THE SOILED PROFILE

NEWSLETTER
DEPARTMENT OF SOIL SCIENCE
UNIVERSITY OF MANITOBA
"bringing you the latest dirt"

FACULTY OF AGRICULTURAL AND FOOD SCIENCES

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 on our webpage: umanitoba.ca/afs/soil_science/

17 March 2017

Upcoming:

Monday, Mar 20, 1:00 p.m., Room 346 Ellis Building – Department of Soil Science, M.Sc. thesis defense, Kamala Sapkota. "Pesticide Residue in Groundwater and Soil of a Prairie Province in Canada"

Wednesday, Mar 22, 12:30 p.m., Room 346 Ellis Building – Department of Soil Science, Seminar Series, Professor Durodoluwa Oyedele, Soil Science Professor, Obafemi Awolowo University, Ile-Ife, Nigeria. "Design and assessment of a capillary irrigation system for fertilizer micro-dosing in vegetable production"

Tuesday, May 2, Room 346 Ellis Building – Department of Soil Science Spring Orientation

Department Staff Away:

Bo Pan	Mar 17-31
Paul Bullock	Apr 10-24 (vacation)

News:

David Lobb and Don Flaten will deliver the 2017 William E. Larson and Raymond R. Allmaras Lecture on Emerging Issues in Soil and Water at the University of Minnesota

Two of our faculty have been honoured with presenting the 2017 Lecture in this prestigious series. Previous speakers have included Dr. Henry Janzen and Dr. Rattan Lal.

The Mission: Among the principal concerns for the 21st century are food security, global sustainability of natural resources, and healthy environment. Soil and water sciences play a critical role in addressing these concerns. This lecture series provides a forum to explore emerging issues, to inspire creative thinking, and to recognize excellence in the broad area of agricultural research with specific emphasis on soil and water.

Title: Sources of Sediments and Phosphorus to Lake Winnipeg: Matching Causes with Cures.
April 21st, 2:00 p.m., 335 Borlaug Hall, University of Minnesota.

Congratulations!

Abstract:
Excess loading of phosphorus is hurting the health of many water bodies in the Northern Great Plains, including Lake Winnipeg, the 10th largest lake in the world. A substantial portion of this loading comes from agricultural land in the lake's large watershed, which includes northwestern Minnesota. Most beneficial management practices (BMPs) for reducing phosphorus losses from agricultural land have been developed for areas where the majority of these losses are caused by soil erosion during rainfall events. However, these practices may not always be pertinent to the Northern Great Plains, where the landscapes are often flat, the climate is cold and dry, and runoff is dominated by snowmelt over frozen soil. Recent research in the Canadian Prairies confirms that erosion from agricultural fields is a small contributor to sediment loading in streams and also that vegetative residues are a large contributor to phosphorus loading. This research also shows that several erosion control BMPs are not effective for reducing P losses in the region and locally validated BMPs for water and nutrient management will be essential for reducing P loss from Prairie farmland to surface water bodies such as Lake Winnipeg.

More About Last Week's Paper of the DECADE: See the write-up in UM News.

Wagner-Riddle C., Congreves K.A., Abalos D., Berg A.A., Brown S.E., Ambadan J.T., **Gao X., Tenuta M**. 2017. Globally important nitrous oxide emissions from croplands induced by freeze–thaw cycles. Nature Geoscience, published online 6 March 2017, doi:10.1038/ngeo2907.

Paper of the week:

Alemu, A., K.H. Ominski, M. Tenuta, **B.D. Amiro**, and E. Kebreab. 2016. Evaluation of greenhouse gas emissions from hog manure application in a Canadian cow-calf production system using whole-farm models. Animal Production Science 56: 1722-1737.

Opportunities:

INTERNATIONAL GRADUATE STUDENT SCHOLARSHIP (IGSS)

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. (More Information)

Student Affairs Participation Award

The selection committee for the Student Affairs Participation Award is hoping to honour a student at the University of Manitoba who has maintained high academic achievement while demonstrating exceptional leadership qualities in making a significant voluntary contribution to the university and/ or broader community. The deadline for submitting nomination forms to the Financial Aid & Awards Office is Friday, **April 7, 2017**. If you have any questions about the process or would like a nomination form, please contact Lesli Lucas-Aseltine (Awards Selection Coordinator) at 474-9533, or via email at Lesli.Lucas-Aseltine@umanitoba.ca.

Research Program Manager, Western Grains Research Foundation, Saskatoon, SK, (3-Year, Part Time)

As Research Program Manager, you will be part of a four-member team of Research Program Managers that develops, manages and administers funding arrangements with research institutions; collaborates with research funding partners; provides research and analytical support for WGRF initiatives; and provides support to WGRF decision-making processes. This part-time (60 to 80%) three-year term position will be of interest to experienced individuals with significant knowledge of crop-based agriculture in western Canada including agronomy and variety development. The knowledge and skills required for this position will most likely have been obtained through a Master's degree in agriculture with at least ten years of experience in agriculture production research and research program management. WGRF offers a competitive salary and benefits program. Flexible work hours are available. This is primarily an office position however travel within Canada will occasionally be required.

If you would like to be part of a friendly, highly motivated team located at Innovation Place in Saskatoon, please send us your resume by Monday, **April 3, 2017**. Attention: Candice Lajeunesse, Program Administrator, Western Grains Research Foundation at info@westerngrains.com. Download PDF.

Applied Soil Chemist, Agronomy and Horticulture Department, University of Nebraska - Lincoln

The incumbent will be a core member of the Agronomy and Horticulture Department Teaching program critical to meet the learning outcomes of all majors in the Unit. The incumbent will lead the teaching program for the entry level and large enrollment undergraduate course in soil resources and medium enrollment upper level urban soil and water management course in support of several majors in the Department and the College of Agriculture and Natural Resources (CASNR). The incumbent is expected to generate scholarly work as well as innovative and effective teaching methods, tools, and programs. The incumbent is also expected to teach a graduate level course in his/her area of expertise and engage in professional development and grantsmanship to strengthen the teaching program. Undergraduate advising and active participation in academic recovery and retention programs and student recruitment, orientation, enrollment assistance for CASNR students are expected. The incumbent will average 0.75 FTE in teaching as determined by the CASNR Academic Appointment Guidelines. Specific course assignments may change with time based upon Academic Unit needs.

The emphasis of the research program will be on applied soil chemistry. Research will include field applications of chemical processes in relation to soil and environmental quality in agricultural, peri-urban, and urban areas. Specific investigations can include research to better understand transport, sorption, transformation, and fate of chemicals including emerging contaminants, hormones, and pharmaceutical products using innovative approaches. Expertise in nutrient and carbon cycling and modeling of nutrient dynamics and contaminants in soil, water, and the atmosphere related to soil and water quality is desirable.

To apply: https://employment.unl.edu/postings/53326. Deadline: **April 7, 2017.**

Assistant Professor, Agronomy, Dept of Plant Sci and Landscape Architecture, University of Maryland

The Department of Plant Science and Landscape Architecture invites applications for a 12- month tenure track position of Assistant Professor of Agronomy with a 60% University of Maryland Extension and 40% Maryland Agricultural Experiment Station Research appointment with the focus on production of agronomic crops. The candidate will be an individual who has extensive training in agronomic crop production, nutrient management of cropping systems, and statistical analyses of crop performance data.

The candidate's research program should focus on practical solutions to production issues facing the major crops grown in Maryland, while improving the provisioning of ecosystem services.

Candidates who have experience working with a range of faculty, staff, constituents and organizations and who have interest/experience in developing programs that serve diverse populations are encouraged to apply. For more information and to apply, please see: https://ejobs.umd.edu/postings/49730.

Graduate Student Positions, Department of Plant Sciences, University of Saskatchewan

Project title #1: Understanding soil health in horticultural and agricultural soils
Supervisors: Dr. Kate Congreves and Dr. Melissa Arcand

Project description: The proposed research will examine how different horticultural & agricultural practices have influenced soil health, and will identify which key soil attributes are most important in determining soil health. This project will focus on a unique set of long-term trials at the University of Saskatchewan, which have produced vegetables, fruit, or grains for the past several decades. The project will engage a MSc student in field work (soil sample collection), lab work (analysis for numerous soil attributes such as nutrients, organic matter, aggregate stability, etc.), data integration and interpretation (soil health scoring). The candidate will have opportunities to interact with horticultural producers, provincial and federal government researchers, other graduate students and researchers within the Dept. of Plant Sciences and the Dept. of Soil Science at the University of Saskatchewan.

Project title #2: Understanding nutrient dynamics in diverse vs simple crop rotations
Supervisors: Dr. Kate Congreves and Dr. Richard Farrell

Project description: The proposed research will examine crop residue decomposition and soil nutrient dynamics in simplified vs diversified crop rotations. This project will employ 15N tracer techniques to understand nitrogen transformation and loss from above- vs below-ground crop residues over time, and will focus on a ~30yr field trial located at the University of Guelph. The project will engage a MSc or PhD student in field work (plant sampling, soil sampling, and greenhouse gas sample collection), lab work (analysis for plant nitrogen, soil mineral nitrogen, organic nitrogen, and nitrous oxide emissions), data integration and interpretation. The candidate will have opportunities to interact with agricultural producers, government researchers, other graduate students, and researchers within the Dept. of Plant Sciences at the University of Saskatchewan, and also at the University of Guelph (Dept. of Plant Agriculture & the School of Environmental Sciences).

To apply for either position, please send your unofficial transcripts, CV and names of two references to: Dr. Kate Congreves, Assistant Professor with the Department of Plant Sciences at the University of Saskatchewan. Email: kate.congreves@usask.ca

Qualifications: Applicants should hold a Bachelor's degree with a strong background in natural or agricultural sciences. Expertise in agriculture, horticulture, soil, and plant science is desired.

Annual stipend: $21,000 per year for MSc, or $25,000 per year for PhD. Additionally, there are scholarship and teaching assistant opportunities to supplement the stipend beyond this base level.

Events:

Manitoba Institute of Agrologists, 2017 Professional Development and Annual General Meeting, April 13, Portage la Prairie, MB

The Manitoba Institute of Agrologists 67th AGM will be held at the William Glesby Centre, Portage la Prairie, MB on Thursday, April 13, 2017 starting at 1:30 p.m. Election of Provincial Council members will be part of the AGM.

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

The program schedule for the meeting has been posted online: http://cgu-ugc2017meeting.ca/program/.

There are 4 CSAFM specific oral presentation sessions and posters as well. Details on where and when the CSAFM Annual business meeting will be held during the conference to follow soon.

Note that early-bird registration is due by April 18: http://cgu-ugc2017meeting.ca/registration/.

Due to the attendance level expected at the meeting, it is possible that the best on-campus accommodation may go quickly, so book as soon as possible: http://cgu-ugc2017meeting.ca/accommodation/.