

## **Master's Graduate Research Assistantship Opportunity**

"Nutrient cycling in soil amended with biobased residues"

### **Project Background & Rationale:**

**Background:** The Soil Ecosystem Dynamics Lab at the University of Waterloo has an opening for a Master's student beginning September 2019. The successful applicant will have an opportunity to take to travel to international conferences to present their research.

**Rationale:** A continuously growing global population and its increasing demand for food, fuel, feed and fibre combined with a changing climate requires the need for recycling residues from organic waste chains into agricultural land. Disposal of organic materials including food waste, leaf and yard waste, and wastewater biosolids into landfills is associated with multiple environmental issues. Large tracts of land that could otherwise be used for food, fuel, feed or fibre production, are required to permanently store these waste materials (aka biobased residues). The decomposition of biobased residues in landfills also contributes to air and water contamination and the emission of methane. Biobased residues, however, can be diverted and processed to produce an organic matter- and nutrient-rich soil amendment that enhances soil health and crop productivity, and therefore has significant value in agricultural markets.

### **General Objectives:**

- 1) Quantify soil chemical and physical characteristics in soil un-amended
- 3) Integrate soil data from chemical and physical characteristic from objective 1) with data from soil amended with composted food waste, biosolids or anaerobic digestate

### **Qualifications for Admission:**

Applicants must hold a Master's degree with a strong background in the natural sciences, experience in soil sampling is an asset, but not required. Applicant must be in good academic standing. Must hold a valid Canadian driver's license. *This opportunity is open to Canadian citizens or permanent Canadian residents only.*

### **Project Support:**

Project funding will be available for a full time domestic (Canadian citizen/PR) Master's student for 2 years at \$14,000 (minimum) per annum plus research and travel expenses. The applicant must possess a minimum of an 85% average. Other funding opportunities for applicants below this average are also available, see the following website: <https://uwaterloo.ca/environment/graduate/domestic-research-masters-students>

### **Expected Start Date:**

September 6, 2019.

### **Further Information Contact:**

Dr. M. Oelbermann ([moelbermann@uwaterloo.ca](mailto:moelbermann@uwaterloo.ca))

### **SERS Master's Program:**

<https://uwaterloo.ca/environment-resources-and-sustainability/graduate/admissions>

