UNIVERSITY OF ALBERTA

DEPARTMENT OF RENEWABLE RESOURCES
FACULTY OF AGRICULTURAL, LIFE AND ENVIRONMENTAL SCIENCES

POSTDOCTORAL POSITION IN GREENHOUSE GASES & SOILS: FLUXES, SOURCES & CONTROLS.

Position Description

To decipher, predict and reduce greenhouse gas (GHG) emissions from soils is challenging. We seek a motivated post-doctoral fellow to join and expand our research projects. Particular focus will be given to nitrous oxide from croplands receiving various manure and synthetic nitrogen additions. The assessments will include various times of N application and multiple additive formulations. The N input management will be also examined from agronomic perspectives productivity and nutrient use efficiency. Mechanistic research inquires will encompass biophysical controls on GHG fluxes, source-processes of GHG and spatio-temporal heterogeneity of both fluxes and sources. Irrigated croplands, grasslands, treed lands and alpine ecosystems will likely be also subjects of study. A key component is to develop and provide regional estimations of GHG emissions and mitigation potential as a function of management practices.

Field activities will involve instrumentation to quantify fluxes, soil and plant responses. Laboratory work (including incubation procedures) will include novel approaches and sophisticated flux instrumentation (e.g., isotope methods, laser spectroscopy, FTIR analysis, tensiometry, recirculation experiments and automated chamber systems) to discern soil processes and properties associated with fluxes. Micro-meteorological approaches to measure gaseous fluxes in terrestrial ecosystems can be an additional area of research work.

The work involves activities with graduate and undergraduate students, technical assistants and other researchers. Collaborative work will be also conducted with personnel from provincial and federal research agencies.

This post-doctoral appointment will be for six-months or one year, and potentially renewable for additional terms based on performance and funding availability.

We are seeking for candidates interested in this work.

Key Qualifications

- PhD with solid knowledge of soils, plants, and carbon and nitrogen cyclings,
- Proactive, flexible, dedicated, well-centered, responsible,
- Strong numerical, statistical and computer skills,
- Open to undertake new scientific approaches (measurements and modeling),
- Willingness to engage in complex data analyses and synthesis, and interpretation of findings,
- Demonstrated skills and eager to complete literature reviews, original manuscript writing and publication process in peer-reviewed journals in English,
- An intense desire to deliver/present/share results in public,
- A teamwork aptitude ─ ability to work independently and to organize research activities with others.

Sought-After Assets and Abilities

- Ability to propose and undertake innovative GHG experimental and modelling approaches.
- A valid driver license and clean driving record/abstract (+2 years).
- Experience with sophisticated analytical instrumentation and monitoring sensors.
- Experience writing research proposals and technical reports for GHG projects.

Additional Information
University of Alberta is consistently rated as one of the top 5 universities in Canada, and one of the top 100 universities worldwide. Located in Alberta's capital city, Edmonton (population of one million people), University of Alberta provides a dynamic mixture of a large research intensive university, urban culture and recreation. More than 39,000 students from across Canada and 144 other countries participate in nearly 400 programs and 18 faculties. Within the University, the Department of Renewable Resources consists of 30 faculty members, over 200 graduate students, numerous postdoctoral fellows and support staff, and offers significant research support through sophisticated laboratories and multiple field facilities.

Website Links
https://www.ualberta.ca/agriculture-life-environment-sciences/about-us/contact-us/facultylecturer-directory/guillermo-hernandez-ramirez
https://landecosystems.ualberta.ca/
https://www.ualberta.ca/agriculture-life-environment-sciences/programs/graduate-programs/prospective-students/renewable-resources

Keywords
Soil, Nitrous oxide, Greenhouse gases, Flux, Modelling, Wheat, Canola, Barley, Grasslands, Nitrification inhibitors, Urease inhibitors, Slow release fertilizers, Nutrient use efficiency.

Timeline for the position: available until filled.
PhD Thesis must have been all done and submitted-deposited to the home university prior initiation of this job position.

To Apply:
Please e-mail CV, transcripts (scanned unofficial copy), a letter describing research experience and interests (one or two pages), a writing sample of scientific publication (preferably written by the candidate as a first author and published in peer-reviewed journal), contact information for three references to: Dr. Guillermo, Hernandez Ramirez (Associate Professor and Research Group Lead), University of Alberta, Dept. of Renewable Resources, 751 General Services Building, Edmonton, Alberta, Canada T6G 2H1.
Contact email: ghernand@ualberta.ca

Closing date:
The position will remain open until filled.

We thank all applicants for their interest; however, only those individuals selected for an interview will be contacted.

The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.