

**Recruiting Three Master's Students for a Funded Research Project
Towards Saskatchewan Well Water Security:
Knowledge and Tools for Human and Livestock Health**

We are seeking three graduate students to work as part of a multi-institution, transdisciplinary, funded research project. The transdisciplinary nature of this project requires candidates with the ability to engage with and value different perspectives and apply reflexive research practices. Skills will range depending on the specific research objectives (see descriptions below), but all candidates will be highly motivated and have excellent interpersonal and communication skills. Interested candidates should submit a 250 word statement of interest, (unofficial) transcript, and CV via email to Corinne Schuster-Wallace (cschuster.wallace@usask.ca) and Sarah Dickson-Anderson (sdickso@mcmaster.ca). Only successful candidates will be contacted.

M.A.: Department of Geography and Planning – University of Saskatchewan

Objective: Understand the perceptions, attitudes, and behaviours of private well users towards their water management for the purposes of protecting human and livestock health and managing local seasonal water resources.

Skills: Familiarity with qualitative and quantitative social science methods. Knowledge of water and water-related health would be an asset.

M.A.Sc. or Ph.D.: Department of Civil Engineering – McMaster University

Objective: Identify, model, and assess the relative importance of social and physical drivers of local well water security.

Skills: Proficient computational and coding skills. A strong background in statistics would also be an asset.

M.Sc. or Ph.D.: Department of Geography and Planning – University of Saskatchewan

Objective: Develop and evaluate coupled social-physical risk indices and profiles.

Skills: Completion of an undergraduate field methods course focused on environmental and water sampling methods, along with a background in statistics, is required. Knowledge of water-related health and a transdisciplinary background would be assets.

Project Description: Private wells are used extensively across Canada to provide both people and livestock with water to drink. However, in most jurisdictions, these wells fall outside of regulatory oversight, leaving well users themselves as the sole managers of their resources in terms of both quantity and quality. Failure to maintain these private wells poses a risk to all current and future aquifer users. In Saskatchewan, private wells provide a diversified and sustainable source of water for agricultural operations and rural life. While multiple government agencies (e.g., Saskatchewan Ministry of Health, Saskatchewan Health Authority, Ministry of Agriculture, and Water Security Agency) support private well users through testing, consultation, or education, a coordinated, data-driven management approach to private well water stewardship is currently lacking. As a result, **there is an opportunity to develop and demonstrate a large coupled (social and physical) system data-driven decision support tool to enhance well stewardship, and therefore better manage groundwater resources and protect health, under changing water futures.**

Information and data are critical to developing this coordinated approach, yet to date these have been collected under specific initiatives for specific purposes, resulting in a patchwork of datasets that cannot be readily combined. This proposal addresses these needs through a **coupled systems evaluation of current well-human-livestock conditions and health to support private well monitoring and stewardship**. This will be achieved through i) an understanding of how people perceive and use their wells; ii) an investigation of the environmental, hydrogeological, and contaminant processes and risks associated with private well water security in Saskatchewan; and, iii) a coupled systems assessment of private well risks.

The overarching outcome of this initiative is to improve sustainable groundwater management through private well stewardship utilizing enhanced data and decision tools in order to reduce risks to well water quantity and quality, and ultimately improve human and livestock health.

McMaster University is located on the traditional territories of the Haudenosaunee and Mississauga Nations and, within the lands protected by the Dish With One Spoon wampum agreement. The diversity of our workforce is at the core of our innovation and creativity and strengthens our research and teaching excellence. In keeping with its Statement on Building an Inclusive Community with a Shared Purpose, McMaster University strives to embody the values of respect, collaboration and diversity, and has a strong commitment to employment equity. The University seeks qualified candidates who share our commitment to equity and inclusion, who will contribute to the diversification of ideas and perspectives, and especially welcomes applications from First Nations, Métis and Inuit peoples, members of racialized communities (“visible minorities”), persons with disabilities, women, and persons who identify as 2SLGBTQ+. Job applicants requiring accommodation to participate in the hiring process should contact the Department of Civil Engineering at [905-525-9140 x24287] to communicate accommodation needs.

The University of Saskatchewan’s main campus is situated on the Treaty 6 Territory and the Homeland of the Métis. We pay our respect to the First Nations and Métis ancestors of this place and reaffirm our relationship with one another. The University of Saskatchewan is strongly committed to a diverse and inclusive workplace that empowers all employees to reach their full potential. All members of the university community share a responsibility for developing and maintaining an environment in which differences are valued and inclusiveness is practiced. The university welcomes applications from those who will contribute to the diversity of our community.