POSITION DESCRIPTION

Position Title: Scientific Officer (RIF)
Organisation Unit: School of Earth and Environmental Sciences
Position Number: 
Type of Employment: Full time, Fixed Term
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 Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (52), QS World University Rankings (47), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (65). UQ again topped the nation in the prestigious Nature Index and our Life Sciences subject field ranking in the Academic Ranking of World Universities was the highest in Australia at 20.

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 240,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.8 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://uniquest.com.au/our-track-record).

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 School of Earth and Environmental Sciences (SEES) is part of the Faculty of Science and is located on the St Lucia campus (Brisbane) of the University. It has 101 academic staff, and 26 professional and technical staff. There is a large contingent of research appointments and the School has been active in establishing a range of adjunct positions in order to promote engagement with leaders in government and the professions.

SEES hosts world-class facilities which include a state-of-art planning studio, GIS computer laboratories, sample preparation facilities and a complex analytical infrastructure consisting of trace element, radiogenic and stable isotope geochemistry, radiogenic and noble gas geochronology, coal petrology and organic geochemistry, geomicrobiology and fluid inclusion facilities (see https://sees.uq.edu.au/research/analytical-facilities for details).

A recently built geomicrobiology laboratory provides culturing facilities for aerobic and anaerobic microorganisms, including a coy anaerobic chamber, a photosynthetic growth chamber, fluorescence microscopy, and sample preparation for SEM and TEM analyses of bacteria-mineral interactions. In addition, the School maintains close links with the Centre for Microscopy and Microanalysis, a Major National Research Facility that provides access to electron microscopes (SEMs and TEMs), electron microprobes, X-ray diffractometers, nano-SIMS, surface analysis capabilities, and a host of other modern analytical instrumentation.

Further information and details on the research interests of staff in the School of Earth and Environmental Sciences can be found on the web at http://www.sees.uq.edu.au/.

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

DUTY STATEMENT

Primary Purpose of Position

The appointee is responsible for sample preparation, column chemistry and performance of low-level, high-precision trace element, radiogenic and metal stable isotope analyses using mass spectrometers housed in the Radiogenic Isotope Facility (RIF), part of the Centre for Geoanalytical Mass Spectrometry (CGMS) in the School of Earth and Environmental Sciences, which include two Inductively Coupled Plasma Mass Spectrometers (ICP-MS), two Multi-Collector Inductively Coupled Plasma Mass Spectrometers (MC-ICP-MS) and an ASI RESOLution SE laser system for in situ high-spatial resolution isotope and elemental analysis when coupled with the ICP-MS machines. The position supports UQ staff and research higher degree students in trace element, radiogenic and metal stable isotope geochemistry and geochronology research projects and also undertakes work for external clients on a fee for service basis.
Duties

The appointee will be responsible for a variety of tasks:

- Undertake sample digestion and perform high-precision trace element analyses of geological, environmental and biological samples for research and commercial projects using ICP-MS;
- Perform column chemistry and high-precision measurement of radiogenic and metal stable isotope compositions of geological, environmental and biological samples for research and commercial projects using MC-ICP-MS;
- Perform in situ high spatial resolution elemental and isotopic analysis of research and commercial samples by laser-ablation ICP-MS or MC-ICPMS.
- Development of analytical protocols for trace element and radiogenic and metal stable isotope ratio analysis;
- Involved in the operation and maintenance of the instruments in the CGMS facility;
- Provide training and assistance to HDR students and staff on projects including documentation of training and instrument usage;
- Contribute to the research output of projects, including joint preparation and authorship of reports and manuscripts where appropriate;
- Provide OH&S training for laboratory users; and
- 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 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 reports to Professor Sue Golding, Director CGMS
SELECTION CRITERIA

**Essential**
- Science degree in chemistry or geochemistry with subsequent relevant experience, or an equivalent combination of relevant education/training;
- Demonstrated knowledge and experience in a HEPA-filtered ultra-clean geochemistry laboratory environment for sample preparation (including digestion using HF), column chemistry, low-level trace element geochemistry and high-precision radiogenic isotope analysis;
- Demonstrated ability to operate and maintain Inductively Coupled Plasma Mass Spectrometers (ICP-MS) and/or Multi Collector-Inductively Coupled Plasma Mass Spectrometers (MC-ICP-MS);
- Knowledge of software packages for system control and data manipulation;
- Experience in providing OH&S training for laboratory users;
- Demonstrated ability to work collaboratively with colleagues and relate to student needs;
- Experience in writing research based documents for publishing;
- Readiness to work flexible hours when necessary; and
- High level of communication and interpersonal skills.

**Desirable**
- Ability to operate and maintain laser systems coupled with ICP-MS machines for *in situ* high-spatial resolution isotope and elemental analysis;
- Ability to develop sample preparation and analysis protocols for a wide range of geological, environmental and biological samples;
- Knowledge of OH&S requirements pertaining to laboratory operation in Queensland; and
- Experience in complying with requirements of Queensland Occupational Health & Safety legislation and related OH&S responsibilities.

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 ([http://www.uq.edu.au/equity](http://www.uq.edu.au/equity)) for further information and points of contact if you require additional support.