural and man-made materials and is equipped with state-of-the-art instrumentation and techniques using electron, laser, X-ray and ion probes for imaging and spectroscopy. The Centre has a wide range of cutting-edge instruments and techniques including conventional and cryo electron microscopes (SEM, TEM), Cs corrected STEM, X-ray analysis and imaging methods, ion and mass spectrometry imaging, and 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 researchers 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, material, environmental and biological processes.

Information for Prospective Staff

Information about life at UQ including staff benefits, relocation and UQ campuses is available online.

DUTY STATEMENT

Primary Purpose of Position

To support the Centre’s Material Sciences Team by providing training in Scanning Electron Microscopy (SEM), Electron Backscatter Diffraction (EBSD), Electron Probe Microanalysis (EPMA) and relevant sample preparation equipment to its clients, as well as assisting clients with the preparation and processing of specific samples as stipulated by the Lab Manager. In addition the position will provide support for X-ray analysis and sample preparation techniques, which are a valuable part of the overall materials sciences workflows.

Duties

Duties and responsibilities include, but are not limited to:

- Training and instruction of CMM clients and staff in SEM, Advanced SEM (high resolution FE-SEM with stage bias and in-lens detectors) and microanalysis (EBSD, EPMA) including sample preparation and laboratory safety.
- Support for client research projects in SEM, Advanced SEM and microanalysis and relevant sample preparation through the provision of expertise and advice.
- Provision of routine SEM, Advanced SEM and microanalysis including sample preparation services for preliminary/feasibility testing on behalf of new users.
- Sample preparation, measurements, image collection, basic data analysis and reporting for and to clients on a fee for service basis in SEM, Advanced SEM (high...
resolution FE-SEM) and microanalysis (EBSD, EDS, EPMA) and X-ray analysis techniques such as XRPD or X-ray spectroscopy.

- Support of Research & Development projects in novel experiments related to SEM, advanced SEM and microanalysis, sample preparation, improved workflows or analysis methods – including supporting approved R&D projects of CMM Staff.
- Continual education and learning (upskilling) of current or future methods relevant to function in CMM through teaching and exchange with peers or through events organised by CMM and/or relevant organisations in the discipline.
- In addition to their recognised speciality CMM staff are expected to become sufficiently knowledgeable in one or more related techniques and instruments to be able to function as their back-up trainer and fee for service provider.
- Teaching of SEM, advanced SEM, microanalysis and sample preparation instruments through lecture series, workshops, technique schools (e.g. Summer Schools), demonstrations for lectures etc. Includes preparation time for events as needed
- Responsibilities for the coordination of preventative and emergency maintenance of SEM and EBSD infrastructure (including instruments for the full workflow: sample preparation, data collection and post processing).
- Writing and/or periodic reviewing of relevant user manuals, safety protocols, risk assessments and standard operation procedures, etc.
- Administration of all client related activities in CMM’s bookings management system and other reporting.
- Engaging in CMM meetings and special groups.
- Providing laboratory tours for visitors.
- Responsibility for orders and financial activities within the lab where relevant to the position.
- Engage externally in areas of relevance to CMM and CRP at UQ. For example on committees, professional bodies and with instrument manufacturers

Organisational Relationships

The position reports to the Manager of the Material Sciences Facility in CMM.

SELECTION CRITERIA

- A degree combined with subsequent relevant experience in Material Sciences, Geology, Chemistry, Engineering or similar fields
- Sound knowledge of SEM, advanced SEM (FE-SEM with in-lens detectors), microanalysis (EBSD and EPMA), X-ray characterisation, JEOL EPMA software, and Oxford EBSD software along with their applications in a diverse range of fields (e.g. biology, metallurgy, geology, engineering, etc.).
- The ability to clearly communicate knowledge to users either in a group setting or through individual training.
- Knowledge of general maintenance of SEM instruments including software upgrades and filament exchange as well as equipment required for sample preparation and other workflow related activities.
- A sound knowledge of rules and procedures for operating a safe laboratory environment at UQ (as per UQ’s Policies and Procedures Library (PPL)) in general, and those pertaining to SEM and/or SEM relevant instruments in specific.
- Excellent interpersonal skills including the ability to communicate effectively with clients by telephone, email and in person
- Ability to prioritise own workload, work independently and meet deadlines.
• Commitment to upholding the University's values, and with the outstanding personal qualities of openness, respectfulness and integrity
• Must hold or obtain licences relevant QLD Health Radiation Use Licence for the operation of analytical X-ray equipment.

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.

Accessibility requirements and/or adjustments can be directed to recruitment@uq.edu.au.