



Clastic Sedimentology and Stratigraphy

Name: Dr. Paul Durkin

Contact Information: Paul.Durkin@umanitoba.ca

Project: The student will conduct field work in Dinosaur Provincial Park in eastern Alberta for several weeks during the summer. The student will work closely with graduate students in the research group. Field work will include measuring stratigraphic sections, collecting paleoflow data, and mapping stratigraphic surfaces. This data will be integrated with a 3D digital outcrop model previously constructed using Remotely Piloted Aircraft Systems. Applicants must be willing to conduct field work in rough terrain for long periods of time. Time not spent in the field will involve data compilation and analysis in the lab. Please contact Dr. Durkin for more information.

Characterizing the seismic noise spectrum in Winnipeg for MASW analysis

Name: Dr. Andrew Frederiksen

Contact Information: Andrew.Frederiksen@umanitoba.ca

Description of Research: This project will involve recording ambient seismic noise at sites in Winnipeg using an array configuration, and using slant stacking and filtering to determine directionality. This will be applied to various possible sources of noise, including road traffic and the Red River, using both conventional and low-frequency geophones. The use of these noise sources to measure soil layering using the multichannel analysis of surface waves (MASW) technique will also be tested.

Dynamics of Cretaceous marine ecosystems of Manitoba

Name: Dr. Kirstin Brink

Contact: kirstin.brink@umanitoba.ca

Duties:

- Assist graduate students in the field with fossil collection at sites around Manitoba
- Prepare vertebrate fossils in the lab using pneumatic tools
- Learn how to analyse and segment CT scans of fossils using Amira software to make 3D models

Qualifications:

- Patience and attention to detail
- Background in geology, biology, or paleontology
- Willing to travel around Manitoba and work outdoors

Stress Ecology Laboratory

Name: Dr. Mark Hanson

Contact Information: Mark.Hanson@umanitoba.ca

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CONSERVATION AND ECOLOGY OF GRASSLAND SONGBIRDS

Name: Dr. Nicola Koper

Contact Information: nicola.koper@umanitoba.ca

Description of Research: Field work on grassland bird conservation in southern Alberta (based in Brooks), and would work closely with graduate students who are studying the impacts of oil and gas development on grassland birds. The student would learn to do one or more of the following: large and small mammal surveys, snake surveys, bird surveys, sampling vegetation, finding and monitoring grassland songbird nests, putting nest cameras out to observe parent's behaviour near nests, other behavioural observations, and monitoring and maintaining video cameras. Students must be willing to work long hours, in all sorts of weather, and be passionate about conservation. Students will gain outstanding experience in applied ecology, conservation, management, field work, data collection and study design, and natural history research.

Arctic Marine Microbial Ecosystem Services

Name: Eric Collins

Contact Information: eric.collins@umanitoba.ca

Project Description: Microorganisms (including bacteria, archaea, algae, protists, fungi, and viruses) drive the ecosystem in the ocean, and provide benefits to humans in the form of Ecosystem Services. This project will utilize metagenomic sequence analysis to explore the role of Arctic microbes in providing Ecosystem Services, and to understand how those services might change in a warmer future. Applicants should have some programming experience.

Department of Environmnet & Geography

Name: Nicole Wilson

Contact Information: Nicole.J.Wilson@umanitoba.ca

Description of Research: My research focuses on environmental governance and change. I have two projects that students could contribute to. First, I have a community-based project on Indigenous water governance in partnership with Carcross/Tagish First Nation. The student would contribute to this project through analysis of archival information on decision-making processes about water in the Yukon. The second project is about groundwater security in cold regions. The student would contribute to this project through analysis of groundwater policy in Canada and internationally, and water licenses in Yukon, Canada. Both projects are with current COVID-19 research restrictions. The students will have the opportunity to learn about social science research methods including qualitative and quantitative content analysis.