

# THE SOILED PROFILE



## NEWSLETTER DEPARTMENT OF SOIL SCIENCE UNIVERSITY OF MANITOBA “bringing you the latest dirt”



UNIVERSITY  
OF MANITOBA

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Past issues of the Soiled Profile are on our  
webpage: [umanitoba.ca/afs/soil science/](http://umanitoba.ca/afs/soil%20science/)

**18 May 2018**

### Upcoming:

Thursday, May 31, 9:00-10:00 a.m., Room 130 Agriculture Bldg – Public seminar presented by Dr. Francis Zvomuya, candidate for the Soil Science headship position. “Soil Science at the University of Manitoba: Where do we go from here?” Refreshments at 8:30 a.m. All are welcome.

Friday, June 1 – Special Event at Investors’ Group Field. **Parking restrictions will be in effect for W lot starting at 6:00 p.m.**

Thursday, June 14 – Special Event at Investors’ Group Field. **Parking restrictions will be in effect for W lot starting at 6:00 p.m.**

### Department Staff Away:

Annemieke Farenhorst May 10-22 (IUPAC, SETAC), May 28-Jun 2 (Cdn Chem Conference, CCWEST)  
David Lobb May 14-18 (Victoria)

### News:

#### Lynda's farewell

On Thursday, the department extended “Best Wishes” to Lynda as she starts her 1-year secondment.



Photo credits:  
Mayowa Adekun

### Student Teacher Recognition for Tee Boon Goh

At a reception on Monday, Diploma student, Drew Luhowy, recognized his professor, Dr. Tee Boon Goh, and high school teacher, Kristen Bartkiw, as Outstanding Teachers.



Photo: Michele Rogalsky

### Faculty of Agricultural and Food Sciences Biosecurity

The faculty has developed a set of biosecurity protocols to limit the potential transfer of all forms of potential pests and pathogens during research, teaching and outreach activities. It is the responsibility of all staff and students to follow these protocols. They can be accessed under “Resources & Policies” on the faculty web page or directly from here: <http://umanitoba.ca/faculties/afs/FAFSbiosecurityprotocol.html>.

### NSERC 2018 Visit

Representatives from NSERC will be visiting the University of Manitoba once again to speak about NSERC awards for Master’s and Ph.D. students (CGSM, PGSD and CGSD). This invitation is extended to staff, graduate and undergraduate students who have expressed interest in pursuing graduate studies.

WHEN: Thursday, September 13th  
TIME: 9:00 am – 12:00 noon  
WHERE: E3-262 Engineering Bldg. (Senate Chambers Room)

Space in the Senate Chambers is limited to 100 seats. Students are therefore required to register in order to attend. Registry is available online: [click here](#). For questions, contact [Rowena.Krentz@umanitoba.ca](mailto:Rowena.Krentz@umanitoba.ca).

### Workshops on Sustainability Education

If you teach courses connected to sustainability or your research interests are linked to sustainability, and/or you are active in some capacity in advancing sustainability on campus, you are invited to participate in a workshop about your own experiences with sustainability in university education as well as broader

application in your department and faculty. We are interested in garnering your insight into approaches, opportunities and barriers for educating for sustainability at the University of Manitoba. The outcomes of the deliberations will help form the foundation for the Goals and Strategic Actions framed in the university's next Sustainability Strategy 2019-2024. Other members of the faculty community are invited to this workshop and student groups will be engaged in the process this coming fall.

Participatory workshops will be held this spring and again in the fall. The spring session will occur on two separate occasions so that those interested will have a greater chance to participate. The sessions will be take place at The Centre for the Advancement of Teaching and Learning, located at 223-65 Dafoe Road on:

- Tuesday, May 29, 2018 from 12:00-4:00 p.m.
- Monday, June 4, 2018 from 12:00-4:00 p.m.

Lunch will be provided. RSVP: [click here](#) by **May 23, 2018**. If you have any dietary restrictions, allergies, or accessibility requirements please email [Christie.nairn@umanitoba.ca](mailto:Christie.nairn@umanitoba.ca). Forward this message to those you think would like to be involved in the conversation.

*Paper of the week:*

Liu, J., Kleinman, P.J.A., Aronsson, H., **Flaten, D.**, McDowell, R.W., Bechmann, M., Beegle, D.B., Robinson, T.P., Bryant, R.B., Liu, H.B., Sharpley, A.N., and Veith, T.L. 2018. A review of regulations and guidelines related to winter manure application. *Ambio*. <https://doi.org/10.1007/s13280-018-1012-4>

## **Opportunities:**

### **Postdoctoral Researcher, Organic Cropping Systems, College of Food, Agricultural, and Environmental Sciences, Ohio State University, Wooster, OH**

Conduct applied research focused on soil health and weed management dynamics in organic cropping systems. Research project explores relationships between weed management and soil amendment strategies on soil health, organic matter pools, weed communities and crop productivity. Duties: analysis, synthesis and writing of peer-review manuscripts using existing organic field crop experiments, conducting a comprehensive literature review on relationships between weed management and soil organic matter, coordinating organic field trials, and supporting grant writing to secure external funding. The successful candidate will be involved with supervision and training of undergraduate and graduate students in field and lab procedures. The position is based at the Ohio Agricultural Research and Development Center in Wooster, Ohio, for a 1-year appointment, renewable based on job performance and funding.

Apply online: <https://www.jobsatosu.com/postings/86287> under position #438221. In addition, send as a single pdf: i) cover letter summarizing qualifications, expertise, and experience ii) a full curriculum vitae to [culman.2@osu.edu](mailto:culman.2@osu.edu). Application deadline is **May 20, 2018**. Questions about the position can be directed to Steve Culman ([culman.2@osu.edu](mailto:culman.2@osu.edu)) or Doug Doohan ([doohan.1@osu.edu](mailto:doohan.1@osu.edu)).

### **Research Associate/PhD Opportunity, University of Guelph, Guelph, ON**

A Research Associate position is available for a 1-year term at the University of Guelph on Digital Soil Mapping with the possibility of PhD enrolment at the end of the term. The assistantship is available immediately. For more information, contact Dr. Asim Biswas ([biswas@uoguelph.ca](mailto:biswas@uoguelph.ca)) or [click here](#).

The deadline to apply is **May 25th, 2018**, 4:00 pm Eastern.

## **Assistant Professor, Tenure Track (Agronomy), Prairie View A&M University, Houston, TX**

Teach undergraduate level courses that support the Agriculture program. The candidate is expected to contribute expertise to student learning in a variety of areas including but not limited to the following: Agronomy, Entomology, Plant Pathology, Soil Science, and advising. In addition to student learning activities, the successful candidate is expected to develop and maintain a translational research program relative to the field, and publish results of this research in refereed journals. Candidate is also expected to seek and acquire externally funded grants and contracts for relevant research projects, and participate in department, college, university, community and professional service.

Job Posting Close Date: **06/03/2018**. More information and to apply: [click here](#).

## **Canadian Dairy Commission Scholarships**

The Faculty of Agricultural and Food Sciences has benefitted significantly over the years from the graduate scholarship program offered by the Canadian Dairy Commission (CDC). A number of fine young scholars have had their M.Sc. or Ph.D. research supported through this program, which has provided some of most generous graduate awards we have had (\$20K/year for M.Sc.; \$30K/year for Ph.D).

The CDC has retooled delivery of its scholarship program through its Workforce Development Initiative. Details of the program and application forms can be obtained from Danie Cousineau, Corporate Secretary, [danie.cousineau@cdc-ccl.gc.ca](mailto:danie.cousineau@cdc-ccl.gc.ca), (613) 792-2016. Application materials should be submitted Marisol Soto, Agricultural and Food Sciences Awards Coordinator, by emailing [agawards@umanitoba.ca](mailto:agawards@umanitoba.ca) no later than noon on **Monday, June 11th**. Applications will be ranked internally by our Awards Committee then submitted to the CDC for final selection.

For questions, contact Dr. Jared Carlberg, Associate Dean (Academic), Faculty of Agricultural and Food Sciences, (204) 474-9395, [jared.carlberg@umanitoba.ca](mailto:jared.carlberg@umanitoba.ca).

## **Mitacs Elevate**

Mitacs Elevate is now accepting applications for two-year postdoctoral funding: [click here](#).

- \$60,000 annual award (plus \$7,500 per year non-cash value in training)
- Exclusive, customized professional development training
- Long-term collaborative research project with a non-academic partner

Deadlines:

- Intent to Apply and Conflict of Interest declaration: **June 13, 2018**, at 5 p.m. PT
- Intent to Apply is not required to submit an application
- Pre-review of draft applications: June 27, 2018, at 5 p.m. PT
- Application: July 11, 2018, at 1 p.m. PT
- Results announced: November 2018
- Projects must start by February 6, 2019

For questions or more information, please contact [elevate@mitacs.ca](mailto:elevate@mitacs.ca).

## Dean of Graduate Studies Student Achievement Award

For Master's and PhD students; \$1,000 cash prize plus a citation certificate.

Deadline: **June 30, 2018**. More information and to apply: [click here](#).

## Banting Postdoctoral Fellowship Program

Banting Postdoctoral Fellowships support the best postdocs in the world. The University of Manitoba has a new process to support applications of postdocs for these awards. The fellowships (70 annually; \$70,000/year for two years) are awarded in equal numbers in the areas of health sciences, natural sciences and engineering, and social sciences and humanities. The program aims to increase Canadian capacity for research excellence and has the following specific objectives:

- Attract and retain top-tier postdoctoral talent, both nationally and internationally;
- Develop their leadership potential; and
- Position them for success as research leaders of tomorrow.

Interested candidates are required to apply in full collaboration with their proposed host institution showing the host's commitment to their research program and its alignment with their strategic priorities. If you are interested in receiving queries from potential PDFs for a Banting fellowship and would like to be contacted by interested applicants, please send your name and contact info to be listed on the Banting website, to [Research.Communications@umanitoba.ca](mailto:Research.Communications@umanitoba.ca). ORS will work with you and the applicants to move the application forward. On the new U of M Banting PDF site located at [umanitoba.ca/banting](http://umanitoba.ca/banting) the timeline and scoring criteria for the Banting Fellowships is outlined. Key dates:

July 25 - Full Banting application due to Office of Research Services (ORS)

July 26 - August 15 - Committee reviews applications to determine who is invited to submit a full application. Results given to ORS

August 17 - ORS to contact applicants to advise if they have been invited to submit a full application

August 17 - September 13 - Applicants to work with Research Facilitators on their full application

September 13 - Deadline for Full Banting Application & FAAF to be submitted to ORS Institutional Letter of Support is prepared by ORS

September 17 - Deadline for ORS to provide applicant with Institutional Letter of Support, and any feedback on application

September 19 - Deadline for applicant to submit Full Application to Banting

## Tenure-track Assistant Position, Soil Fertility and Applied Soil Chemistry, Department of Crop and Soil Sciences, North Carolina State University, Raleigh, NC

(80% Ext/20% T). The appointment is to begin late 2018. College priorities include sustainable production, environmental protection, and training undergraduate and graduate students. Candidates who have demonstrated experience engaging with diversity through activities such as fostering an inclusive environment, working with students from diverse backgrounds and/or incorporating diverse perspectives in research are of particular interest. The successful candidate will develop an applied extension and

research program focused on maximizing yields and profitability, while minimizing nutrient losses. Extension and applied research will refine and/or develop soil test-based nutrient and lime recommendations, and provide nitrogen recommendations. The successful candidate will work closely with the North Carolina Department of Agriculture and Consumer Services Agronomic Division Soil Testing Laboratory. The extension responsibility also includes service on the Interagency Nutrient Management Committee that helps establish nutrient recommendations for diverse soils and crops. The successful candidate will co-teach a week-long training to certify technical specialists and provide support to Cooperative Extension agents on soil fertility issues. The candidate must be proficient at presenting and explaining new research information and soil fertility principles to multiple audiences, including industry representatives, government agency staff, Cooperative Extension agents, farmers, and the public. Generation of external funding from multiple sources to support the research and extension program is required. The successful candidate will be expected to give research- and extension-oriented presentations at state, regional and national symposia and meetings. Publication of extension results (e.g. web sites, fact sheets, etc.) and research in internationally recognized peer-reviewed journals is required. The candidate will teach one graduate course in soil fertility.

The candidate must have a Ph.D. in Soil Science or a closely related discipline with a focus on soil fertility with experience in soil chemistry, plant nutrition, and possibly water quality; excellent written and oral communication skills with demonstrated ability to communicate with Cooperative Extension agents, farmers, and the public as well as publish extension publications and peer-reviewed research in internationally recognized journals.

Apply online only at: <http://jobs.ncsu.edu> and refer to position #00001903. Individuals with disabilities requiring disability-related accommodations in the application and interview process, please call 919.515.3148. Additional information about the Department of Crop and Soil Sciences can be found at: <https://cals.ncsu.edu/crop-and-soil-sciences/>. For questions regarding this position, contact Deanna Osmond ([deanna\\_osmond@ncsu.edu](mailto:deanna_osmond@ncsu.edu)). Applications accepted until a suitable candidate is found.

## **M.Sc./Ph.D. Opportunity, Department of Soil Science, University of Saskatchewan, Saskatoon, SK**

### Development and function of arctic and alpine biological soil crust communities

In alpine and arctic environments, Biological Soil Crusts (BSCs) are often a dominant vegetation unit, making these ecosystems a uniquely powerful model for examining the role of BSCs in terrestrial ecosystem development. The first goal is to determine the initial and realized niche ranges of key species found in BSCs. The second goal is to link niche construction with the recovery of ecosystem functions for key BSC species. Optima and niche ranges for key macro and micro BSC phyla will be determined through characterization of BSCs in relation to key microclimate and soil physicochemical factors along subarctic alpine chronosequences, tundra drilling waste materials and mine site tailings. Manipulative growth chamber and field experiments will assist in the confirmation of niche ranges and help to develop BSC restoration techniques.

There are opportunities for both M.Sc. and Ph.D. positions.

- Background in soil and/or plant sciences
- Interest in plant-soil systems, non-vascular plant communities, soil microbial composition and function
- Field work in remote locations including soil sampling, moss and lichen identification
- Experience with molecular analyses/data considered an asset

The expected starting date for the 2-year M.Sc. and 3-year Ph.D. positions vary from July 1, 2018 to January 1, 2019. The stipend for the M.Sc. position is \$22,680 per year and \$27,018 for the Ph.D. position. Interested candidates should submit a statement of interest, CV and three references, unofficial transcripts and a sample of writing to Dr. Katherine Stewart, Department of Soil Science, University of Saskatchewan. For more information please contact Dr. Stewart ([katherine.stewart@usask.ca](mailto:katherine.stewart@usask.ca)).

### **PhD Graduate Research Assistantship, Soil Ecosystem Dynamics Lab, Univ of Waterloo, Waterloo, ON**

#### Impact of organic amendments on soil health under a changing climate

Immediate opening available for a PhD student. The successful applicant will have an opportunity to take part in a funded exchange to McGill University as well as travel to international conferences among other opportunities.

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. This also reduces the need to apply mineral fertilizers to agricultural land, and thereby mitigates nitrous oxide emissions.

#### General Objectives:

- 1) To assess the effect three different biobased residues on soil health, C sequestration and GHG emissions at the field-scale.
- 2) To determine the impact of freeze-thaw cycles on GHG emissions in soil amended with three different biobased residues at the lab-scale.

Applicants must hold a Master's degree with a strong background in the natural sciences, experience in soil sampling and measurement of greenhouse gases 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 funding will be available for a domestic (Canadian citizen/PR) PhD student for 4 years at \$23,043 (minimum) per annum plus research and travel expenses.

Expected Start Date is September 6, 2018 with potential to start immediately as a full time summer field technician. More information: [click here](#).

## **Events:**

### **PRSSS Summer Soil ID Course, Jul 17-19, 2018, Smithers, BC**

The Pacific Regional Society of Soil Science (PRSSS) is accepting applications for the 2018 Summer Soil ID Course in Smithers, BC. The deadline for submitting applications is **May 18, 2018**. Applications will be assessed and registration confirmed via email by May 22, 2018 at the latest. All applicants will receive a response by this day with an update of their application status.

This course is an excellent opportunity to gain hands-on experience in soil classification and landscape interpretation. Expert mentors, who are a wealth of knowledge, will guide you throughout the 3 days. Upon

completion of this course participants will learn how to texture a soil, dig a soil pit, differentiate and describe horizons, and interpret soils and landscapes for possible land uses. A certificate of completion will be provided upon completion as proof of professional development.

Please follow this link for more information and to apply: <http://www.prsss.ca/events/event/2018-summer-soil-id-course-smithers-bc/>. Contact [prsssemail@gmail.com](mailto:prsssemail@gmail.com), if you have any questions.

### **CSSS Annual Conference, Jun 10-14, 2018, Niagara Falls, ON**

Thank you to all CSSS members that have registered for the 2018 Joint Meeting to be held in Niagara Falls in less than a month from now! If you plan to attend the conference but have NOT yet registered, please do so at [www.regonline.ca/CGU2018](http://www.regonline.ca/CGU2018).

For anyone who has not yet booked their accommodation needs, please book at the Marriott Fallsview! Discounted conference rates of \$199 and \$239 per night plus tax are available. Book by **May 21, 2018** to receive these discounted rates. Some rooms are still available.

You can book online: <https://www.niagarafallsmarriott.com/company/canadian-geophysical-union> or by calling 1-888-501-8916. Please be sure to indicate that you are attending the Canadian Geophysical Union Annual Meeting.