

# THE SOILED PROFILE



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



UNIVERSITY  
OF MANITOBA

For general inquiries or if you have material to include in the newsletter:

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

**20 January 2017**

### Upcoming:

Wednesday, Jan 25, 12:30 p.m., Room 346 Ellis Building – Two conference-length Department of Soil Science seminars.

Justice Zhanda, M.Sc. student. “Assessing Thermal indices for Modeling Grain Corn Phenological Development on the Prairies”

Matthew Wood, M.Sc. student. “A comparison of Enhanced Efficiency Nitrogen Fertilizers and Products to Reduce Nitrous Oxide Emissions in Manitoba.”

Wednesday, Feb 15, 12:30 p.m., Room 346 Ellis Building – Two conference-length Department of Soil Science seminars.

Masoud Goharrokhi, Ph.D. student. “Assessing some of the issues associated with the time-integrated fine sediment sampler (TIFSS).”

Mayowa Adelekun, Ph.D. student. “Simulation of greenhouse gas fluxes from perennial forage grasses and annual crops using the DNDC model.”

### Department Staff Away:

Paul Bullock                      Feb 21-22 (Ottawa)

Please note: Terri Ramm is working on Monday, Tuesday and Thursday for the next 2 weeks.

### News:

#### *Paper of the week:*

Liebig, M.A., A.J. Franzluebbers, C. Alvarez, T.D. Chiesa, N. Lewczuk, G. Piñeiro, G. Posse, L. Yahdjian, P. Grace, O. Machado Rodrigues Cabral, L. Martin-Neto, R. de Aragão Ribeiro Rodrigues, **B. Amiro**, D. Angers, X. Hao, M. Oelbermann, **M. Tenuta**, L.J. Munkholm, K. Regina, P. Cellier, F. Ehrhardt, G. Richard, R. Dechow, F. Agus, N. Widiarta, J. Spink, A. Berti, C. Grignani, M. Mazzoncini, R. Orsini, P.P. Roggero, G. Seddaiu, F. Tei, D. Ventrella, G. Vitali, A. Kishimoto-Mo, Y. Shirato, S. Sudo, J. Shin, L. Schipper, R. Savé, J. Leifeld, L. Spadavecchia, J. Yeluripati, S. Del Grosso, C. Rice and J. Sawchik. 2016. MAGGnet: An international network to foster mitigation of agricultural greenhouse gases. Carbon Management. Vol.7(3-4), p.243-248, DOI: 10.1080/17583004.2016.1180586

## Opportunities:

### **Assistant Professor, Department of Geography, University of Winnipeg**

The Department of Geography at The University of Winnipeg invites outstanding candidates to apply for a tenure-track appointment at the rank of Assistant Professor. The ideal candidate will possess a Ph.D. in Physical Geography at the time of appointment, with a strong research focus on soil science. Postdoctoral experience is preferred, as is demonstrated teaching experience and effectiveness.

The successful applicant will have research and teaching experience in pedology and related areas, including soil-vegetation systems, geomorphology, biogeography, and/or physical geology. Experience or interest in prairie and/or northern regions is an asset. The successful candidate will also have a strong record of scholarship as demonstrated by research grants, publications and other forms of academic success. The Department endeavors to actively engage its students in research projects and fieldwork experiences. Housed in the Faculty of Science, Geography offers 3 and 4 year degrees in Arts and Science, and a Joint GIS Program with Red River College.

Subject to budgetary approval, this position will be effective from July 1, 2017. Salary levels will be commensurate with qualifications and experience.

The selection committee will begin reviewing applications on February 23, 2017 and will continue until the position is filled; full consideration is assured for applications received by **Wednesday, February 22, 2017**. Applicants must submit a cover letter, full curriculum vitae, outline of proposed research program (maximum two pages), a statement of teaching philosophy including evidence of teaching effectiveness (maximum two pages), and two or three representative publications (all documents in PDF). Candidates should also arrange to have three letters of reference e-mailed directly to:

Dr. Marc Vachon, Chair Department of Geography The University of Winnipeg 515 Portage Avenue  
Winnipeg, Manitoba, Canada R3B 2E9, e-mail: [geography@uwinnipeg.ca](mailto:geography@uwinnipeg.ca).

### **Indigenous Scholar, Assistant Professor, Faculty of Agricultural and Food Sciences, Univ. of Manitoba**

The Faculty of Agricultural and Food Sciences, University of Manitoba invites applications from Indigenous (e.g., First Nations, Métis, Inuit) Scholars for a tenure-track position at the rank of Assistant Professor, commencing July 1, 2017, or as soon as possible thereafter, in one of the following broad disciplines: Agricultural Business/Economics; Food/Nutritional Sciences; or Agricultural Production/Ecology. Identification of a specific Department (Agribusiness and Agricultural Economics, Animal Science, Biosystems Engineering, Entomology, Food Science, Human Nutritional Sciences, Plant Science, Soil Science) will be based on the area of specialty of the successful candidate. The position will be weighted at approximately 45% teaching, 40% research and 15% service/outreach. Qualified applicants must possess: a Ph.D. in a relevant discipline; a record of independent research as demonstrated by scholarly publications; the potential for developing an active externally-funded research program including supervision of graduate students; demonstrated ability or potential for excellence in undergraduate and graduate teaching; and excellent oral and written communication skills. The successful candidate will be required to teach undergraduate and graduate courses in their area of expertise with inclusion of Indigenous perspectives and approaches. We also envisage that the Scholar will work closely with other instructors to help include Indigenous knowledge and perspectives for all students. The Faculty of Agricultural and Food Sciences is one of the most research-intensive Faculties at the University of Manitoba, and the Indigenous Scholar will be responsible for developing an independent research program funded through a variety of mechanisms that includes training graduate students. Our expectation is that the research and outreach programs will focus on safe, healthy, just, sustainable food systems for

Indigenous Canadians and the broader population. The Scholar will also be expected to contribute to larger interdisciplinary efforts.

All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. Applicants must, at application, declare that he/she self-identifies as an Indigenous (First Nations, Métis or Inuit) Canadian. Applications, including a curriculum vitae, short statement of teaching philosophy and research interests, the names and addresses (including phone and e-mail addresses) of three referees, and Indigenous Canadian self-declaration verification should be sent (preferably by email) to: Dr. Brian Amiro, Chair, Indigenous Scholar Search Committee, Department of Soil Science, Faculty of Agricultural and Food Sciences, University of Manitoba, Winnipeg, Manitoba, R3T 2N2 Canada. (204) 228-3374; FAX: (204) 474-7642, e-mail: [brian.amiro@umanitoba.ca](mailto:brian.amiro@umanitoba.ca)

**Closing date for applications is February 27, 2017.** The review of applications will continue until the position is filled. 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 curriculum vitae may be provided to participating members of the search process.

### **Off-Campus Study Course Offerings - 2017-2018**

Off-Campus Study (OCS) is intended to provide flexible and convenient options for students, by offering courses at unique times and/or places. Unique course timeslots have included evening and weekend offerings, and courses offered through OCS may take place at the Fort Garry or Bannatyne campuses, or possibly other locations within Winnipeg that you expect would best suit the needs of your target audience.

We welcome proposals for OCS courses that have been offered previously, as well as for new courses that you would like to introduce. At the same time, we'd like to learn from you about your goals in regards to OCS, including the intended audience and how OCS may align with your unit's academic plan. This will help us to determine which location/schedule might be the best fit for your needs, as well as how we may measure the effectiveness of OCS in meeting those needs.

We've prepared an Off-Campus Study 2017-2018 Workbook which will guide you through the proposal process. This workbook includes a spreadsheet where proposed OCS course information is entered (including your preferences for time and location, and the intended audience for each course section). Extended Education may also use information that you provide within this workbook towards determining how to most effectively promote OCS.

Course proposals should be submitted through the Department Head/Dean/Director as far in advance as possible, but no later than **February 28, 2017**. Please submit the proposals by email to [Rhiannon.Vermeulen@umanitoba.ca](mailto:Rhiannon.Vermeulen@umanitoba.ca). If you want the proposal workbook or have any questions, feel free to contact Kari Kumar, Director (Interim), Extended Degree Studies, 166 Extended Education Complex, University of Manitoba, Winnipeg, MB R3T 2N2, Tel: (204) 272-1582, Fax: (204) 474-7660, [Kari.Kumar@umanitoba.ca](mailto:Kari.Kumar@umanitoba.ca).

### **M.Sc. Opportunity, Department of Soil Science, University of Manitoba** Quantification of Weather Impacts on Wheat Gluten Strength

Co-supervisors: Dr. Paul Bullock and Dr. Harry Sapirstein

Project Description: This project examines physical and biochemical factors underlying CWRS wheat processing quality for breadmaking, primarily gluten strength, as a function of genotype (G), the crop growing environment (E) and G x E interactions. Wheat and other crops grown in the Prairie provinces

typically experience an enormous range of weather conditions every year. The wheat plant responds to a complex set of soil, water, climate, and pests during its growth cycle. The spatial and temporal variability in growing conditions creates the potential for a very wide range in breadmaking quality of CWRS wheat. This is a major concern for wheat customers, who require a reliable source of wheat of consistent and expected quality, from shipment to shipment, and from year to year. The research focus is to determine if certain CWRS varieties have an intrinsic level of gluten strength below acceptable levels when exposed to variations in weather and biotic pressures across western Canada. This will build on earlier research and establish links between wheat gluten protein fractions, technological quality parameters related to gluten strength, wheat grade (and degrading factors) and patterns of weather variation during specified periods of crop development. The long term goal is to solidify and enhance the value of the CWRS wheat class in world markets by developing a thorough understanding of genotype and environment influences on gluten strength for breadmaking. Better information on the factors causing CWRS wheat quality to vary will benefit producers and the value chain in general. The proposed research includes the collaboration of virtually all spring wheat breeders in western Canada which underscores the importance of this project.

Position Details: The M.Sc. position starts May 1, 2017. It is based in the Department of Soil Science and will focus on agrometeorological factors related to gluten strength of wheat being grown in replicated field trials across the Prairies. The student will be co-supervised by Dr. Paul Bullock (Department of Soil Science) and Dr. Harry Sapirstein (Department of Food Science) and will work within a team of Research Associates, Technicians and other graduate students in both Soil Science and Food Science at the University of Manitoba. The student will also collaborate with Agriculture and Agri-Food Canada personnel at field study sites across the prairies. To apply, please send transcripts, resume and names of two references to: Dr. Paul Bullock, Department of Soil Science, University of Manitoba ([Paul.Bullock@umanitoba.ca](mailto:Paul.Bullock@umanitoba.ca)) by **March 1, 2017**. Applicants should hold a Bachelor's degree with a strong background in natural or agricultural sciences. Expertise in agriculture, plant and soil science is desired. Annual MSc stipend: \$20,000 per year, for a maximum of two years. There are scholarship and teaching assistant opportunities to supplement the stipend above this base level.

### **M.Sc. and Ph.D. UMGF Awards, Department of Soil Science, University of Manitoba**

New applicants and current M.Sc. and Ph.D. students are encouraged to apply for the 2017 Department of Soil Science University of Manitoba Graduate Fellowship Competition. The award value is \$14,000 per year for a maximum of 2 years for M.Sc. students; and \$18,000 per year for a maximum of 4 years for Ph.D. students. Note that students may only hold the award for the first 24 months of their M.Sc. program or 48 months for a Ph.D. program; students who are currently enrolled must have at least 12 months remaining in their program as of May 1, 2017; new students must become enrolled by January 2018. Students must have a minimum GPA of 3.75 (above B+) at a recognized university based on their last 60 credit hours or equivalent. All students regardless of citizenship are eligible to apply.

Students must submit the following electronically to Martha Blouw, Graduate Academic Advisor, Telephone: 204-474-8223; email: [Martha.Blouw@umanitoba.ca](mailto:Martha.Blouw@umanitoba.ca), by **March 6, 2017**, 400pm:

- Official Transcript of grades from all university programs; University of Manitoba students request student histories from the Registrar's Office (free) to be sent directly to Martha Blouw, 226 Agriculture Building; Current students can provide copies of their original transcripts used for initial admission;
- Letter of Intent describing your educational goals, notional thesis topic area, the name of your thesis advisor, and the date when your program will start;
- A resumé indicating exceptional achievements and demonstration of leadership and experience;
- A 300- to 500-word description of your intended research.

- Letters of reference from two professional referees sent directly from the referee to [Martha.Blouw@umanitoba.ca](mailto:Martha.Blouw@umanitoba.ca).

### **International Graduate Student Scholarship (IGSS) for M.Sc. and Ph.D., University of Manitoba**

If you are planning to transfer from a Master's to a PhD program, or to apply to a PhD program for the Summer 2017, Fall 2017 or Winter 2018 term, you are encouraged to apply and must apply by the **April 11th deadline** if you wish to be considered for the IGSS for the 2017 -2018 academic year. Even if you are unsure of what you will do, you are encouraged to submit an application. Late applications will not be considered. [Read more.](#)

## **Events:**

### **Alberta Soil Science Workshop, February 15 to 17, 2017, Lethbridge, Alberta**

Conference theme: What is Soil Health? Concepts to Applications.

Additional information and registration is available at: <http://www.soilsworkshop.ab.ca/>.

### **AIC 2017 Conference, April 24-26, 2017, Winnipeg**

This year's theme is Agricultural Innovation in a Changing Environment. Click [here](#) to learn more!

The conference will foster important discussions among policy makers, industry stakeholders, entrepreneurs and the research community about agriculture's impact on the environment in a changing climate. AIC 2017 will also showcase world-class innovative research taking place across Canada and explore how green growth in the sector can build on a strong scientific, evidence-based foundation.

Early bird rates are available until **January 27, 2017**. Click [here](#) to register today!

### **2017 Joint Meeting of Canadian Geophysical Union (CGU) and Canadian Society of Agricultural and Forest Meteorology (CSAFM), May 28-31, 2017, Vancouver, BC**

The call for abstracts for the joint meeting in Vancouver in May is now open. The official meeting website has details on abstract submission and proposed sessions: <http://cgu-ugc2017meeting.ca/>. The deadline for abstracts is **February 15**.