



## **MSc Opportunity: Environmental Chemistry PFAS and Pharmaceuticals in Arctic Wastewater *University of Manitoba and University of Alberta***

We are seeking an MSc student to characterize the concentrations, fate, and sources of per- and polyfluoroalkyl substances (PFAS) and pharmaceuticals related to wastewater in the Canadian Arctic. The study site is the wastewater lagoons and associated flow path for the community of Baker Lake, NU. The student will use cutting edge analytical techniques, specifically ultra-high performance liquid chromatography-triple quadrupole mass spectrometry and high-resolution mass spectrometry, which they will be trained on. They will gain field and sampling experience, including working with and developing novel passive samplers. Measurements of PFAS and pharmaceuticals along the flow path and in reference locations will help to understand the effectiveness of current treatment, as well as help to better understand possible human and ecological risks.

The student will be provided latitude to develop specific research goals aligned with their interests in the area of environmental chemistry. Skills that are strong assets for this project would include one or more of the following: laboratory experience (especially in analytical chemistry), field work, and statistical analysis (proficiency in R is particularly desirable). Applicants must have taken undergraduate courses in analytical chemistry.

The MSc student will earn their degree from the University of Manitoba (UM) in the Department of Environment and Geography, co-supervised by [Dr. Mark Hanson](#) and [Dr. Shira Joudan](#) (Department of Chemistry, University of Alberta). The student will be spend time in Winnipeg, but spend the majority of their time in Edmonton at University of Alberta. Travel to Baker Lake, NU for field sampling will be required. Additionally, there may be opportunities to work with project collaborator [Dr. Jonathan Challis](#) at the AAFC Lethbridge Research and Development Centre to learn and develop passive sampling tools for the compounds of interest.

The student will be supported at a minimum stipend of \$21,000 per year for two years.

Interested students send the following documents to Mark Hanson ([mark.hanson@umanitoba.ca](mailto:mark.hanson@umanitoba.ca)) and Shira Joudan ([joudan@ualberta.ca](mailto:joudan@ualberta.ca)):

1. A 1-page cover letter explaining their interest in the project and how their current skill set and interests align with the proposed project. Please indicate the date you are available to begin.
2. CV
3. Unofficial transcript from (at minimum) the past 2 years
4. Names and contact information of at least 2 potential references

Only suitable candidates will be contacted for an interview. Ideally, the student would officially begin their MSc program in September 2023 or January 2024 at the University of Manitoba, but the student will spend the majority of their degree working at the University of Alberta.

We will begin evaluating applications immediately, but the position will remain open until a suitable candidate is found.