



ENGINEERING AND APPLIED SCIENCE

Postdoctoral Research Fellow – Memorial University

Department: Civil Engineering

Job Type: Full-time, contract

Duration: 6 months

Salary: As per LUMUN Postdoctoral Collective Agreement ([PDF](#)) and commensurate with qualifications and experience

Anticipated Starting Date: September 15, 2024 or soon after

Department Background

The Department of Civil Engineering at Memorial University emphasizes sustainable renewable waste management to obtain value-added products through green and sustainable technologies. The Environmental Engineering research group is leading a wide spectrum of research in the department on the biochemical conversion of natural resources into bioenergy, biofuels including biogas and hydrogen, and other useful intermediate industrial by-products such as green biocatalysts and adsorbents. The relevant aspects are modeling, simulation, and optimal control of complex bioreactions, separation, and integrated reaction-separation processes.

Research Project Overview

The postdoctoral fellow will be engaged in a research project entitled “Biochar in Dairy Manure Anaerobic Digestion Processes”. The project aims to develop a cost-effective biogas technology for livestock manure while managing emerging contaminants through biochar, using theoretical bioreaction models, calculation methods, chromatography, and other characterization and experimental validation.

Position Duties and Responsibilities

This is a full-time postdoctoral fellow position in the St John’s campus of Memorial University. The incumbent of this position will, under the direction of Dr. Noori Saady and Dr. Sohrab Zendeheboudi, be responsible for leading the research activities, including but not limited to the following core responsibilities:

- Coordinating the research activities carried out by different personnel
- Characterization of the contents of different feedstock and products using GC, GC-MS, FTIR, SEM, XRD, and relevant instruments
- Extracting enzymes, contaminants, and byproducts from the digester matrix
- Applying theoretical concepts such as mass and electron balance, chemical reaction engineering, and metabolic flux balance to interpret experimental results
- Experimental investigations on the digestion of emerging contaminant-containing manure
- Optimization of the operating parameters for the digestion process

Qualifications

- Graduation from an accredited university with a PhD in environmental/chemistry/chemical/process engineering or relevant field
- Prior experience in bioprocesses research
- Knowledge of experimental design and statistical analysis of experimental results
- Excellent communication skills in English
- Proven ability to work independently within a research lab

How to Apply

Prospective applicants interested in pursuing this fellowship opportunity are invited to email Dr. Noori Saady at nsaady@mun.ca with a cover letter, curriculum vitae (including a list of publications), two reference letters, and evidence of their degree by September 15, 2024.

Memorial University is committed to employment equity, diversity, inclusion and anti-racism, and encourages applications from all qualified candidates, including: women; people of any sexual orientation, gender identity, or gender expression; Indigenous Peoples; visible minorities, and racialized people; and people with disabilities.

We acknowledge that the lands on which Memorial University's campuses are situated are in the traditional territories of diverse Indigenous groups, and we acknowledge with respect the diverse histories and cultures of the Beothuk, Mi'kmaq, Innu, and Inuit of this province.