

Job Description

Job Title:	Inorganic Halogen IRMS Isotope technician
Department:	Earth & Environmental Sciences, Environmental Isotope Laboratory
Reports To:	Lab Manager and Senior Technologist
Jobs Reporting:	None
Salary Grade:	USG 7
Effective Date:	June 2018

Primary Purpose

The Inorganic Halogen – Isotope Ratio Mass Spectrometry (IH-IRMS) Technician is responsible for organic and inorganic samples for ^{37}Cl , ^{81}Br , ^{13}C and ^2H isotope compositions and operating and maintaining the Stable Isotope Mass Spectrometry Systems for analysis. The incumbent will be an integral part of the team to provide sample analyses results in a timely manner to clients from around the world. Duties assigned will include the set up and operation of laboratory analytical equipment, conduct data analysis and interaction with students, co-workers and clients.

Key Accountabilities

Operation, maintenance and troubleshooting

- Responsible for use and relevant maintenance of the following lab equipment:
 - IsoPrime DI/CF/GC - Dual Inlet, Continuous Flow Stable Isotope Ratio Mass Spectrometer (CFSIR-MS) (elementar / Langensfeld-Germany) coupled with an Agilent 7890 Gas Chromatograph (Santa Clara-USA)
 - IsoPrime MF/TD-GC-C-IRMS
 - Thermo-Delta XP TD/PT-C/P-IRMS
 - Delta V-DI/CF/PT/GC - Dual Inlet, Continuous Flow Stable Isotope Ratio Mass Spectrometer (CFSIR-MS) (Thermo Finnigan / Bremen-Germany) coupled with an Agilent 7890 Gas Chromatograph (Agilent / Santa Clara-USA) with ATOMX Purge & Trap (Teledyne Tekmar / Mason-USA)
 - MAT 253-DI/TD/GB/CF/GC - Dual Inlet, Continuous Flow Stable Isotope Ratio Mass Spectrometer (CFSIR-MS) with Gas Bench (Thermo Finnigan / Bremen-Germany) coupled with an Agilent 7890 Gas Chromatograph (Santa Clara-United States), Thermal Desorber (Scientific Instruments / West Palm Beach-USA)
 - TD, P&T, different auto-samplers (Gilson, Combi-Pal) and glove box

Analytical Responsibilities

- The preparation of samples using wet chemistry for determination of inorganic chlorine and inorganic bromine for stable ^{37}Cl and ^{81}Br isotopes analysis
- The preparation of samples for CSIA for chlorine stable isotopes ^{37}Cl , for various chlorinated compounds
- Analyze CSIA samples for ^{13}C and ^2H isotopic composition
- Sample preparation and analysis of dissolved inorganic and organic carbon in water
- Experimental Design and Data Verification to improve repeatability and reproducibility of results
- Correction and reporting of results to the laboratory administrator
- Maintain up to date and improve Technical procedures
- Investigate and develop new methods and procedures to expand lab capabilities

Job Description

Supervision

- Oversee and direct undergrad and grad student casual lab help
- Supervise and teach the analytical techniques to undergrad/graduate students

Other Duties

- General lab clean up and organization
- Other duties as assigned by the uwEILAB Manager

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- Undergraduate Degree in a Science related field required

Experience

- 2-3 years' experience working in a general lab setting
- Experience working in a stable isotope lab preferred
- Experience with different types of analytical sample preparation techniques: SPME, TD and P&T preferred

Knowledge/Skills/Abilities

- Knowledge of DIC water extraction and break-seal combustion for AMS sample preparation
- Effectively manage multiple priorities and exercise independent, prudent judgement
- Strong analytical and problem solving skills
- Excellent verbal and written communication skills
- Intermediate MS Word and Excel

Nature and Scope

- **Contacts:** Good oral skills for telephone contacts, communicate effectively with clients, staff, students and faculty by telephone and/or email.
- **Level of Responsibility:** Provides direction and training to undergrad and grad students and visiting fellows.
- **Decision-Making Authority:** Organize and prioritize samples for weighing and analysis.
- **Physical and Sensory Demands:** Works in a busy lab where it can be noisy and hot, must be able to lift and carry medium weight boxes containing samples to storage areas throughout the labs. Must be able to disconnect, move and reconnect gas cylinders safely.
- **Working Environment:** Lab based with various chemical compounds, and chemicals; may have to stand for extended periods; constant need to give close attention to detail with written material; deadline pressures.