

PhD and MA Positions Available in Ecosystems Services and Agricultural Drainage in the Prairies

PhD (L3-PhD1) Position Specific Information

Salary: Salary will be commensurate with experience

Duration: 4 years

Start Date: September 8, 2020

Location: Based out of the University of Guelph

Supervisors: Dr. Phil Loring, University of Guelph and Dr. Helen Baulch, University of Saskatchewan

MA (L3-MA1) Position Specific Information

Salary: Salary will be commensurate with experience

Duration: 2 years

Start Date: September 7, 2021

Location: Based out of the University of Guelph

Supervisors: Dr. Phil Loring, University of Guelph and Dr. Helen Baulch, University of Saskatchewan

Description

We are seeking one Doctoral student and one Masters student to help conduct integrative work on modelling ecosystem services in the Canadian Prairies. This work is aimed at simulating responses of varied ecosystem services to changing wetland coverage and climate. The main role of these positions will be to undertake work on ecosystem services scenario development grounded in virtual basin modelling, crossing over into work on scenario pathways and policy options.

The successful candidates will work across [ResNET](#) and [Global Water Futures](#) researchers to integrate ecosystem services into existing hydrological modelling tools (virtual basins), supported by a strong cohort of collaborating hydrological modelers, biogeochemists, and ecologists engaged in work on biodiversity, nutrient cycling and transport, carbon storage, GHG release, and water-related risks.

This position is funded by the Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Partnership Grants for Networks. The successful candidates will join the team of the newly funded *NSERC ResNet: A network for monitoring, modeling, and managing Canada's ecosystem services for sustainability and resilience*. There will also be collaborative work with colleagues within the Arrell Food Institute at the University of Guelph, and with Global Water Futures researchers, and partners at the University of Saskatchewan.

Duties could include a combination of the following depending on the interests and skill set of the candidates:

- Develop scenarios of changing ecosystem services grounded in biophysical models.
- Conduct interviews to develop agent rules for agent classes for various scenarios of changing ecosystem services.
- Plan and deliver three multicriteria decision making analysis workshops.

- Provide leadership in the writing of multiple manuscripts related to conflicts with multiple and competing ecosystem services and the use of multicriteria decision making analyses.
- Work on collaborative outputs associated with other areas of the landscape and ResNET research programs, and participation in project workshops, relevant conferences, and training opportunities.

Ideal Qualifications

Applicants must have completed a master's degree (for the PhD position) or an undergraduate degree (for the MA position) in the field of Anthropology, Ecology, Biology, Geography, Natural Resources, or a related field and have good knowledge or interest in agent-based modelling and/or multicriteria based decision making analysis. Experience with scientific publications would be a great advantage. We require strong numeric abilities (particularly for the PhD position), fluency in written and spoken English, the ability to work cooperatively with supervisors and collaborators, and strong communication and organizational skills.

The ideal candidates would have either hydrological modelling experience or some background in hydrology, and experience and/or interest in working with multi-stakeholders and an interdisciplinary team on complex water issues.

Application Procedure

To apply please send a cover letter describing your research background, interests, and qualifications; plus a curriculum vitae and contact information for at least three references to Philip Loring (phil.loring@uoguelph.ca).

Application deadline: January 10, 2020. Any applications received after the deadline will only be considered if the position is not filled. Only short-listed candidates will be notified