Position Title

Research Associate (Environmental Analytical Chemistry & Laboratory Management)

ABOUT US

The **Cold Region Water Resource Recovery Laboratory (CRWRRL)** (crwrrl.com) is a signature environmental systems engineering research laboratory at the **University of Regina** (uregina.ca), Saskatchewan, Canada. CRWRRL conducts cutting-edge research at the intersection of water quality, environmental analytical chemistry, resource recovery, and sustainable infrastructure, with a particular focus on challenges unique to cold and semi-arid regions.

CRWRRL is supported by major funding agencies and partners, including NSERC, CFI, Mitacs, PrairiesCan, Innovation Saskatchewan, the Government of Saskatchewan, as well as multiple municipal and industrial partners. The laboratory is equipped with a wide range of advanced analytical and experimental instruments that are critical to modern water and environmental research, including mass spectrometry-based platforms.

Research outcomes from CRWRRL have catalyzed the creation of a University of Regina spin-off company, EcoLoop Sustainable Technologies Limited, translating laboratory innovations into real-world environmental solutions.

Joining CRWRRL means becoming part of a high-impact, well-funded, and forward-looking research environment, offering opportunities for professional growth, technical leadership, and long-term career development.

The University of Regina is a research-intensive institution located in Regina, Saskatchewan, Canada, with strong and internationally recognized programs in environmental engineering and science. Environmental sustainability and climate action are among the five pillars of the University's strategic plan. The Faculty of Engineering & Applied Science hosts a unique Environmental Systems Engineering program, with faculty conducting leading research in areas such as climate simulation, cold-region engineering, and sustainable drinking water and wastewater treatment.

Position Summary

We are seeking a highly qualified and motivated **Research Associate** to oversee the daily operation, safety, and analytical capability of a research laboratory in environmental engineering and environmental analytical chemistry. The successful candidate will serve as the primary

technical and operational lead of the laboratory under the supervision of the Principal Investigator (PI) and will provide direct support to the PI and research team members.

Candidates holding either a PhD or a Master's degree in a relevant discipline are encouraged to apply. In addition to laboratory management responsibilities, the appointee will conduct research in environmental engineering, contribute to peer-reviewed publications, assist in mentoring and training junior students, and help ensure a safe, efficient, and collaborative laboratory environment.

The position is offered with a one-year probationary period, with the possibility of conversion to long-term employment based on performance, funding availability, and laboratory needs. Salary will be competitive and commensurate with qualifications and experience.

Required Qualifications

- PhD or Master's degree in Environmental Engineering, Environmental Science, Chemistry, or a closely related field.
- Demonstrated specialization in analytical chemistry or environmental analytical chemistry.
- Substantial hands-on, first-hand experience operating and maintaining GC-MS and/or LC-MS systems, or comparable advanced mass spectrometry platforms (e.g., triple quadrupole, quadrupole time-of-flight, or high-resolution mass spectrometry systems), including but not limited to:
    - Routine operation and performance verification
    - Analytical method development and validation
    - Troubleshooting and resolving common instrumental and analytical issues
- Proven experience in environmental sample preparation and trace-level analysis.
- Peer-reviewed publications demonstrating analytical expertise and research capability.

Preferred Qualifications

- *First-hand experience in PFAS analysis and/or plastic additive analysis (e.g., fluorinated compounds, plasticizers, stabilizers) is a strong asset.*
- *Experience analyzing emerging contaminants in complex environmental matrices (e.g., water, wastewater, solids).*
- *Experience managing or co-managing a research laboratory or shared analytical facility.*
- *Strong familiarity with QA/QC protocols, analytical documentation, and research- or regulatory-grade data validation.*
- *Demonstrated ability to mentor and train junior graduate students or laboratory users.*
- *Excellent organizational and communication skills, with demonstrated ability to work both independently and collaboratively in a multidisciplinary research environment.*

Key Responsibilities

Laboratory Management & Operations

- Oversee the laboratory's daily operations under the supervision of the PI.
- Manage laboratory infrastructure, instrumentation scheduling, inventories, and consumables.
- Develop, maintain, and enforce standard operating procedures (SOPs) and maintenance logs.
- Ensure laboratory safety compliance by conducting training, performing risk assessments, and adhering to institutional safety policies.

Analytical & Technical Responsibilities

- Serve as the **primary technical lead** for GC-MS, LC-MS, and other analytical platforms used in environmental analyses.
- Develop, optimize, and validate analytical methods to support ongoing and new research projects.
- Diagnose and resolve routine analytical and instrumental issues; coordinate vendor service when major maintenance is required.
- Ensure data quality, reproducibility, and adherence to QA/QC standards.

Research & Scholarly Activities

- Conduct research in environmental engineering under the direction of the PI.
- Participate actively in experimental design, data interpretation, and peer-reviewed manuscript preparation.
- Contribute intellectually to research planning and proposal development where appropriate.

Mentorship & Team Support

- Assist the PI in training and mentoring junior students, visiting researchers, and new laboratory members.
- Provide hands-on technical guidance and promote best practices in analytical and laboratory work.
- Foster a collaborative, rigorous, and professional research environment.

Other Responsibilities

- Participate in other activities deemed appropriate by the supervisor to support laboratory operations, research excellence, and team development.

Employment Terms

- Full-time appointment with a one-year probationary period.
- Competitive salary, commensurate with degree, experience, and responsibilities in accordance with the **CUPE Local 5791 Research Employees** pay scale at the University of Regina, with the specific salary to be commensurate with the candidate's qualifications and experience. This position includes a comprehensive benefits package as per university guidelines.
- Opportunity for long-term employment subject to performance and funding availability.
- Central role in a growing, well-supported environmental engineering research program.

Application Procedure

Interested applicants should prepare the following application materials in **a single PDF** and forward them to Dr. Jinkai Xue at jinkai.xue@uregina.ca:

- **Cover Letter:** A brief cover letter outlining your interest in the position and relevant experience.
- **Curriculum Vitae (CV):** A detailed CV including your education, laboratory/research experience, technical skills, and any publications or presentations.
- **Research Statement:** 1-2 pages describing your research background, experience with analytical chemistry, and your career goals. Highlight how your expertise will contribute to CRWRRL's objectives.
- **Sample Publications:** Reprints or copies of three relevant research articles (published or in press) that best demonstrate your experience and skills.
- **References:** Names and contact information for at least two referees who can speak to your laboratory skills, research experience, and personal attributes. (At least one reference should be able to comment on your technical expertise in analytical chemistry.)

Please submit your application by the specified deadline. **Incomplete applications may not be considered.**

Application Deadline: Jan 30, 2026
Expected Start Date: April 01, 2026 (negotiable)

We thank all applicants for their interest in this position. Only those candidates selected for an interview will be contacted. Join us at the University of Regina's CRWRRL and contribute to exciting research that is making water treatment more sustainable and resilient in cold regions!