

# 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/)

**15 January 2016**

### Upcoming:

Friday, January 22, 12:30 p.m. – Soil Science M.Sc. Thesis Defense, Room 346 Ellis Building. Brian Miller. “Soil Moisture, Vegetation and Surface Roughness Impacts on High Resolution L-Band Microwave Emissivity from Cropped Land during SMAPVEX12”.

Wednesday, January 27, 12:30 p.m., Room 346 Ellis Building – Soil Science seminar series. Dr. David Lobb, Department of Soil Science. Title: TBA

### Department Staff Away:

Tim Stem will be away most Fridays for the next few weeks.

### News:

*Congratulations to Toyin.*

Toyin successfully defended her M.Sc. last Tuesday. Well done!

### Opportunities:

#### International Graduate Student Scholarship (IGSS)

\$2,700 to \$5,400 (approx) - For Master's & PhD Students

RESEARCH FIELD(S): UNRESTRICTED, DEADLINE: **APRIL 1ST, 2016**

The IGSS is awarded to international students (i.e. those in Canada on study permits) who are paying the international student tuition fee. If you are planning to transfer from a Master's to a PhD program, or to apply to a PhD program for the Summer 2016, Fall 2016 or Winter 2017 term, you are encouraged to apply for the IGSS and must apply by the April 1st deadline if you wish to be considered for the IGSS for the 2016-2017 academic year. Even if you are unsure of what you will do, you are encouraged to submit an application.

**Diversification Specialist G3, Agrologist 3, Manitoba Agriculture, Food and Rural Development GO Centres, Agri-Food and Rural Economic Development, Arborg MB, Roblin MB**

Duties: The Diversification Specialist leads the development and execution of a field crop research program in partnership with one of Manitoba's agricultural diversification centres. Diversification Centres provide research and extension of results to farmers, agrologists and other industry stakeholders and are positioned as the department's hub of agricultural extension, field operations and technical support to applied crop production and agricultural land management research. The position applies expertise in science, agronomy, project management and field research management to the planning and execution of a coordinated applied research and extension program. The primary outputs of the program are agronomic recommendations that support diversification of farm income and opportunities for new or expanded local value added processing. Responsibilities are to develop and manage an applied field crop research program that involves field experiments in agricultural crops. Activities include applied research in all aspects of crop production systems and land and water management including oversight on plot data collection and analysis, and communication of research results to staff, stakeholders and industry along with being the department lead and contact with the Diversification Centre on financial, communication and administrative functions of these industry-owned not for profit corporations which operate the Diversification Centres.

Conditions of Employment:

- Must be legally entitled to work in Canada.
- Physically capable of working outdoors in various environmental conditions.
- Must possess and maintain a valid Manitoba class 5 driver's licence.
- Access to a personal vehicle for business purposes; to attend meeting and other work locations as required.
- Must be a member of the Manitoba Institute of Agrologists (MIA).
- Able to work extended hours during peak periods (growing and harvest seasons).

Essential:

- Bachelor of Science in Agriculture or a combination of relevant education and experience may be considered.
- Experience in field research, facility management including but not limited to: equipment procurement, operation and maintenance, land management, labour procurement and labour supervision.
- Experience in research protocol development and execution.
- Supervisory experience.
- Strong organizational skills including the ability to prioritize work and meet time sensitive deadlines.
- Strong interpersonal skills with the ability to develop and maintain positive working relationships with clients, colleagues, organizations, and other stakeholders.
- Ability to work independently with minimal supervision.
- Ability to take initiative and manage multiple projects.
- Excellent written communication skills.
- Excellent verbal communication skills.
- Experience using Microsoft Office (Word, Excel, Outlook, Power Point) suite and databases in an office setting.

Desired:

- Experience in statistical design and analysis.
- Experience preparing and presenting applied research activities and results.
- Experience reviewing applications for research funding.

- Experience using experimental management and statistical analysis software.
- Masters of Science in Agriculture.

Salary: G3 \$60,292.00 - \$78,094.00 per year

Closing Date: **January 21, 2016**

An eligibility list may be created for similar positions and will remain in effect for 12 months. Candidates who do not meet all essential criteria may be considered on an underfill basis at a commensurate rate of pay.

Apply to: Advertisement No.31520, Human Resource Services, 300-305 Broadway, Winnipeg, MB, R3C 3J7, Phone: 204-945-2608, Fax: 204-948-2193, Email: [govjobs@gov.mb.ca](mailto:govjobs@gov.mb.ca)

WHEN APPLYING TO THIS POSITION, PLEASE INDICATE THE ADVERTISEMENT NUMBER AND POSITION TITLE IN THE SUBJECT LINE AND/OR BODY OF YOUR EMAIL.

**Diversification Technician AG3, Agricultural Technologist 3, Manitoba Agriculture, Food and Rural Development GO Centres, Agri-Food and Rural Economic Development, Melita MB, Roblin MB**

Duties: The Diversification Technician provides field operations and technical support to applied crop production and agricultural land management research at Diversification Centres. Responsibilities are to execute field experiments in agricultural crops. Activities include land preparation and maintenance, equipment operation and maintenance and crop husbandry related to crop seeding, maintenance, harvest and storage. Activities also include plot data collection and entry and assisting with financial, communication and administrative functions of the industry-owned not for profit corporations which operate the Diversification Centres.

Conditions of Employment:

- Must be legally entitled to work in Canada.
- Physically capable of working outdoors in various environmental conditions.
- Able to work extended hours during peak periods (growing and harvest seasons).
- Must possess and maintain a valid Manitoba class 5 driver's licence.
- Access to a personal vehicle for business purposes; to attend meetings, and other work locations as required.

Essential:

- Diploma in Agriculture or a combination of relevant education and experience in field research may be considered.
- Experience using the latest Agricultural technologies including GPS and Real Time Kinematic (RTK) guidance systems.
- Experience operating and maintaining farm equipment with safety as the primary objective.
- Knowledge of crop husbandry practices in a research setting.
- Strong organizational skills including the ability to prioritize work and meet time sensitive deadlines.
- Ability to pay attention to detail and ensure accuracy.
- Ability to work independently with minimal supervision.
- Excellent written communication skills.
- Strong verbal communication skills.

- Excellent interpersonal skills with the ability to build and maintain positive working relationships with internal and external stakeholders.
- Proficiency with Microsoft Office applications (Word, Excel, Outlook and PowerPoint).

Desired:

- Experience supervising staff.
- Experience in statistical design and analysis.
- Member of, or eligible for membership in the Manitoba Institute of Agrologists (MIA) at the Technical Agrologist (Tech Ag.) level.

Salary(s): AG3 \$42,929.00 - \$51,047.00 per year

Closing Date: **January 18, 2016**

An eligibility list may be created for similar positions and will remain in effect for 12 months. Candidates who do not meet all essential criteria may be considered on an underfill basis at a commensurate rate of pay.

Apply to: Advertisement No.31515, Human Resource Services, 300-305 Broadway, Winnipeg, MB, R3C 3J7, Phone: 204-945-2608, Fax: 204-948-2193, Email: [govjobs@gov.mb.ca](mailto:govjobs@gov.mb.ca)

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### **Conservation Technicians (May-August), Native Plant Solutions, Winnipeg**

Native Plant Solutions is looking for Conservation Technicians to help deliver wetland and upland native grassland projects in Winnipeg. Students with Biology, Agronomy, and Science related disciplines are being sought as well as General Labourers without related disciplines to fill these positions. Your coursework and/or relevant work experience will enable you to confidently handle yourself in the field under a variety of weather and field conditions. You consider yourself motivated, innovative, creative, and welcome the opportunity for physical work either in a team environment or confidently on your own. You are flexible and willing to pick up other duties as assigned.

Requirements:

- Enrolled in the programs of, or a completed degree or diploma in, biology, ecology, environmental sciences, agriculture, agroecology, plant science, soil science or other post-secondary course work;
- A good understanding of the basics of plant ecology, soil science, and/or wetland ecology is beneficial;
- Relevant work experience in one or more of the science specialties listed is an asset;
- Practical field skills, with demonstrated strength in organization, data acquisition and protection, supervision of personnel and management of multiple tasks with good communication skills;
- Experience with data entry, and the use of Excel and other Microsoft Office products is considered an asset;
- Experience in plant identification, weed management, herbicide handling and application, soil erosion management, performing transect surveys, collecting water and soil samples, establishment of annual and perennial crops, working with First Nations communities, or participating in a field program is considered an asset;
- Ability to perform rigorous physical fieldwork under a variety of weather conditions, lift 50lbs, and crouch, bend, stretch, or stand for extended periods of time, and willing to work flexible hours, including overtime, evenings or weekends;

- Good communication skills and able to work independently or as part of a team;
- Experience with or willingness to operate a variety of farm and/or field equipment (tractors, seeders, ATVs, sprayers) is considered an asset;
- Enthusiasm for the outdoors, wildlife and environmental conservation; and
- Must hold a valid driver's license. First aid and CPR certification is considered an asset.

Applicants with experience in plant ecology, wetlands, agriculture/farming, greenspace management, plant science, or soil science will be given preference. The wage for these summer positions is \$15.00/hr.

Deadline for applications is **February 12, 2016**.

If you are qualified and interested in this opportunity, please state which category you are applying under (Biology/Agronomy/Science or General Labourer) and forward your cover letter (including date of availability for work), resumé, and three references by email for confidential consideration to the attention of: SACHELLE JOHNSTON, EMAIL: [s.johnston@ducks.ca](mailto:s.johnston@ducks.ca), NATIVE PLANT SOLUTIONS – DUCKS UNLIMITED CANADA, UNIT A, 1238 CHEVRIER BLVD, WINNIPEG, MB R3T 1Y3

### **Research Scientist – Nematologist, Agriculture and Agri-Food Canada, Science and Technology Branch, Vineland Station, ON**

Under the supervision of the Director of Research and Development, the incumbent will lead research in the field of nematology to develop and improve management strategies for fruit and crop diseases caused by nematodes. Research will focus on identifying best management practices that enhance productivity and address threats to the agriculture and agri-food chain. The incumbent will apply their knowledge of nematode biology to research issues impacting agriculture and work with colleagues in Agriculture & Agri-Food Canada as well as stakeholders from academia, and industry. The incumbent should also demonstrate an understanding of agronomic practices, statistical, and biology aspects related to fruit and crop production. The incumbent will be responsible for developing nematology based research programs; providing assistance, training and supervision to technical staff, graduate and undergraduate students; contribute to scientific paper writing and participate in research grants.

Immediate staffing need : 1 Permanent Full Time Position. A pool of qualified candidates may be established and may be used for similar permanent and temporary employment for the location indicated for this process.

Essential qualifications:

- Graduation with an acceptable doctoral degree from a recognized university in the field of Nematology or a relevant discipline.
- Applications will be accepted from candidates enrolled in, but who have not yet completed, a Ph.D. program. Completion of the Ph.D. thesis defence must occur by January 31, 2016 and the granting of the Ph.D. degree no later than June 30, 2016.
- Experience in the design and conduct of scientific research specifically as it related to nematology or other relevant discipline.
- Experience in research related to nematology.
- Experience in collecting, rearing and maintaining nematode collections
- Documented scientific productivity/recognition in the form of authorship/editorship of research results in the area nematology or other relevant discipline, in recognized journals and/or published reports, books, papers, or other communications resulting from scientific research.

Reference number: AGR16J-016479-000015. Closing date: **2016-01-19**

Further information and to apply: <https://emploisfp-psjobs.cfp-psc.gc.ca/psrs-srfp/applicant/page1800?poster=877443>.

## Events:

### **2016 Joint Congress of CMOS and CGU, May 29 – June 2, 2016, Fredericton, NB**

This message is to inform you of the following sessions:

#### Cold Regions Hydrology and Hydrometeorology

This session welcomes scientific submissions that discuss recent and projected changes to cold regions hydrology and land surface processes and developments in predictive capability of the hydrology and hydrometeorology of regions that are affected by snowfall, snow cover, frozen ground, river/lake ice or glaciers. Of particular interest is work outlining field and/or remote sensing studies of hydrological and hydrometeorological processes, the use of models in diagnosis and prediction of hydroclimatic change, the representation of cold region processes in land surface schemes, and regional climate model applications. As there is abundant evidence that the extremes of precipitation and streamflow will intensify with global change, this session also encourages submissions that investigate the characteristics and behaviours of these particular events in the context of cold regions hydrology and hydrometeorology and their predictability at various scales.

Co-Conveners: Chris Spence (Environment Canada), Laxmi Sushama (Université du Québec à Montréal), Stephen Déry (University of Northern British Columbia), Paul Bartlett (Environment Canada)

#### Land surface modelling for GCMs and ESMs

The importance of land surface processes and feedbacks in the global climate system has long been recognized, and decades of research have gone into the development of land surface schemes for global climate models (GCMs) and earth system models (ESMs). The development of such land surface schemes involves particular challenges, in that they must include physical processes operating at sub-diurnal time scales and at local spatial scales, but must also be capable of being applied at century-long time scales and global spatial scales. Thus, for example, although testing of the models with field data is of key importance in validating the physical realism of their parameterizations, this must also be complemented with regional-scale validation, usually using remote sensing observations. Ongoing research must also address the perennial problem of representing sub-grid scale heterogeneity in vegetation, soils, surface water and ground or surface ice, as well as the new frontiers of adding biogeochemical cycles, vegetation dynamics and the effects of surface disturbances. In Canada, 2016 will mark thirty years of development work on CLASS, the Canadian Land Surface Scheme, and nearly fifteen years of work on CTEM, the Canadian Terrestrial Ecosystem Model. This model development work has involved dozens of researchers in Canadian government and university centres, and numerous collaborations with researchers internationally. This session invites presentations on current work in CLASS and CTEM development, as well as work on the development of other land surface schemes designed for climate and weather models.

Convener: Diana Verseghy, Climate Research Division, Environment and Climate Change Canada

#### **Abstract submission deadline Feb. 15**

Conference website: <http://congress.cmos.ca/>.

Abstract submissions: [http://www.cmos.ca/site/abstracts\\_submission](http://www.cmos.ca/site/abstracts_submission).