Postdoctoral position in biophysical modelling of grassland environments

Applications are invited for a three-year postdoctoral position in the Department of Animal Science at the University of Manitoba in Winnipeg, Canada. The successful applicant will work on modelling of hydrology and nutrient cycling in grassland environments in the Canadian Prairies.

The Canadian beef industry has been under constant scrutiny with regards to environmental performance. Many of these concerns pertain to water quality issues arising from pastureland grazed by beef cattle. However, a detailed assessment describing the contribution of beef cattle to nutrient export from grasslands and its relationship to land management and water cycling in these landscapes is still lacking. The purpose of this project is to address this knowledge gap by estimating the impact of grazing on water cycling and nutrient export in pasture landscapes in the Canadian Prairies. Specifically, the objectives of this research are (1) to estimate relative contribution from vegetation breakdown, soils, and manure to the overall nutrient export from pastureland, and (2) to identify prominent processes, sources, and management practices impacting nutrient export from these landscapes in the Prairies.

The successful applicant will be based at the University of Manitoba and will join the research group of Dr. Marcos Cordeiro. The research will be done in collaboration with the Sustainable Food Systems Modelling team members and collaborators from Agriculture anf Agri-Food Canada (AAFC) and the Centre for Hydrology of the University of Saskatchewan (https://research-groups.usask.ca/hydrology/index.php). The successful applicant will be co-supervised by Drs. David Lobb and Kim Ominski (University of Manitoba). The funds for this position are made available through the Beef Cattle Research Council (BCRC; https://www.beefresearch.ca/).

Applicants are required to have their PhD and must have experience with biophysical modelling. Applicants with expertise in biophysical modelling of agro-ecosystems with emphasis in nutrient cycling are strongly encouraged to apply and will be given preference. Applicants will be performing data acquisition, quality control, pre-processing, and analysis in support of hydrological modelling using the Cold Regions Hydrological Model (CRHM) platform, as well as compilation of literature results on nutrient export from grasslands and pastures.

This position will be full-time employment at the University of Manitoba with a negotiable starting date, ideally November, 2020 or soon after for a period of two years. The exact start date will also depend on the state of the COVID-19 pandemic. The salary will be between $36,000 to $50,000 CAD per year plus benefits, depending on qualifications and seniority.

To apply, please send a CV, a publication list, a description of relevant experience and research plan (ideally all merged in a single PDF), and have three reference letters sent by email to Marcos.cordeiro@umanitoba.ca (Subject: BCRC project::: PDF Application). Review of applications will begin **Sep. 20, 2021** and will continue until the position is filled.

The University of Manitoba is the province's largest, research-intensive post-secondary education institution, located near the geographical centre of North America and at the confluence of Assiniboine and Red Rivers. As the capital city of Manitoba, Winnipeg is a mature city of some 750,000 people with rich recreational and cultural opportunities. It combines the amenities of urban life with easy access to the countryside and to northern lakes and forests. The cost of living in Winnipeg is relatively low, housing is affordable, and Manitobans are renown for their friendliness.

The University of Manitoba is strongly committed to equity and diversity within its community and especially welcomes applications from women, racialized persons, Indigenous peoples, persons with disabilities, persons of all sexual orientations and genders, and others who may contribute to the further diversification of ideas. All qualified candidates are encouraged to apply; however Canadian citizens and permanent residents will be given priority.

If you require accommodation supports during the recruitment process, please contact UM.Accommodation@umanitoba.ca or 204-474-8371. Please note this contact information is for accommodation reasons only.

Application materials, including letters of reference, will be handled in accordance with the "Freedom of Information and Protection of Privacy Act". Please note that the application material may be provided to participating members of the search process.

For inquiries, please contact Prof. Marcos Cordeiro, email: Marcos.Cordeiro@umanitoba.ca.