

Job Description

Job Title:	Senior EA-IRMS Isotope Technician
Department:	Earth and Environmental Sciences, Environmental Isotope Laboratory
Reports To:	Lab Manager and Senior Technologist
Jobs Reporting:	None
Salary Grade:	USG 9
Effective Date:	June 2018

Primary Purpose

The Senior Elemental Analyzer – Isotope Ratio Mass Spectrometry (EA-IRMS) Technician is responsible for the preparation of solid, liquid and gas samples for ¹³C, ¹⁵N, ¹⁸O and ³⁴S isotope compositions and operating and maintaining the Stable Isotope Mass Spectrometry Systems for analysis. This position also carries signing authority responsibilities for purchasing of consumables and minor equipment repair in the absence of the EIL manager. As a senior technician, 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

Mass Spectrometer systems and peripherals operation, maintenance and repair

- Responsible for the use and maintenance of the following lab equipment:
 - Deltaplus XL Continuous Flow Stable Isotope Ratio Mass Spectrometer (CFSIR-MS) (Thermo Finnigan / Bremen-Germany) coupled to a Carlo Erba Elemental Analyzer (CHNS-O EA1108 - Italy)
 - Isochrom CFSIR-MS (GV Instruments / Micromass-UK) coupled to a Costech Instruments EA Model 4010 (Costech/Italy)
 - Isochrom CFSIR-MS gas chromatograph-combustion/ MultiPrep/ EA-IRMS (GV Instruments / Micromass-UK) (GC/MP/EA-IRMS)
 - IsoPrime CFSIR-MS (IsoPrime / UK) coupled to elemental vario Pyro Cube High Temperature EA (elementar / Langensfeld-Germany)
- Maintenance of gas flow, furnace and pumping systems and electronic source cleaning and rebuilding of above mentioned equipment
- Provide support to other lab staff for troubleshooting other MS systems and peripherals throughout the various EIL lab spaces
- Coordinates with staff member weighing samples to organize and prioritize samples for weighing and analysis.

Training and Tours

- Training of staff, students and visiting fellows
- Provide explanation of analytical methodology to visiting dignitaries and students touring department facilities
- Provide input on sample requirements, handling and preparation in assisting research project planning with researcher / student / client

Computer Systems

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<ul style="list-style-type: none">• Provide computer systems support for software and hardware (OS and analytical) and hardware component installation and maintenance; covering a wide range of legacy and current software and hardware
Method Development <ul style="list-style-type: none">• Provide experienced input when discussing new equipment upgrade purchases, developing methodologies and new analytical directions
Lab promotion and improvement <ul style="list-style-type: none">• Recruit new clients through attending exhibitor conferences, workshops in rotation with other EIL staff• Provide ongoing assistance in updating and maintenance of the EIL website and on campus promotional media services

**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 <ul style="list-style-type: none">• Master's degree required in a Science related field, PhD preferred• An equivalent combination of education and experience will be considered
Experience <ul style="list-style-type: none">• At least 5 years' experience working in an Isotope laboratory environment• Experience with stable isotope mass spectrometry across several equipment manufacturers required• Experience with associated peripherals (EA, GC, autosampler systems etc) preferred• Experience with handling of chemicals and compressed gases
Knowledge/Skills/Abilities <ul style="list-style-type: none">• Effectively manage multiple priorities and the required time management• Exercise independent, prudent judgement• Strong analytical and problem solving skills• Excellent verbal and written communication skills• Proficient in Word, Excel, Adobe and all statistical handling of data for final reporting to office administration.

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:** Coordinates with staff member weighing samples to organize and prioritize samples for weighing and analysis.
- **Decision-Making Authority:** Monitor consumables and equipment condition to maintain optimal analytical QA/QC; will determine sample repeat frequency and detection of machine problems, related to data quality. Oversee 'juggling' client sample order relating to submission date and or target deadline across analytical platforms; based on 'best fit' and equipment availability. Signing authority for materials and equipment repair, pertaining self and other EIL staff in situations when EIL manager is not available.
- **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

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able to disconnect, move and reconnect move gas cylinders safely. May have to stand for extended periods and travel between laboratories throughout the day.

- **Working Environment:** Lab area populated with various chemical compounds (liquids, solids and gases). Constant need of close attention to sample and equipment detail with logbook entries. Deadline pressures related to multiple analytical responsibilities can lead to long days and at times require 'creative' time management.