Research Technician – UBC Okanagan Campus

http://www.hr.ubc.ca/careers-postings/staff.php

Job ID: 26240

Location: Kelowna - UBC Okanagan

Employment Group: BCGEU UBC-Okanagan

Job Category: Research/Technical - BCGEU

Classification Title: Research Assist./Tech. V

Business Title: Technician V (FiLTER ICP-MS Technician)

VP/Faculty: UBCO-Vice Principal, Research

Department: UBCO - Filter Lab

Salary: $48,648.00 (Annual)

Full/Part Time: Full-Time

Ongoing: Yes

Desired Start Date: 2017/05/15

Funding Type: Budget Funded

Job Summary

The role holder will facilitate directed research on the microchemistry and microstructure of geological, biological and engineering materials. The individual is expected to work independently with minimal direct supervision to devise and implement new analytical protocols, quality control measures and data processing procedures. The role holder will monitor, maintain, repair, modify and strive to improve the facility instrumentation and assist with the installation of new instrumentation as required. The technician is also responsible for specifying, monitoring, modifying and maintaining laboratory infrastructure and services, including reconstruction and modification should reorganization of the facility be necessary. The technician will train facility users and oversee their activities within the FiLTER facility, including recommending and assisting with the implementation of analytical strategies. The role holder may be required to provide assistance or advice with mass spectrometry and related instrumentation in other facilities within the Irving K. Barber School.

The position requires knowledge of the University of British Columbia financial management system for the purpose of ordering operational supplies and arranging service and repairs. The role holder will place orders and reconcile invoices.

The technician is encouraged to work collaboratively with the VP Research and FiLTER Director to promote FiLTER through presentations at relevant scientific meetings. The role requires proficient knowledge of regulatory requirements for the operation of laboratories. The technician has a duty to ensure that all tasks conducted within FiLTER are designed, implemented and performed in a safe manner that conforms to current legislation and work place protocols.

Organizational Status

The VP Research and Dean of the Irving K. Barber School of Arts and Sciences have oversight of FiLTER and positions within the facility. The technician will work day-to-day with the FiLTER Director to operate and maintain FiLTER instrumentation and associated infrastructure in the FiLTER facility. The FiLTER technician supervises the activities of facility users, interacts with vendors, suppliers and University support staff, and may supervise contract employees hired periodically to assist with duties in FiLTER.

Work Performed

1. Research Support:

Measure and characterize the microchemistry of geological, biological, engineering or other materials via inductively coupled plasma mass spectrometry.

Quantify the elemental compositions of geological, biological, engineering or other materials at the micron scale using laser ablation.

Dissolve specimens, prepare chemical spikes, and analyze the compositions of materials and samples through dilution methods.

Assume responsibility for laboratory analytical protocols, quality control measures and data processing procedures.

Assist PIs with data processing and interpretation, in particular, with regard to instrument limitations and performance.

Compile and maintain a record of peer-reviewed output from the facility for inclusion in the FiLTER facility annual report.

Provide assistance and advice with the operation and maintenance of mass spectrometry instrumentation in other laboratories as required or time permits.

2. Facility Operation and Development:

Identify and assess emergent technologies of importance to the facility and users.

Advise PIs about research instrumentation, software and analytical methods.

Travel to vendor-facilities or research labs to test capabilities of potential instrumentation.

Provide technical consultation on the specification, purchase, delivery and installation of instrumentation. Maintain, service, redesign, and replace facility instrumentation, which currently consists of a ThermoFisher Element XR ICP-MS, Photon Machines Analyte 193 Excimer Laser, ThermoFisher X2 Quadrupole ICP-MS, Cameca SX5 EMP, and Tescan Mira3 XMU SEM.

Oversee the technical functioning of sample preparation areas and data processing facilities, which presently include a dedicated 'dirty' lab for cutting, grinding, powdering and polishing specimens, a trace metal clean laboratory, and off-line computing facilities for data processing (Windows, MacOS, Glitter, Iolite and vendor specific software).

Maintain, service, repair and replace ancillary equipment.

Test and develop new methods for analyzing different types of materials.

Liaise with other University departments, external vendors and manufacturers, other research facilities and external users.

3. Laboratory Facility Technical Functioning:

Consult on laboratory construction and modification projects in collaboration with the University, design and construction companies.

Specify and maintain laboratory facilities requirements including HVAC, lighting, architectural elements, electrical supplies, cooling/process liquids, process gas, compressed air, acoustics and vibration.

Maintain all facilities to optimize instrumentation performance and research potential.

4. Supervision of Engineering Support and Service:

Determine the need for, ascertain the scope of work, employ the services of and supervise the performance of engineering support provided by development engineers, manufacturer engineers, campus engineering, campus technical staff and workshops.

Perform direct engineering services, such as troubleshooting and repair of analytical instruments, for optimum performance and calibration of analytical instruments.

5. Training and Documentation:

Demonstrate techniques to laboratory/analytical equipment users and oversee academic work.

Provide instruction to facility users on the appropriate use of techniques and interpretation of analyses.

Conduct laboratory-training exercises, calibrate and maintain research instrumentation for instructional and training operations, and guide/oversee researcher training and use of research facilities.

Maintain a record of user activity, financial transactions and research output for the purpose of generating an annual facility report in collaboration with the Director of FiLTER.

6. Management of Facilities:

Supervise, oversee, and schedule use of facilities.

Represent the facility and UBC in interactions with external organizations charged with maintenance, design, planning and safety of FiLTER facilities.

7. Financial:

Order all operational supplies and servicing of instrumentation as required.

Reconcile invoices and orders in the UBC Financial Management System.

Maintain a comprehensive log of instrument activity for the purpose of billing users.

Bill users and verify that invoices have been paid.

Any other duties as required in consultation with the Director of FiLTER and the Vice-Principal, Research.

Supervision Received

This position operates under administrative direction of the FiLTER Director, the Dean of the Irving K. Barber School of Arts & Sciences, and the VP Research. There is no direct supervision day-to-day other than verification that the facility and equipment are

operating well and being maintained to a high standard, the research needs of users are being met, internal and external financial transacts are being conducted in a timely and accurate manner, and data records and quality control measures are being maintained. The role holder will typically meet weekly with the FiLTER Director and quarterly with the VP Research. Considerable day-to-day autonomy is required in this position.

Supervision Given
This position oversees all activity in FiLTER related to the preparation of samples and their analysis using laboratory instrumentation. Users may include undergraduate and graduate students, postdoctoral fellows, research associates, faculty, adjunct and visiting professors, and visiting researchers. The role holder will provide training to these individuals as required and advise about protocols for sample preparation, instrument calibration, sample analysis, data processing and data limitations. The role holder also is responsible for advising about safe laboratory practices and guidelines that conform to current legislation.

Consequence of Error/Judgement
The position is central to the operation and delivery of services in the FiLTER facility. Poor performance or errors in judgement may impact timely provision of services required by research, in particular students, who are working to strict timelines. Issues with data quality could impact those researchers as well as the reputation of the facility and the University. Errors in performing the responsibilities of this position also could lead to unsafe laboratory conditions, which may jeopardize the safety of facility users and the role holder. Poor decisions could cause financial loss to the University via failure to collect money owing for use of facilities and exposure to liability or damage to equipment or facilities.

Qualifications
A graduate degree (M.Sc. or Ph.D) in a relevant discipline, such as Geochemistry, Isotope Geochemistry, Environmental Chemistry, Analytical Chemistry, Physics, or a related field. . A minimum of five years' experience operating ICP-MS, electron microprobe, SEM or related instrumentation. Experience in the design and testing of analytical systems. A deep knowledge of sample preparation and methods for stable isotope analysis. Data management skills and an sound understanding of quality control protocols. Excellent communication, interpersonal, problem-solving and organizational skills. The ability to exercise initiative, judgment and confidentiality, multi-task and prioritize work to meet deadlines. Verbal and written fluency in English. The ability to work independently and as part of a team, and to manage and train personnel. An interest in scientific challenges and international collaboration. A willingness to travel to gain new skills and to promote the facility.

UBC hires on the basis of merit and is strongly committed to equity and diversity within its community. We especially welcome applications from visible minority group members, women, Aboriginal persons, persons with disabilities, persons of minority sexual orientations and gender identities, and others with the skills and knowledge to

productively engage with diverse communities. All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority.