

# Soil Ecology & Plant Disease Research Program - Undergraduate Lab Technician

Undergraduate Summer Research Student Position Announcement in the  
Applied Soil Ecology Laboratory of the Department of Soil Science, University of Manitoba, Canada



The Applied Soil Ecology Lab, based out of the Department of Soil Science, University of Manitoba and under the leadership of Dr. Mario Tenuta, has highly productive and impactful research programs with several important foci: soil ecology, nematology, plant disease, greenhouse gas emissions, and 4R nutrient management. Please see [www.soilecology.ca](http://www.soilecology.ca) for more information on the Applied Soil Ecology Lab, including its personnel, projects, facilities, and a photo gallery.

The Soil Ecology & Plant Disease Research Program includes projects that examine yield losses from Potato Early Die Complex, a disease complex caused by the fungus *Verticillium* and root-lesion nematode *Pratylenchus*, identify host and environmental preferences, yield damage, and control strategies of plant-parasitic nematodes, including *Pratylenchus* and *Ditylenchus*, and surveys of the Canadian Prairie Provinces for the presence of the parasitic soybean cyst nematode. The program includes major field, pulse, and horticultural crops grown on the Canadian Prairies, and involves microscopic and molecular identification of pathogens and nematodes.

## Job Description

**Qualifications:** Enrolled in an undergraduate Agroecology, Agronomy, Biology, Microbiology, Environment, or Soil Science program, or a related field (preference given to those in senior years with excellent academic achievement); highly motivated; organized; able to follow complex instructions and pay attention to detail; good critical thinking skills; can work independently and in a group; excellent verbal and written communication skills; good manual dexterity; able to sit or stand for long periods; prepared for manual labour and strenuous outdoor activity over rough terrain; able to lift and carry 20kg; valid Manitoba Driver's license necessary. Previous lab experience is an asset.

**Duties and Responsibilities:** Indoor: assist graduate students and senior technicians in laboratory studies; count and identify soil organisms using compound / dissecting microscopes; make culture media and reagent solutions; extract pathogens and nematodes from soils; potentially basic molecular biology analyses such as PCR, qPCR, and gel electrophoresis. Outdoor: soil and plant sampling, visual plant disease ratings. Other duties as required. Successful applicant reports daily to the Biology Lab Director.

**Skills and benefits you may gain from this position:** Microscopic and molecular pathogen and pest evaluation, extraction and isolation methods, conventional and real-time PCR, culturing, disease rating, field sampling

**Supervisor:** Professor Mario Tenuta, Applied Soil Ecology Lab, Department of Soil Science, Faculty of Agricultural and Food Sciences

## Job Terms

**Number of Jobs:** TBD

**Job dates:** May 1 through August 30, 2024

**Hours per week:** 35

**Salary:** Faculty pay scale dependent on program year

**Location:** Ellis Bldg, UM and occasional day trips to rural field sites

**Other info:** Transportation vehicle provided

## How to Apply

**Applications accepted from:** January 3 to 24, 2024

**Required application materials:** (1) Cover letter including a statement indicating the school, program, and year that you are currently enrolled in, (2) resumé, (3) academic transcript, and (4) the names and contact information of three references who have agreed to be contacted.

**Application process:** email all application materials to [Soil.Ecology@umanitoba.ca](mailto:Soil.Ecology@umanitoba.ca), ATTN Fernanda Gouvea, Applied Soil Ecology Lab Biology Program Director; use "summer lab tech" as the subject line.

*Decision expected by February 21, 2024*

*If you require accommodation supports during the recruitment process, please contact [UM.Accommodation@umanitoba.ca](mailto:UM.Accommodation@umanitoba.ca) or 204-474-7195. Please note this contact information is for accommodation reasons only.*

*Application materials, including letters of reference, will be handled in accordance with the protection of privacy provisions of "The Freedom of Information and Protection of Privacy" (Manitoba). Please note that resumes will be provided to participating members of the search process.*