



PRESIDENT'S MESSAGE

Dear members,

Two years ago, during the election period, I wrote: *“If elected, it will be easy for Noura: She will continue what she started doing for the CSSS since 1995 but with MORE experience. Certainly, Noura will enhance discussion/communication/collaboration between soil scientists at national and international levels. She will continue to strongly/fully support students and post-doctoral fellows to prepare the future of soil science!”*

So let it be said/written, let it be done! ...**I'm doing my best...**

This is my first message to you as President and it is really a privilege and honor for me to serve our national society that I supported for more than 20 years, almost since my arrival to Canada!

First of all, I would like to welcome Fran Walley (President-elect), Richard Farrell (Western Councillor) and Edith Olson (Treasurer) to the CSSS Council.

I also would like to sincerely thank Maja Krzic (Past-President), Wole Akinremi (Western Councillor), and Kent Watson (Treasurer) who left the Council. Thank you for your exemplary service. I am sure that you will continue serving the society. Kent: you left the society in a good financial health! Your current support to Edith in making sure the transition goes as smoothly as possible is highly appreciated.

I also would like to thank Steve Sheppard and Barbara Sanipelli who will leave the CSSS business by next June; both significantly contributed to the smooth running of our society. Advertising for a new office manager will be posted soon.

Many thanks to Dan Pennock, the current Canadian Representative on the Inter-governmental Technical Panel on Soils (ITPS), for his outstanding leadership during the last five years. The Global Soil Partnership (GSP) plenary will ratify his successor in Rome in June 2018. A call regarding the nomination of the new Representative appears later in this newsletter. I encourage qualified members to apply. Dan will be happy to answer your questions and serve as a reference!

It was proposed that the CSSS participates in a bid to host the 23rd Congress of Soil Science in 2026. Other bids will likely come from China and Italy. The bid from Canada will be presented to you at the upcoming AGM for feedback and vote.

Finally, let you know that plans for our next annual meeting are well underway thanks to the exceptional organizing committee including Joann Whalen.

I am looking forward to seeing you in Niagara in June!

*Noura Ziadi,
President*



CSSS Council 2016

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Canadian Representative on the Intergovernmental Technical Panel on Soils

In early 2018 the Canadian Society of Soil Science will be selecting a candidate to nominate as the Canadian representative on the Intergovernmental Technical Panel on Soils (ITPS). The term of an ITPS appointment is three years (beginning in June 2018), and it may be renewed for a second three-year term.

The ITPS was created in 2013 to provide scientific support for the work of the Global Soil Partnership (GSP) and the Food and Agriculture Organization (FAO) of the United Nations. Since its inception the ITPS has produced several major foundational documents for the work of the GSP and the FAO including a revised World Soil Charter and the 2015 Status of the World's Soil Resources report. More information on the ITPS and its work can be found at:

<http://www.fao.org/global-soil-partnership/intergovernmental-technical-panel-soils/en/>

The considerations used by the GSP when evaluating nominations are:

- a recognized academic profile (postgraduate (i.e., PhD) level);
- demonstrated experience at international level in different soil-related activities, ranging from research to field experience;
- a record of sound publications subjected to peer reviews;
- a position that should not preclude the provision of advice independently from employment status and nationality.

The workload of the Canadian representative includes

- participation in plenary sessions of the ITPS (one to two a year);
- participation in development of documents produced by the ITPS;
- service on the Editorial Board for the 2025 2nd Status of the World's Soil Resources report (probably one to two meetings a year beginning in 2019).

The ITPS and Editorial Board meetings are typically five days in length, and hence the ITPS representative may be spending up to two to three weeks a year at ITPS meetings. The workload otherwise is variable, but would probably average four hours of ITPS work per week. All the work of the ITPS is collective and hence recognition of individual authorship on ITPS documents is not possible.

All meetings of the ITPS to date have been held in FAO headquarters in Rome, Italy. All travel and accommodation costs are covered by the GSP. ITPS representatives are not otherwise compensated by the FAO.

Interested members (including self-nomination) have to submit a short CV (four pages) and a letter of interest (one page) to Noura Ziadi (noura.ziadi@agr.gc.ca), CSSS president, by Feb.23th.

For more information/questions, please contact Dan Pennock (dan.pennock@usask.ca), the current representative.



Discovery and Scientific Progress Together
 Scotiabank Convention Centre, Niagara Falls, Ontario
 June 10-14, 2018

Mark your calendars for the 2018 Joint Meeting of CSSS, CGU, CIG, ES-SSA,, CSAFM!

There will be a lot going on at the Niagara Falls Convention Centre this June! This modern, spacious facility will host a joint meeting that has grown to include:

- Canadian Society of Soil Science
- Canadian Geophysical Union
- Computational Infrastructure for Geodynamics
- Canadian Society for Agricultural and Forest Meteorology
- Eastern Section of the Seismological Society of America

Along with great opportunities for interaction with our professional colleagues, the meeting venue is in the heart of a unique combination of geology, soils, climate and history that have made it a top destination for tourists from around the world. If the Falls and the night life aren't your "cup of tea", we will be just up the road from vineyards and tender fruit growing areas, and your choice from dozens of world class wineries! The call for session proposals is open

We welcome abstract submissions to the 2018 Joint CGU-CSSS-CSAFM--ES-SSA-CIG Meeting. The online abstract submission portal and a full list of special and general sessions are available at:

<https://meeting2018.cgu-ugc.ca/program/>.

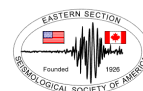
Abstract submissions will be accepted up to **March 9, 2018.**

We look forward to seeing you in Niagara this June!

Joann Whalen
 CSSS Past-President
 Member, Scientific Program Committee



Canadian Society of Soil Science
 Société Canadienne de la science du sol



Personal Histories Project of the International Union of Soil Science (IUSS)

In 2016, the IUSS decided to launch a project involving the collection of 'Personal Histories' of leading, senior figures in soil science. The Collection of Personal Histories will form a valuable record of the development of the soil sciences around the world and the contributions made by individuals involved.

The collection will consist of a video interview (or audio if video is not possible) plus a written summary (not a verbatim transcript). These will be stored centrally and will be accessible to all members.

The interviews plus summaries will also be used as source material for a Centenary publication in 2024 detailing the history of IUSS plus the lives and contributions of some of the leading figures within the Society/ Union.

Initially the project ran for a trial period of 18 months before being rolled out more widely. From now onwards, interviews shall be carried out with Honorary Members and former Presidents, recipients of the Dokuchaev and Liebig Awards plus well-recognized senior scientists whose advanced age requires that they are given urgent attention.

The Canadian Society of Soil Science may wish to carry out, collect and store other interviews in addition to those identified for the central collection in order to develop its own historical record. Anyone interested in participating in this project as an interviewee or interviewer should contact Joann Whalen joann.whalen@mcgill.ca to get a copy of the core questions that guide the interview process.

Announcing the International Science Council

On 26 October 2017 at a historic joint meeting, members of two leading international science councils voted to merge, launching a process that will see the formation of a single global entity called the International Science Council that unites the scientific community, including all social and natural sciences. The new International Science Council brings together the current members of ISSC (International Social Science Council) and ICSU (International Council for Science), including 40 international scientific unions and associations including IUSS, and more than 140 national and regional organizations such as academies and research councils.

The IUSS is pleased to be a member of the newly formed International Science Council, and will share information with its member societies, including the CSSS.

2017 CALL FOR CSSS AWARD NOMINATIONS

FELLOW, HONORARY MEMBERSHIP, SOIL SCIENCE FOR SOCIETY AWARDS

We all know someone who has made significant contributions to Canadian soil science. The CSSS Fellow, Honorary Membership, and Soil Science for Society Awards provides an opportunity for you to nominate a deserving recipient to ensure that their accomplishments and contributions are recognized. It is easy to do - the simple nomination process is described on the CSSS website at www.csss.ca/index.php/awards. Please take the time to submit an award nomination for a deserving colleague before the deadline of **March 9, 2018**.

CSSS Fellow Award

This award recognizes CSSS members with a distinguished record of accomplishment in soil science and service to CSSS. A very high honour indeed!

CSSS Honorary Membership Award

This award honours non-members who have rendered valuable or special service to soil science.

CSSS Soil Science for Society Award

This award is open to members or non-members who have made a significant commitment toward promoting soil science to the general public. Go soil science!

CSSS Pedology Travel Award

This award provides travel funds (up to \$4000) each year to allow for at least one soil scientist (regular member only) to attend a conference, workshop or meeting related to pedology.

Please go to www.csss.ca/index.php/awards for more details on the nomination process for CSSS Fellow, Honorary Membership, Soil Science for Society, or Pedology Travel Awards. All nominations must be submitted via e-mail (Word or pdf attachments) to Fran Walley fran.walley@usask.ca, Chair of the CSSS Awards Committee, by **March 9, 2018**.

STUDENT AWARDS

There are a number of awards aimed at promoting student participation in CSSS.

CSSS Student Travel Award to attend the CSSS Annual Meeting

This award was established in 1991 to encourage student attendance at the CSSS Annual Meeting. The 2018 CSSS Annual Meeting will be held jointly with the CGU and CIG in Niagara Falls, Ontario from June 10th to the 14th. Graduate students who are CSSS members are eligible to receive this award. The Student Travel Award is \$600 and a maximum of 12 awards are given each year.

CSS Student Travel Awards for International Soil Science Meetings

The award allows student members to broaden the scope of their work and expand their relationships with soil science researchers outside of Canada. This is expected to build capacity and increase the engagement of students studying soil science at Canadian universities in the international soil science milieu. The award amount depends on the total cost of the applications, with a maximum of \$6800 available for up to two successful applicants in 2018.

Details for the Student Travel Awards and application form are available at the CSSS website at www.csss.ca/index.php/awards. Please send your completed application via e-mail to Fran Walley fran.walley@usask.ca, Chair of the CSSS Awards Committee by March 9, 2017.

Students – When submitting an abstract for the upcoming CSSS Annual Meeting, make sure you indicate that you wish to be considered for a Student Presentation Award.

CSSS Student Presentation Awards

The *C.F. Bentley Award* was initiated in 1983 to encourage and recognize excellence in oral presentations by students at the CSSS Annual Meetings. The Award honours [Dr. Fred Bentley](#) who was CSSS President in 1956-57 and inducted as a CSSS Fellow in 1973. The C.F. Bentley Award winner receives \$500, the first runner-up \$300, and the second runner-up \$200.

The *President's Award* was established in 1992 to foster excellence in student poster presentations as a means of disseminating research results at the CSSS Annual Meetings. The President's Award winner receives \$500, the first runner-up \$300, and the second runner-up \$200.

CSSS Undergraduate Book Award

This Award recognizes students at Canadian universities who demonstrate excellence in Soil Science at the undergraduate level. Award winners receive a copy of [Soil Sampling and Methods of Analysis](#) (2nd Edition), published jointly by CSSS and CRC Press in 2008. Candidates are nominated by their University department.

CJSS Editors Report for 2018 CSSS Newsletter

We are grateful to members of the Editorial Board that retired at the end of 2017 for their dedicated service to the journal: Drs. Scott Chang (Special Issues Editor) and Mehdi Sharifi (Associate Editor). Dr. Y.S. Ok withdrew from the board for personal reasons and we thank him too.

Dr M. Anne Naeth will take over the duties of Special Issues Editor, in addition to her role as Editor. Five new Associate Editors started their 3-year terms on January 1, 2018: Drs. Ben Thomas, Tandra Fraser, Sheng Li, Fereidoun Rezanezhad, Wei Hu and Mohammad Valipour.

The full 2018 Editorial Board is presented below.

Editor-in-Chief: Newton Lupwayi

Editor (including Special Issues): M. Anne Naeth

Associate Editors:

Nathan Basiliko	Jean-Philippe Bellenger	Asim Biswas
David Burton	Woo-Jung Choi	Miles Dyck
Tandra Fraser	Claudia Goyer	Bobbi Helgason
Wei Hu	Sheng Li	Aimé Jean Messiga
Judith Nyiraneza	David Pelster	Lori Phillips
Tusheng Ren	Fereidoun Rezanezhad	Ben Thomas
Mohammad Valipour	Andrew VanderZaag	Valérie Viaud
Wei Zhang	Noura Ziadi	

Our congratulations go to the Outstanding Associate Editors for 2017: Drs. Woo-Jung Choi, Aime Messiga and Andrew Vanderzaag; and to the Outstanding Reviewers: Drs. Craig Drury, Francis Larney and Mervin St. Luce. This is Dr St. Luce's second year in a row as outstanding reviewer. Well done.

We will report the 2017 journal statistics when they are available.

Newton Lupwayi and M. Anne Naeth

Warkentin Prize 2018

Annually, the Pacific Regional Society of Soil Science (PRSSS) accepts nominations and applications for the Warkentin Prize. The Warkentin Prize of \$500 will be awarded to a student, or someone who has graduated within the last two years, that has published a peer-reviewed article in the field of Soil Science.

During the call for nominations and applications you can apply by directly sending us a copy or link to the publication as well as two letters of support and a statement explaining how the article has contributed to soil science advancement to prsssemail@gmail.com. You can also nominate a student by sending us a link or copy of their publication, along with a statement supporting your nomination.

The deadline to apply is **March 2, 2018**. More information on the Warkentin Prize and Dr. Benno Warkentin can be found on the PRSSS website:

<http://prsss.landfood.ubc.ca/2017/01/31/call-for-applications-and-nominations-warkentin-prize-2/>

Siddhartho Shekhar Paul
President, PRSSS

Suggested Reading

An Assessment of the global impact of 21st century land use change on soil erosion

Read more : <https://esdac.jrc.ec.europa.eu/themes/global-soil-erosion>

Handbook of Environmental Health, Fourth Edition, Volume II: Pollutant Interactions in Air, Water, and Soil

Read more: <https://www.crcpress.com/Handbook-of-Environmental-Health-Fourth-Edition-Volume-II-Pollutant-Interactions/Koren-Bisesi/p/book/9780815380979>

Phytoremediation of Environmental Pollutants

Read more: <https://www.crcpress.com/Phytoremediation-of-Environmental-Pollutants/Chandra-Dubey-Kumar/p/book/9781138062603>

GlobalSoilMap – Digital Soil Mapping from Country to Globe

Read more: <https://www.routledge.com/GlobalSoilMap—Digital-Soil-Mapping-from-Country-to-Globe-Proceedings/Arrouays-Savin-Leenaars-McBratney/p/book/9780815375487>

Essentials of Soil Science.

Soil formation, functions, use, and classification (World Reference Base, WRB)

By Winfried Blum; Schad, Peter; Nortcliff, Stephen; will be published 1 January 2018 by Schweizerbart. 171 pages, 101 figures, 22 tables, ISBN 978-3-443-01090-4, price paperback 27.90 €.

Read more: <http://schweizerbart.com/9783443010904>

IUSS book The Nexus of Soils, Plants, Animals and Human Health

Edited by Bal Ram Singh, Michael J. McLaughlin and Eric Brevik on behalf of the IUSS; Published as GeoEcology essay by Schweizerbart in December 2017.

Read more: <http://www.schweizerbart.de/publications/detail/isbn/9783510654178>

Soil experiments for children

Read more: <http://www.fao.org/3/a-i7957e.pdf>

The zoo beneath our feet: We're only beginning to understand soil's hidden world

Read more: https://www.washingtonpost.com/lifestyle/home/the-zoo-beneath-our-feet-were-only-beginning-to-understand-soils-hidden-world/2017/08/08/f73e3950-7799-11e7-9eac-d56bd5568db8_story.html?utm_term=.ecb4f4ca7cb7

The Global Soil Organic Carbon Map (GSOCmap)

Read more: <http://www.fao.org/global-soil-partnership/pillars-action/4-information-and-data/global-soil-organic-carbon-gsoc-map/en/> or <http://www.fao.org/3/a-i8195e.pdf>

Global Soil Security

Read more: <https://globalsoilsecurity.com/>

Soil Power! The Dirty Way to a Green Planet

Read more: <https://www.nytimes.com/2017/12/02/opinion/sunday/soil-power-the-dirty-way-to-a-green-planet.html>

Better soil could trap as much planet-warming carbon as transport produces

Read more: <https://www.reuters.com/article/us-climatechange-agriculture-soil/better-soil-could-trap-as-much-planet-warming-carbon-as-transport-produces-study-idUSKBN1DE2DB?org=1364&lvl=100&ite=584&lea=140666&ctr=0&par=1&trk=>

Field research: discovering the structure of soil

Read more: <http://www.scienceinschool.org/content/field-research-discovering-structure-soil>

Soil penetration by earthworms and plant roots

Read more: <https://dl.sciencesocieties.org/story/2017/nov/fri/soil-penetration-by-earthworms-and-plant-roots>

Suggested Reading (continued)

Perennially-based practices improve soil hydrology

Read more: <https://dl.sciencesocieties.org/story/2017/nov/fri/perennially-based-practices-improve-soil-hydrology>

Soils in Landscapes of the World – 2018 Calendar

Read more: http://iuss.boku.ac.at/files/calendar_2018_-_soils_300dpi.jpg

Field research: discovering the structure of soil

Read more: <http://www.scienceinschool.org/content/field-research-discovering-structure-soil>

Activities launched in the framework of the International Decade of Soils (2015-2024)

IUSS participates in ICSU Grant Project “TROP-ICSU”

Read more: <https://tropicsu.org/>

A new BSSS Group Post called 2018 - My New Year's ReSOILutions as National ECR Rep

Read more: <http://www.soils.org.uk/2018-my-new-years-resoilutions-national-ecr-rep>

The Global Soil Partnership (GSP) and the Intergovernmental Technical Panel on Soils (ITPS)

launched a global endeavor to develop the Global Soil Organic Carbon map (GSOCmap) using a country-driven approach as part of the Global Soil Information System (GLOSIS).

Read more: <http://www.fao.org/world-soil-day/global-soil-organic-carbon-map/en/>

LUCAS Soil, the largest expandable soil dataset for Europe. The largest harmonized open-access data of topsoil properties available for the European Union.

Read more: <https://esdac.jrc.ec.europa.eu/projects/lucas>

<http://onlinelibrary.wiley.com/doi/10.1111/ejss.12499/full>

The 21st World Congress of Soil Science/sponsorship prospectus:

Read more: https://gallery.mailchimp.com/ca7fd4410b9dab34e3ef8b381/files/fc62f862-1552-414f-99fa-cc4338a5f934/Sponsorship_Soil_Science_2018__002_.pdf

Easier, cheaper and faster access to GIS soils data (+ 20% off for BSSS members)

Read more: <https://cranfield.blueskymapshop.com/>

IUSS Updates. You can read the new year message from IUSS President Professor Rattan Lal

Read more: <http://www.soils.org.uk/news/1-feb-2018/message-iuss-president-professor-rattan-lal-february-2018>

Read more: <http://www.soils.org.uk/news/29-jan-2018/latest-iuss-update-available-now>

An Introduction to Soil Classification - 24th and 25th April 2018 at SRUC Barony Campus, Parkgate, Dumfries United Kingdom Read more: <http://www.soils.org.uk/event/1387>

A new BSSS Group Post called Looking back on January: An Update from Dan.

Read more: <http://www.soils.org.uk/looking-back-january-update-dan> PRIMA (The Partnership for Research and Innovation in the Mediterranean Area) Foundation announced the PRIMA Calls for proposals for 2018

More information in PRIMA website: <http://prima-med.org/>

WRB Data for the Soil Atlas of the Northern Circumpolar Region

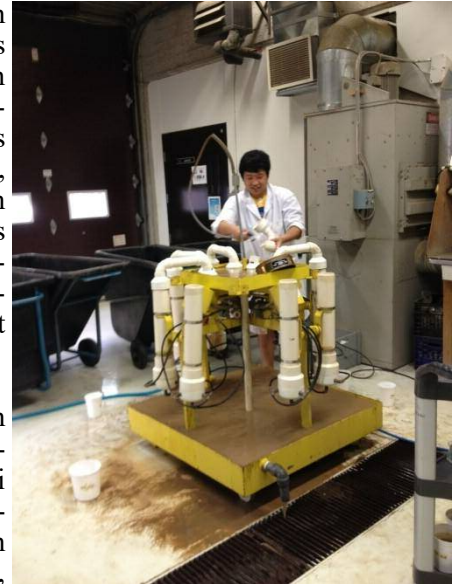
ESDAC makes available the WRB soil data for the whole area covered by the Soil Atlas of the Northern Circumpolar Region. The data come as a single shape file.

<https://esdac.jrc.ec.europa.eu/content/wrb-data-soil-atlas-northern-circumpolar-region>

Distribution and morphology of corn and soybean roots as affected by no-till and phosphorus fertilization—Haixiao Li

No-till (NT) practice is currently recommended for various cropping systems in terms of the conservation agriculture as defined by Kassam et al. (2012) and has several economic and environmental benefits, including reduction of soil erosion and sequestration of soil organic carbon (Soane et al. 2012). Long-term NT practice results in the alteration of soil properties and the stratification of nutrients along the soil profile with the addition of fertilizer (Messiga et al. 2011). Moreover, long-term NT also results in either decreased (Guan et al. 2014) or increased (Islam et al. 2015) crop yields. The above-ground growth and biomass yield of crops is heavily dependent on the root system (Guan et al. 2014). Thus, one key to the proper use of the NT management technique is the understanding of the complex interactions among soil properties, nutrient (e.g. phosphorus) heterogeneity and root development.

Dr Haixiao Li studied the effect of soil tillage practice and P fertilization regime on corn and soybean root morphology and distribution during his PhD thesis at University of Bordeaux (France), Laval University (Quebec), and Agriculture and Agri-Food Canada (AAFC, Quebec). Dr. Li conducted his research at an existing long-term experimental site (24-yr) at the L'Acadie Experimental Farm of AAFC. Corn and soybean roots were collected in 2014 and 2015 respectively at five depths (0-5, 5-10, 10-20, 20-30 and 30-40 cm) and three horizontal distances (5, 15 and 25 cm) perpendicular to the crop row. Root distribution and morphology were determined.



Results indicated that soybean roots accumulated principally in the first 10 cm soil layer under no-till treatment while corn roots showed no difference of root distribution along soil profile between mouldboard plow (MP) and NT practice regardless of a global biomass reduction (Li et al. 2016, 2017). Soybean roots under NT had a relatively higher root length density for a 60-cm soil profile compared to roots under MP possibly in response to nutrient availability and stratifications with higher nutrient contents in the top layers (0-10 cm) after 24 years of continuous NT practice. No-till practice decreased corn root biomass by -26% compared to MP, mainly by decreasing the primary and secondary roots. Additionally, corn roots in NT tend to be more expansive on the surface layer with higher root length and surface densities for the depth of 0-5 cm at two sampling distances of 15 and 25 cm. We concluded that NT practice and low rates of P fertilization reduce corn roots. This is probably caused by the weed competition in NT and the continued downward P status with low P rates over 22 years.

References

- Guan D, Al-Kaisi MM, Zhang Y, et al (2014) Tillage practices affect biomass and grain yield through regulating root growth, root-bleeding sap and nutrients uptake in summer maize. *Field Crops Res* 157:89–97
- Islam R, Glenney DC, Lazarovits G (2015) No-till strip row farming using yearly maize-soybean rotation increases yield of maize by 75%. *Agron Sustain Dev* 35:837–846
- Kassam A, Friedrich T, Derpsch R, et al (2012) Conservation agriculture in the dry Mediterranean climate. *Field Crops Res* 132:7–17
- Li H, Mollier A, Ziadi N, et al (2016) The long-term effects of tillage practice and phosphorus fertilization on the distribution and morphology of corn root. *Plant Soil* 1–18
- Li H, Mollier A, Ziadi N, et al (2017) Soybean root traits after 24 years of different soil tillage and mineral phosphorus fertilization management. *Soil Tillage Res* 165:258–267
- Messiga AJ, Ziadi N, Angers DA, et al (2011) Tillage practices of a clay loam soil affect soil aggregation and associated C and P concentrations. *Geoderma* 164:225–231

ANNOUNCEMENTS

A session on interdisciplinary soil science during the joint meeting in San Diego, 2019

A session on interdisciplinary soil science has been proposed for the 2019 Soils Across Latitudes meeting in San Diego, and interested CSSS members invited to join in sponsoring, co-sponsoring or assisting in other ways with this session.

The purpose is to bring together soil scientists and practitioners to actively discuss the history and future of interdisciplinary collaboration and offers an excellent opportunity to host this discussion by linking researchers across countries and backgrounds, and more information is given below. The session is proposed by John Obrycki, who is the 2018 Chair of the SSSA S205.1 (Council on the History, Philosophy, and Sociology of Soil Science)

Please contact John Obrycki, at John.Obrycki@ARS.USDA.GOV if you are interested in working with him on this.

And if you have any other ideas for sessions at this joint meeting, please contact Barbara Cade-Menun barbara.cade-menun@agr.gc.ca or Joann Whalen <joann.whalen@mcgill.ca>

Session Proposal 2019 San Diego Annual Meeting

Session Title: Interdisciplinary Perspectives in Soil Science Research

Overview prepared by Anthony Tricarico, incoming S205.1 member:

The purpose of this session is to examine the history and future of interdisciplinary collaboration within soil science. Specifically, this session seeks to bring together professionals from within soil science and related fields to discuss the intersection of methods and theories between disciplines. Theories addressing the biological, physical, and chemical properties of soils have existed well before a formalized soil science discipline (Brevik and Hartemink 2010). However, the promotion of an interdisciplinary soil science has recently received greater attention within numerous journals seeking to demonstrate the holistic approaches of many contemporary soil science-related research projects (Brevik et al. 2015).

Interdisciplinary collaboration reiterates the need for the development of a cross-discipline means of communication. For example, soil within biogeochemical research is often regarded as the physical medium connecting the –spheres of the earth (Totsche et al. 2010). Behavioral geoscientists see soil as a material artifact imbued with cultural significance (Roos and Wells 2016). Ecologists may look at soils in terms of their connection with various ecosystem services (Palmer et al. 2005). Each of these disciplines contributes methods and theories for understanding the biological, physical, and chemical properties of soils. However, each describes those similar theories with slight variations in terminology. This session seeks to bring together soil scientists from within and outside North America as well as practitioners from outside the discipline to discuss how their work intersects with soil science.

This session is intended to foster energetic, interdisciplinary conversations. The growth of cumulative and problem-focused research designs has increased interdisciplinary collaboration and consideration of once disparate, discipline-specific methodological and theoretical approaches. Interdisciplinary refers here to “...an integration of different disciplinary-based ontologies, epistemologies, and methodologies in order to develop emergent ideas (Winowiecki et al. 2011:74).” Winowiecki et al. (2011) argue that true interdisciplinary research requires practitioners to recognize the different modes of knowledge creation across disciplines.

ANNOUNCEMENTS (continued)

Ph.D. positions in Environmental chemistry / Analytical chemistry / Biogeochemistry

Importance of trace metal bioavailability and management protocols on carbon sequestration and green house gas emissions in brownfield sites.

The Laboratory of Terrestrial Biogeochemistry of the Université de Sherbrooke (Qc, Canada) is seeking applicants to fill one or two PhD positions in Environmental chemistry / Analytical chemistry / Biogeochemistry.

Presentation of the University:

Located in Canada, in the Province of Quebec, the Université de Sherbrooke is a French-speaking institution that offers you the opportunity to benefit from an academic education that is recognized and valued around the world. The Université de Sherbrooke has been welcoming international students ever since it was founded and each year the numbers increase. Currently, more than 1600 foreign students from 120 countries worldwide attend the Université de Sherbrooke.

In Quebec, universities are the only source of higher education. The North-American system is not comprised of grandes écoles or private higher education institutions. North-American universities are considered prestigious establishments and students receive high quality training and recognized diplomas. They can be compared to the European institutes of higher education (grandes écoles) for the quality of education.

The Université de Sherbrooke is situated in the southern part of Quebec, 150 km from Montréal, 220 km from Québec City and some 40 km from the American border. <http://www.usherbrooke.ca/>

Presentation of the Laboratory:

The research developed in the Laboratory aims to characterize metal dynamics in soil and its impact on microbial activity in soil. Our research relies on a strong expertise in analytical chemistry, associated to solid knowledge in biology and soil sciences. The techniques used in the laboratory are diverse and adapted to multidisciplinary researches; Liquid, Gas chromatography, mass spectrometry, spectrometry UV-vis, etc. The research projects developed in our laboratory offers great opportunities to students willing to complete their inter- and multidisciplinary formation.

For more information on the lab: <http://labbellenger.recherche.usherbrooke.ca/>

Description of the PhD project:

Importance of trace metal bioavailability and management protocols on carbon sequestration and greenhouse gas emissions in brownfield sites.

The proposed PhD projects are part of the L-CARE (Landscape C accumulation through reductions in emission) project. This NSERC-CRD project, lead by the Laurentian University of Sudbury, Ontario, regroups researchers from 6 universities (Laurentian University, McMaster, Queen's, Trent, UQAM and Sherbrooke) and two industrial partners (Glencore and Vale).

Brownfield management represents an important opportunity for carbon sequestration and storage to help meet industrial climate change mitigation targets. The overall objective of the L-CARE project is to quantify how massive sulfur and metal emissions reductions in Ontario's largest mining and smelting centre, coupled with novel ecosystem reclamation practices, lead to carbon (C) sequestration and influence the underlying processes of primary production, mineralization, and carbon and energy transfer thorough ecosystems, and inter-related contemporary greenhouse gas (GHG) fluxes.

ANNOUNCEMENTS (continued)

Main objective of the PhD project:

Trace metal availability, while potentially toxic, can limit key microbial activities controlling C exchanges and GHG emissions. How trace metal availability influences C exchange and GHG emissions in brownfield sites and to what extent reclamation practices impact trace metal availability and the microbial activities they control remains poorly understood. This limits our ability to properly estimate and predict the C storage capacity and GHG emissions potential of reclaimed lands under diverse reclamation practices.

Thus, the main objective of the proposed PhD project is to better evaluate how trace metal availability influences key microbial processes contributing to carbon exchange and GHG emissions (CH₄ production and consumption, N₂O emissions) under diverse reclamation practices. The Sudbury region- once the world's largest point source of S, Ni, and Cu pollution- will be used as a model system representing gradients of barren brownfield mine and mine waste sites to semibarren smelter-impacted terrestrial and aquatic ecosystems.

Specific aims of the PhD project:

The aims of the PhD project are:

- (i) Develop new analytical method allowing to better estimate trace metal (e.g. Ni, Cu, Mo, Fe) bioavailability for target microbial communities (e.g. methanotrophs and methanogens, denitrifiers),
- (ii) Study how trace metal availability (limitation and toxicity) influence key microbial activities impacting carbon exchange and GHG emission along the Sudbury's deposition gradient,
- (iii) Study how reclamation practices (e.g. liming, planting) influence trace metal availability and the microbial activities they control.

Candidate Profile

The research requires good skill in analytical/environmental chemistry. Knowledge on biogeochemistry or microbiology would be appreciated. Basic knowledge in ecology would be a plus but is not obligatory.

Scholarship: 18,000 to 21,000\$ per year (for three years)

Starting date: as soon as possible

How to apply?

Send: CV, master (or equivalent) ranking and official transcript, a cover letter and 2 letters of reference to jean-philippe.bellenger@usherbrooke.ca

Student rep vacancy at Northern Soils Network (NSN)

Regional group Chair Dr Jenny Jones has posted the following message;

"We are looking for a Student Rep for the Northern Soils Network. I'm really keen to have applications from enthusiastic post-graduate students. You can do as much or as little as you want in this role. As a minimum we would want you to liaise with other student members, but you could also contribute much to the organisation of the group. The Northern Soils Network will have a major role to play in the organisation of the annual meeting to be held at Lancaster University in September. Please email me on NSN@soils.org.uk if you'd like to know more."

Can you help?

Society member Dr Neil Humphries has been invited by The Institute of Quarrying (IQ) and Natural England (NE) to assist with the rewriting of the Defra guidance "Good Practice for Handling Soils".

If you would like to offer any feedback, assistance, photographs of exemplar practice (especially to be undertaken in 2018) then please contact Neil directly via email soilhandling.guidance@gmail.com

UPCOMING EVENTS

- **February 27-28, 2018 - CPNB 2018: The Dundee Conference** - Environmental Management & Crop Production, Apex City Quay Hotel, Dundee Scotland
- **March 12, 2018 - Next steps for farming productivity** - innovation, investment and knowledge transfer, Central London United Kingdom
- **March 12-16, 2018 - Sustainable Management of Soil and Water Resources in relation to Food Security**, Climate Change Adaptation and Mitigation, Obafemi Awolowo University, Moor Plantation, Ibadan, NIGERIA
- **GSOP18, Global Symposium on Soil Pollution, May 2 - 4, 2018** <http://www.fao.org/3/I8411EN/i8411en.pdf> For registration: http://www.fao.org/global-soil-partnership/registration/en/?event_id=1069372
- **The European Geosciences Union (EGU) April 8-13, 2018** in Vienna <https://www.egu2018.eu/>
- **10th International Symposium on Plant-Soil Interaction at Low pH (10th PSILPH2018), June 25-29, 2018.** <http://soils.org.uk/event/1381>
- **Exposing and Describing a Soil Profile - April 11, 2018** at Reaseheath College, Nantwich, Cheshire United Kingdom <http://www.soils.org.uk/event/1386>
- **The 2018 European Soil Partnership Plenary Meeting** will be organized on March 20-21 at the FAO HQ in Rome. More information: <https://esdac.jrc.ec.europa.eu/networkcooperations/european-soil-partnership>
- **Global Symposium on Soil Pollution, May 2-4, 2018**, at FAO headquarters (Rome, Italy). <http://www.fao.org/about/meetings/global-symposium-on-soil-pollution/en/>
- **21st World Congress of Soil Science – latest news** The 21st World Congress of Soil Science (21WCSS) will take place in **Rio de Janeiro, August 12 – 17, 2018**. Dedicated to the theme “Soil Science: Beyond food and fuel”, it will review the key role of soil science in answering some of the topical key questions regarding future food and water security, environmental protection and climate change mitigation. Information on technical conference tours has been made available on the conference website. Download the congress information: http://iuss.boku.ac.at/files/21wcss_-_meeting_information.pdf
- 21st Congress of Soil Science. **Session: Soil erosion modelling: Global Alliance**. During the 21st World Congress of Soil Science in Rio (Brazil), August 12-17, 2018. https://www.21wcss.org/?secao=abstract_topic&div=3
- **KEYSOM training School: Linking soil biodiversity with soil organic matter dynamics. March 20-23, 2018**, Birmsendorf, Zurich, Switzerland. Application until January 15, 2018. Read more: <http://www.keysom.eu/> or http://www.iuss.org/index.php?article_id=21
- **International field workshop WRB soil classification 2018. September 16 –23, 2018**, Cluj-Napoca, Romania. A field trip into a pedological mosaic of Transylvania is proposed for the 2018 workshop. Registration and payment closes 31 July 2018. Read more: <https://sites.google.com/view/wrb-romania2018>

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