



Graduate Student in Bison Herd Health
Faculty of Veterinary Medicine, University of Calgary

The Faculty of Veterinary Medicine in collaboration with partners, is seeking a graduate student (MSc) with interest in the bison industry and molecular laboratory diagnostics for a project on studying infectious diseases and the molecular characteristics of bison pathogens.

Project description:

Mycobacterium avium subspecies *paratuberculosis* (*Map*) is a significant bacterial pathogen in domestic ruminants, causing chronic intestinal inflammation and wasting, also known as Johne's Disease. *Map* is being detected in farmed bison and could have implications for the long-term health of bison populations; both farmed and wild, and more knowledge can increase the health of farmed herds and potentially inform conservation activities. The overall objective of this project is to understand the current dynamics of *Map* infections in a bison herd, the impact of JD on the overall health of the animals, and environmental survival of *Map*. To do so, we will investigate the epidemiology of *Map* and study the pathophysiology of clinically affected animals. We will use existing laboratory diagnostic tools to support a herd management plan. Finally, we will investigate co-morbidities, including gastrointestinal parasites and viral diseases. The parasitology focus is on assessing parasite infection intensities using a combination of parasitological techniques and DNA metabarcoding and the application of next-generation sequencing approaches to screen for anthelmintic drug resistance markers.

What are we looking for:

Applicants with a DVM degree or degree in animal science or a health related field will be considered. The preferred candidate needs to be a good team player with excellent communication skills, both within the academic as well as the non-academic setting and with indigenous communities. Ability to work independently with good communication (oral and written) skills in English is needed. Some molecular biology background and an interest in molecular diagnostics, including next-generation sequencing approaches, is essential to this project. This graduate student position will provide the candidate of choice with strong skills in epidemiology and molecular technologies. Graduate stipend will be commensurate with the level of education and experience, but is guaranteed at 22k annual (MSc). The graduate student will be part of a vibrant graduate student environment of several principle investigators collaborating to ensure the best learning opportunities.

UCVM is a dynamic veterinary faculty in Western Canada that is committed to strengthen the connections between animal health, public health, and the environment. UCVM faculty works across disciplines and Departments, fostering collaborative research, teaching and service. Descriptions of the Faculty and its departments can be found on the UCVM website (www.vet.ucalgary.ca). Calgary is a vibrant, multicultural city and located near the Rocky Mountains, Banff National Park and Lake Louise and offers an enormous opportunity for outdoor activities both in winter and summer.

For additional information please contact Dr. Karin Orsel (Karin.orsel@ucalgary.ca). Review of relevant applications will start asap (anticipated start date latest May 2023); please do not apply if you don't meet the qualification listed. Interested individuals should submit a current curriculum vitae and an outline of research interests and relevant experiences along with the names of three referees to:

Dr. Karin Orsel
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<http://wcm.ucalgary.ca/orselresearch/>