



PRESIDENT'S MESSAGE

Dear members,

This is my last message to you as President, and I would like to let you know that it was a pleasure and a honor for me to serve the Society.

During the last year, I had the privilege to work/discuss/decide with a fantastic Council which really helped make my role and duties easier. I would like to thank everyone on the Council especially Joann and Fran to whom I often asked advice to validate my responses! Dedicated to the Society, both of them quickly replied to me.

I also want to acknowledge the excellent contributions made by Dr. Judith Nyiraneza and Dr. Michael Carson who are leaving the Council at the end of the year. At the same time, I welcome Dr. Nate Basiliko, President-Elect, from Laurentian University and Dr. Louis-Pierre Comeau, Eastern Councillor, from AAFC. The incoming graduate student representative is Gazali Issah.

I'm also grateful to Dr. Newton Lupwayi who has been Editor-in-Chief of the Canadian Journal of Soil Science (CJSS) for the last two years. Thank you Newton for your considerable time and expertise to the CJSS. I welcome Dr. M. Anne Naeth who will take over the duties of Special Issues Editor, in addition to her role as Editor-in-Chief.

Our 2019 upcoming meeting under the theme: Profiling Change: A Century of Innovation in Soil Science will be held with the Canadian Society of Agricultural and Forest Meteorology in conjunction with the 100th anniversary of the Department of Soil Science at the University of Saskatchewan, July 10-12, 2019 in Saskatoon. Plans are underway and few sessions have already been planned. If you are interested in organizing a session, please submit your proposal to saskatoon2019prog.comm@usask.ca by December, 14th.

December 5 is designated as World Soil Day (WSD) as a means to focus attention on the importance of healthy soil and to advocate for the sustainable management of soil resources. The 2018 WSD theme is Be the Solution to Soil Pollution and I strongly believe that everyone can positively contribute to this resource in his/her own way; to celebrate the WSD, different events are organized worldwide including Canada and AAFC (<http://www.fao.org/world-soil-day/worldwide-events/en/>).

Finally, I would like to inform you that our bid to host the 23rd WCSS in 2026 in Toronto was not successful (more details are included in this Newsletter) and I wish all the best to the Soil Science Society of China which will organise this congress. Many thanks to Richard Heck who took the lead on behalf of the Society to prepare and submit the Bid.

A large number of important items are reported in this Newsletter and I encourage you to be informed!

Thank you for taking the time to read my final message as President. I wish to all CSSS members a happy holiday season and all the best for 2019!

Noura Ziadi
CSSS President



CSSS Council

President

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Election Results and Thanks to Outgoing Members of Council

It is with great pleasure that we announce and welcome our new President-Elect (Nathan Basiliko), Eastern Councilor (Louis-Pierre Comeau), and Student Representative (Gazali Issah). We would also like to take this opportunity to express our appreciation for council members Joann Whalen (Past-President), Judith Nyiraneza (Eastern Councilor), Michael Carson (Student Representative), and Newton Lupwai (Journal Editor) whose terms will end on the 31st of this month. We would also like to thank Nancy Zubriski for her assistance with the election. As of January 1, 2019 the Council for the Canadian Society of Soil Science is as follows:

President, Fran Walley
Past-president, Noura Ziadi
President-elect, Nathan Basiliko
Secretary, Amanda Diochon
Treasurer, Edith Olson
Student representative, Gazali Issah
Eastern Councilor, Louis-Pierre Comeau
Western Councilor, Richard Farrell
Journal Editor, Anne Naeth

Wishing everyone a healthy and happy holiday season!

2018 Joint meeting in Niagara results in financial boost for CSSS

The joint meeting of the CSSS, CIG, ES-SSA and CSAFM in Niagara this year has resulted in a cheque for the CSSS. The meeting generated revenues of \$303,111.77. After expenses totaling \$251,241.32 were paid out the surplus of \$51,870.45 was divided up as per the Partner Agreements. As a result, the CSSS received a cheque for \$14,783.08. This is more than twice the amount of \$6,000 projected as conference income in our 2018-2019 budget. Good news for the CSSS. The excellent conference was the result of the hard work and dedication of the conference organizers which included our own Joann Whalen. Great job, Joann!

Travel Awards Recipients

The Awards Committee received 41 applications for the CSSS Student & Postdoctoral Fellow travel Award to the 2018-19 International Soils Meeting, "Soils Across Latitudes" January 6-9, 2019; San Diego, CA USA, and identified 11 outstanding M.Sc., Ph.D., and PDF candidates.

Karolane Bourdon, M.Sc., Laval
Leanne Ejack, M.Sc., McGill
Lewis Fausak, M.Sc., UBC
Dauren Kaliaska, M.Sc., Alberta
Matthew Wood, M.Sc., Manitoba
Theresa Adesanya, Ph.D., Manitoba
Kiran Preet Padda, Ph.D., UBC
Lori vandenEnden, Ph.D., Toronto Scarborough
Kokulan, Vivekananthan, Ph.D., Waterloo
Sirajum Munira, PDF, Manitoba
Kimberley Schneider, PDF, AAFC

Thanks to all for submitting applications.

Outcome of 2018 IUSS Presidential Election

The election of the next IUSS President has been concluded. The Council (National Soil Science Societies in good financial standing with IUSS, Executive Committee members and 3 Honorary Members) cast their vote by the closing date 15 October 2018. The result of the election was presented to the President and subsequently announced to Council members by email and on the IUSS website: Laura Bertha Reyes Sánchez from Mexico, current Secretary General of the Latin American Soil Science Society, received a clear majority of the votes and was the successful candidate in this election. She will take up the position of President-Elect on 1st January, 2019. She will be the first female President in the history of IUSS. IUSS was very pleased to have two strong candidates running for the position.

Team Teaching an Introductory Soil Science Course: Teaching Assistants' Perspective

Educating future land-managers of natural resources about the important roles of soils is essential to prepare them to address complex issues such as climate change, food security, and sustainable food production. An introductory-level soil science course often acts as a first-step towards educating students from a variety of disciplines about the fundamental soil science principles and importance of soil; hence, this course is regarded as a flagship course for programs that offer soil science courses. In many cases, it is the only soil science course offered at Canadian post-secondary institutions. At the University of British Columbia, Vancouver, 'Introduction to Soil Science' (APBI 200) is a second-year introductory-level soils course (<https://wiki.ubc.ca/Course:APBI200>) offered by Drs. Maja Krzic and Sandra Brown. The teaching team consists of 2 Instructors, 2 Senior Teaching Assistants, 5 Teaching Assistants (TAs), and 1 Teaching & Research Support Technician.

When we first got an opportunity to work as TAs for APBI 200 in 2015, we were both exhilarated and anxious. We were ecstatic because we were getting an opportunity to teach a large soil science course with about 270 students (which we later found out is the largest soil science course offered in Canada). On the other hand, we had no prior experience in teaching and the idea of being part of such a large team made us nervous. However, the supportive environment of the APBI 200 teaching team helped us improve our teaching approaches and augmented the opportunity for our intellectual growth. Even though members of this team come from different specializations and have different levels of teaching expertise, the collaborative atmosphere on the team allowed us to learn from the knowledge and experiences shared by other members.

In addition to using the conventional 3-lecture-per-week approach, the APBI 200 teaching team conducts the following activities to facilitate student learning:

- ♣ **Nine lab sessions** are offered each week, which need to be delivered in a coordinated manner. Hence, preparations start at least a week earlier when Lesley Dampier (Teaching & Research Support Technician) prepares and organizes the required material.
- ♣ **Weekly team meetings** where instructors describe relevant concepts and explain the protocol for the following week's lab, which helps build cohesiveness among team members. Additionally, instructors and senior TAs communicate their past experiences, which helps new members of the team to prepare for potential challenges and possible solutions.
- ♣ **Weekly marking meetings** where detailed grading rubrics for each assignment, developed by senior TAs, are discussed to allow coordination in marking and use of a consistent marking criterion.
- ♣ **Weekly office hours** (total of 9 h/week) allow us to facilitate students in a smaller setting than provided by a large lecture hall or lab room. It has also helped us and other team members in fostering professional development skills through the exchange of ideas and knowledge of teaching.

Team Teaching an Introductory Soil Science Course: Teaching Assistants' Perspective *(Continued)*

♣ **Three discussion sessions** are conducted collaboratively by the teaching team at the end of each portion of the course (about once per month) where students work in groups (5-6 students per group) on a question addressing key concepts covered during that month. These sessions also provide a platform for students to share their ideas and opinions and engage with each other, which enhances their learning and deepens their interest in soil science.

We believe that implementation of four Cs (coordination, communication, cohesiveness, and collaboration) by the APBI 200 teaching team is critical to students' learning in such a large course comprised of various components as described above. After being a part of this team for last 4 years, we now look back and realize that working in a team environment has been a rewarding journey as it helped us overcome our inexperience and anxiety. It has also helped us and other team members in fostering professional development skills through the exchange of ideas and knowledge of teaching.

Akshit Puri and Kiran Preet Padda

PhD Candidates in Soil Science Graduate Program

University of British Columbia, Vancouver



2018 APBI 200 teaching team (from left to right) – Lewis Fausak, Akshit Puri, Maja Krzic, Lesley Dampier, Dixi Modi, Sandra Brown, Kiran Preet Padda, Dustin Bright, Pariya Torkaman, and Sidd Paul (Photo by UBC LFS Learning Centre)

Call for the CSSS Newsletter articles on teaching soil science courses

The CSSS Education Committee would like to invite instructors and teaching assistants of soil science courses (current and past) from across Canada to share their teaching experiences through articles in the newsletter. By sharing our teaching experiences, we will learn from each other and inevitably help our students to learn about soils. Please note that your article can be about any soil science or soil-related course, regardless of the year to which it is offered or its format.

Maja Krzic, Amanda Diochon, and Tom Yates (CSSS Education Committee Co-Chairs)

Report on Bid for 23rd World Congress of Soil Science

In conjunction with Tourism Toronto and the Metro Toronto Convention Centre, the CSSS developed and formally submitted a bid, entitled “Soils in a Warmer World”, to host the 23rd World Congress of Soil Science in 2026. During the 21st WCSS in Rio de Janeiro, our bid was promoted through an information booth, and then presented to the IUSS Council by Lorne Christie (Tourism Toronto) and Richard Heck (CSSS), supported by the presence of Ms. Evelynne Coulombe (Consul General of Canada in Rio de Janeiro) and Mr. James Kim (Consul and Commercial Program Manager) on behalf of the Government of Canada. Regrettably, by determination of the IUSS Executive, full documentation of the two competing bids were not distributed to voting delegates of the IUSS Council prior to assembling in Rio. While delegates were eventually provided with printed copies of the ‘executive summaries’ of the bids, the ‘two-page’ version that we prepared, was not able to contain as much detail as our competitor’s ‘thirty-page’ document. A motion, by various other countries, to delay the voting until after all delegates could examine both full bids, was unsuccessful. The final Council vote, of 35 to 25, was not in our favour.

We are grateful for the contributions of CSSS members from across Canada, in conjunction with Tourism Toronto and the Metro Toronto Convention Centre, in developing our bid. We also express appreciation for endorsements by our many long-time partner organizations, diverse governmental and non-governmental stakeholders, key educational and research institutions, professional bodies, as well as international colleagues.

Finally, we wish the Soil Science Society of China much success in organizing the 23rd WCSS, “Soil and the Shared Future of Mankind”, to be held in Nanjing.

Richard Heck

Congratulations to Dr. Denis Angers!

Congratulations to Dr. Denis Angers, from the Quebec Research and Development Centre of AAFC, for receiving an honorary doctorate from AGROCAMPUS OUEST in France.

Denis has had a long and successful career in soil management and conservation, particularly the role of organic matter in the functioning of agricultural soils. His work has shed light on key mechanisms of the carbon cycle and the evolution of soil structure, and has contributed to the development of practices that reduce soil degradation and greenhouse gas emissions.

Denis has been actively involved in the CSSS since 1985



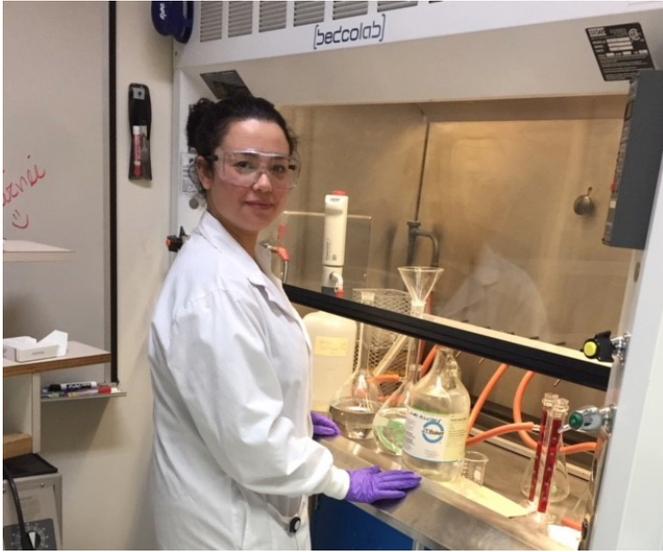
From left to right: Grégoire Thomas, Director general of Agrocampus Ouest, Denis Angers and Christian Walter, professor at Agrocampus Ouest.

What is going on in the lab/field?

Environmental phosphorus risk classification and optimization of phosphorus fertilization for potato in the Canadian Maritime Provinces.

Phosphorus (P) is essential for potato (*Solanum tuberosum* L.), one of the most important crops in the Canadian Maritimes provinces, where it represents 38.5% of national production (Statistics Canada, 2017). Phosphorus inputs exceeding crop removals can translate into P loss from agricultural soils and P mobilization. Consequently, P is transported to adjacent watercourses through runoff, drainage, or erosion (Sharpley et al. 2013), resulting in water eutrophication. Enhancing P use efficiency is essential for a responsible and sustainable agriculture.

What is Going on in the Lab/Field (continued)



Rim Benjannet is a PhD student at Laval University (Quebec) under the supervision of Dr. Lotfi Khiari (Laval University), and Dr. Judith Nyiraneza (Agriculture and Agri-Food Canada). She has determined critical environmental P values in Prince Edward Island (PEI) expressed as the ratio between Mehlich-III (Mehlich, 1984) extractable P and Al : $(P/Al)_{MIII}$, and has mapped identified P risk classes at the PEI scale (Benjannet et al. 2018a). Results have showed that the P saturation index $(P/Al)_{MIII}$ in PEI soils was greatly influenced by the soil acidity, and two critical P saturation indices were identified (i) a $(P/Al)_{MIII}$ of 19.2% for very to extremely acidic soils (pH < 5.5), and (ii) a $(P/Al)_{MIII}$ of 14.2% for slightly to moderately acidic soils (pH > 5.5). Above these critical

values, P fertilization should be limited to crop requirements. Six environmental P risk classes were identified and their spatial distribution has showed that the moderate risk class was the predominant one, covering approximately 70% of the total area of the province.

Rim has also developed an agro-environmental model for potato based on 42 field trials conducted in Prince Edward Island, New Brunswick, and Nova Scotia (Benjannet et al. 2018b). The P recommendation model resulted into seven P fertility and environmental risk classes with P rates ranging from 21 to 105 kg P ha⁻¹ (Benjannet et al., 2018b). Compared to the current P recommendations in the three provinces, the new P rates would allow P savings of more than 100 kg P₂O₅ ha⁻¹ depending on the fertility class. These new recommendations will be validated at field scale.

Currently, Rim is evaluating the impact of a slow release fertilizer (struvite, commercially distributed under the trade name Crystal Green® (5-28-0)) on the potato yield and quality, and on soil- and plant- based phosphorus availability indices in comparison to the conventional P fertilization (triple superphosphate (0-46-0)). Rim's work will enhance P use efficiency in potato production systems under acidic soils.

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What is Going on in the Lab/Field (continued)

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Ateliers ‘Living lab’ Agriculture Canada (English Version will follow)

20 avril 2018, St-Hyacinthe

Par Jean Caron, agronome, Société canadienne de science du sol,

j’ai agi comme représentant à la journée sur les laboratoires vivants : renforcer la résilience des paysages agricoles, tenue par agriculture Canada, au centre de recherche en agroalimentaire de Saint Hyacinthe, le 20 avril 2018. La rencontre a débuté par une présentation du concept de ‘Living labs’ et de la volonté de la direction d’orienter la recherche en utilisant ce concept. Le but de cette structure est de créer au sein d’un lieu physique et en regroupant différents partenaires, une approche d’innovation permettant le co-développement de nouvelles connaissances des technologies favorisant l’adoption de celles-ci. Lors de la rencontre de Saint Hyacinthe, ce sont surtout deux domaines que l’on voulait promouvoir: celui des changements climatiques et celui des performances environnementales de l’agriculture au niveau des sols, de l’eau et de la biodiversité. Des discussions en atelier ont eu lieu afin de voir les différents axes de regroupement possible des intervenants du milieu et du personnel des stations de recherche d’Agriculture Canada impliqués dans des recherches actives à l’ouest et au centre du Québec mais également impliqués au sein de réseaux nationaux. Trois défis sont clairement ressortis comme structure de regroupement : la réduction des pesticides, la conservation des sols et le maintien de la biodiversité et des projets en structuration sont déjà en route et ont été présentés comme structure pouvant réunir plusieurs équipes de recherches. Il s’agit donc essentiellement d’un effort visant à accélérer les transferts de connaissances au sein de la communauté réceptrice et à augmenter l’impact de la recherche d’Agriculture Canada sur celle-ci. La structure proposée présente en effet certaines analogies avec des programmes de transferts existants offerts par le conseil de recherches en sciences naturelles et en génie du Canada, par le MAPAQ ou par l’institut de recherche en développement agroalimentaire et pourrait être porteuse de changements positifs par rapport à la structure existante. [Agriculture Canada Living Lab Workshops](#)

Agriculture Canada Living Lab Workshops

April 20, 2018, St-Hyacinthe

By Jean Caron, Agronomist, Canadian Society of Soil Science,

I represented the society at the Living Labs Day: Strengthening the Resilience of Agricultural Landscapes, held by Agriculture Canada, at the Agri-Food Research Center in Saint Hyacinthe on April 20, 2018. The meeting began with a presentation of the concept of Living labs and of the management's willingness to orient research using this concept. The purpose of this structure is to create, within a physical place and by bringing together different partners, an innovation approach allowing the co-development of new knowledge of technologies favoring the adoption of these. The direction clearly want to promote two areas: climate change and environmental performance of agriculture on soil and water quality and biodiversity. Workshop discussions were held in order to see the various possible lines for grouping local stakeholders and staff of Agriculture Canada research stations involved in active research in western and central Quebec but also involved in national networks. Three challenges clearly emerged as a clustering structure: pesticide reduction, soil conservation and biodiversity maintenance, and on-going projects were presented as a structure that can bring together several research teams. It is therefore essentially an effort to accelerate knowledge transfer within the receiving community and to increase the impact of Agriculture Canada's research on it. The proposed structure has some analogies with existing transfer programs offered by the Natural Sciences and Engineering Research Council of Canada, the MAPAQ or the agri-food research institute (IRDA), and could bring positive changes relative to the actual research structure.

CSSS Introductory Soil Science Textbook

Plans are underway to develop an open access CSSS Introductory Soil Science Textbook. A small team (Maja Krzic, Amanda Diochon, Maxime Paré, Rich Farrell and Fran Walley) has been working on plans for the textbook and recently submitted a proposal for funding through BCcampus. So far, the response to the proposal has been very enthusiastic, and we are confident that we will soon move from the planning stage to the writing stage. The following is an excerpt from the proposal:

“A recent Canadian study examining soil science courses in Canada identified 80 postsecondary academic units offering soil science courses (Diochon et al. 2017), with 63 of those units offering introductory soil science courses (Krzic et al. 2018). A recent survey suggests that over 3,000 students a year are enrolled soil science courses at Canadian institutions.

Several introductory soil science textbook are available and are commonly used resources; however, none of these textbooks are Canadian, which poses a problem for Canadian instructors and learners. Specifically, although there are many fundamental aspects of soil science that are universally recognized, Canadians use a different system of soil classification from that used in the United States (where the majority of the soil science textbooks originate). Since soil genesis and classification underpin subsequent discussions of soil functions including nutrient cycling and supporting plant growth as well as soil's roles in climate change, the non-Canadian perspective is particularly frustrating and problematic for both teachers and learners.

CSSS Introductory Soil Science Textbook

Introductory soil science textbooks typically cost between \$100.00 - \$250.00 and this can be a barrier for students limiting access, and potentially hindering their learning. For example, according to the 2017 UBC [AMS Academic Experience Survey](#), 43 percent of the University of British Columbia (UBC)-Vancouver undergraduates reported they often go without textbooks due to cost (UBC AMS, 2017). Making soil science educational resources more accessible to all students supports goals of inclusive and diverse learning environments.

At this year's annual meeting of the Canadian Society of Soil Science (CSSS), the Society agreed to help support the development of a Canadian Soil Science open textbook for the introductory soil science courses (commonly offered in the 2nd year of postsecondary degrees focused on natural resources), with membership enthusiastically agreeing to contribute expertise, knowledge, and multimedia materials to the proposed initiative.

The open textbook will cover the main areas of study within the discipline of soil science, including soil genesis and classification, soil chemistry, soil physics, soil biology and soil provisioning services (i.e., nutrient cycling and carbon sequestration). The material will be relevant and appropriate for courses teaching soils from multiple perspectives (e.g., crop production, environmental science, forestry, etc.). Soils of Canada will be highlighted, with recognition of regional differences in soils and soil management and production potential, with expanded information available for location specific discussions (i.e., specific modules will be included to address production and environmental issues specific to particular regions, such as the western Canadian prairies, or BC forest soils). Presenting this information in an open textbook format, will allow individual instructors to tailor the textbook to their specific region and/or perspective.

The CSSS and its Soil Education Committee are the driving force behind this initiative. Members of the CSSS and its Education Committee will be the authors and editors, and will identify the reviewers, for all chapters. Moreover, the CSSS already has committed limited funds for some administrative support. Additionally, the project is supported by faculty and staff at both the University of British Columbia and the University of Saskatchewan.

Our goal is to complete the project in 24 months, with students having access to the open textbook for the fall term of the 2020-2021 academic year."

Interested in participating? We will be sending out a call for authors in the near future. Stay tuned....

Fran Walley, Maja Krzic, Amanda Diochon, Maxime Paré, and Rich Farrell

Rhizosphere 5 Announcement



We are pleased to announce that **Rhizosphere 5**, the fifth in a series of international conferences devoted to the study of the rhizosphere, will take place in Saskatoon, Saskatchewan in July 7-11, 2019. The conference is being hosted by the University of Saskatchewan in collaboration with the Global Institute for Food Security (GIFS) and Tourism Saskatoon.

Rhizosphere 5 builds on past successes of the Rhizosphere conferences held in Munich (2004), Montpellier (2007), Perth (2011), and Maastricht (2015); and is the first in the series to be held in North America. The general theme for the conference is ***Shining light on the plant-root-soil interface***. As with the previous conferences, Rhizosphere 5 will provide a multidisciplinary forum for exchanging innovative ideas and methods for studying the rhizosphere and understanding its complexity and its role in both natural and agricultural ecosystem processes. The conference provides a stage for both young and established scientists to present their work to a welcoming international audience. Detailed information regarding the conference can be found at the Rhizosphere 5 website: <https://www.rhizo5.org>

CSSS members attending the 2019 Joint Meeting of the CSSS and CSAFM in Saskatoon (July 9-13), and who are interested in attending Rhizosphere 5, can register for the conference at a reduced rate. On-line registration and abstract submission for Rhizosphere 5 are now open.

CSSS 2019 - Invitation for Scientific Session Proposal

Dear Colleagues,

Plans are underway for the 2019 Joint Meeting of the Canadian Society of Soil Science (CSSS) and the Canadian Society for Agricultural and Forest Meteorology (CSAFM), which will be held in Saskatoon, Saskatchewan, July 9-13, 2019. In celebration of the 100th anniversary of the Department of Soil Science at the University of Saskatchewan, the theme for the 2019 Meeting is ***Profiling Change: A Century of Innovation in Soil Science***. Conference activities will kick off on Tuesday July 9th with the 2nd Canadian Soil Judging Contest; this will be followed by a series of concurrent sessions on the three main days of the conference (July 10 - 12) and a variety of post-conference tours on Saturday July 13th. Detailed program information will be posted to the conference website (<https://agbio.usask.ca/csss2019/>) as it becomes available.

The Program Committee is beginning to organize sessions for the conference, with members of the U of S faculty leading sessions devoted to the Agricultural Greenhouse Gases Program (J.D. Knight & C. Laroque); Site Remediation & Restoration (S.D. Siciliano & K. Stewart); 4R Nutrient Management (J.J. Schoenau); and Soil Education & Community Engagement (T.T. Yates & M. Arcand). Anyone interested in helping to organize one of these sessions should contact one of the sessions leads. As well, the Program Committee invites interested members of the societies to propose and take the lead in organizing additional scientific sessions. Anyone who wishes to plan a session for the 2019 meetings should submit a brief proposal

CSSS 2019 - Invitation for Scientific Session Proposal (continued)

Anyone who wishes to plan a session for the 2019 meetings should submit a brief proposal to saskatoon2019prog.comm@usask.ca and should include: the session title, contact information and affiliation of the proposed session convener(s), and a brief (250 word) description of the session's purpose and scientific content. All session proposals should be received by December 14, 2018 (by 11:59 PM CST). Notification of accepted sessions will be made by January 4, 2019. On-line abstract submission will open January 14, 2019 and all abstract submissions will be due March 29, 2019.

We invite you all to attend the 2019 Joint Meeting and help us celebrate the 100th anniversary of the U of S Department of Soil Science!

Sincerely,

Angela Bedard-Haughn and Ken Van Rees

Reading Materials

Playlist with videos from Soil Judging Contest held in Brazil – 21st WCSS

With the collaboration of UFRRJ graduate students, videos from the Soil Judging Contest, held at the University campus as part of the 21th WCSS, were prepared and are available by following the link below. Watch the videos: https://www.youtube.com/playlist?list=PLi-8j0XEXF7lgVpfdRQJX_QjM8x7b272

Use the WSD communication toolkit!

Create buzz around WSD! FAO have prepared a range of stunning communication materials in several languages – posters, infographics, cards, event banners, social media graphics, t-shirts, animations and the WSD logo in various languages...

Download the materials from: <http://www.fao.org/world-soil-day/campaign-materials/en/>

Add your event on the WSD interactive map!

Why not set up a meeting with farmers on sustainable soil management, or organize a soil clean-up, a soil science lab experiment, a visit to a soil museum, or even a soil sampling contest? Organize a World Soil Day (WSD) event and register it on the map. Spread the word, and let us know if you need help. And do share your success by sending photos of the event to FAO.

Read more: <http://www.fao.org/world-soil-day/worldwide-events/en/>

Register your event: <http://www.fao.org/world-soil-day/worldwide-events/add-events/en/>

Help translate the WSD logo in your language!

Have you checked whether the WSD logo is available in your local language? If not, send us the translation and our team will prepare a high quality logo version, which will be shared on our website.

Read more: <http://www.fao.org/world-soil-day/wsd-logo/en/>

[From: The Global Soil Partnership – Special announcement No. 10, 17 October 2018]

Reading Materials (Continued)

Take part in a survey about soil organic carbon management (SOC)

Access the survey: <https://polls.ecologic.eu/index.php/791211?lang=en>

The Mysterious ‘Alien Soil’ Growing Deep Underground

Read more: <https://www.sciencefriday.com/articles/the-mysterious-alien-soil-growing-deep-underground/>

Life Under a Rock: Bacteria in Extreme Environments

Read more: <https://www.sciencefriday.com/educational-resources/life-hidden-beneath-the-rocks/>

Enhanced greenhouse gas production potential from urban wetland soils

Read more: <https://dl.sciencesocieties.org/content/Enhanced-Greenhouse-Gas-Production-Potential-from-Urban-Wetland-Soils>

Some plants nurture soil bacteria that keep them healthy

The bacteria which inhabit human beings, particularly the guts of those beings, have been found in recent years to be important for fending off disease. That something similar happens in other animal species is doubtless true as well. But work by Seon-Woo Lee at Dong-A University and Jihyun Kim at Yonsei University, both in South Korea, suggests that it is not only animals which benefit from such bacterial shielding, but plants do too. In their study, a soil bacterium known as TRM appeared to provide protection for 40 percent of the tomato plants grown. These results suggest that plant wilt may be tackled by applying certain bacteria or chemicals to soil.

Read more: <https://www.economist.com/science-and-technology/2018/10/11/some-plants-nurture-soil-bacteria-that-keep-them-healthy>

Soil Amendments for Sustainability: Challenges and Perspectives

1st Edition edited by Amitava Rakshit, Binoy Sarkar, Purushothaman Abhilash. Published September 13, 2018 by CRC Press, 404 pages, 20 color & 118 B/W .

Read more: <https://www.crcpress.com/Soil-Amendments-for-Sustainability-Challenges-and-Perspectives/Rakshit-Sarkar-Abhilashis/p/book/9780815370772f>

Global Soil Security: Towards More Science-Society Interfaces

1st Edition edited by Anne Richer de Forges, Florence Carré, Alex B. McBratney, Johan Bouma, Dominique Arrouays. Published September 21, 2018 by CRC Press, 138 pages, ISBN 9781138093058, price hardback GBP 115.00, price e-book (VitalSource): GBP35.99.

Read more: <https://www.crcpress.com/Global-Soil-Security-Soil-Science-Society-Interfaces-Proceedings-of-the/Arrouays-Carre-Forges-McBratney/p/book/9781138093058>

Upcoming Events

International Scientific Conference “XXII Dokuchaev Conference for Young Scientists (under 35)”

25 February – 1 March, 2019, Saint-Petersburg, Russia. Deadline for application for participation as a speaker: October 31, 2018

Abstracts should be uploaded before December 20, 2018

Website: <http://www.dokuchaevskie.ru/?lang=en>

EGU General Assembly 2019

April 7–12, 2019, Vienna, Austria. Abstract submission: 22 October 2018 – 10 January 2019

Read more: <https://www.egu2019.eu/>

AquaConSoil 2019 – Sustainable use and management of soil, sediment and water resources

May 20-24, 2019, Antwerp, Belgium. AquaConSoil2019 will take place in the cultural capital of Flanders. Antwerp is both a bustling industrial port city and an outstanding historic centre for Belgian craftwork and artistry. It will host delegates from research institutes and universities, governmental and consultant organisations and from industry. AquaConSoil is organized by Deltares, in cooperation with a Flemish consortium under the lead of VITO / VLAKWA and OVAM.

Deadline for abstract submission: Nov. 15, 2018

Read more: www.aquaconsoil.org

Spring school on mapping and assessment of soils

20 – 24 May 2019, Wageningen Campus, the Netherlands. Are you interested in improving your skills in digital soil mapping, geostatistics and R environment for statistical computing? Are you interested in a better understanding of soils and their assessment? If so, the spring school courses are a good choice for you.

Read more: <http://www.isric.org/utilise/capacity-building/springschool>

30th Congress of Soil Science Society of Poland ‘Soil – Source of Life’

September 2-7, 2019, Lublin, Poland

First announcement: http://www.soilcongress2019.umcs.pl/images/docs/announcement_1.pdf

Website: <http://soilcongress2019.umcs.pl> Contact: soilcongress@umcs.pl

Upcoming Events (Continued)

9th ESSC International Congress on 'Soil's Contribution to People: from Food to Life supporting Services'

September 26-28, 2019, Agricultural University of Tirana, Albania. Read more: https://iuss.boku.ac.at/files/circular_letter_essc_2018_imola_grants.pdf

Job Opportunities

Integral Ecology Group (IEG) is looking for a Junior Soil Scientist. The full job posting is available by clicking the link below.

https://gallery.mailchimp.com/ca7fd4410b9dab34e3ef8b381/files/bb51ecdb-4a6c-427d-af84-84af59e1f7ae/Junior_soil_scientist_final.pdf

CSSS - Job Posting for an Assistant Professor/Associate Professor position in Soil Microbiology and Biochemistry/Global Soil Health at Laval University

TITRE DU POSTE : Professeure adjointe ou professeur adjoint en microbiologie et biochimie des sols et santé globale des sols.

<https://www.rh.ulaval.ca/emploi/HCM/2189/emplois-professeurs>

Période d'affichage/Posted period: 10 septembre 2018 au 1er février 2019

Tenure-track faculty position-Environmental analytical chemistry, Memorial University

https://gallery.mailchimp.com/ca7fd4410b9dab34e3ef8b381/files/7236a1bc-3d7d-4d50-aa63-628e287891a5/ENVS_position_Grenfell_Nov_7_2018.pdf

Graduate student opportunities at the University of Waterloo

[Master's Graduate Research Assistantship Opportunity](#)

["Nutrient cycling in soil amended with biobased residues"](#)

[PhD Graduate Research Assistantship Opportunity](#)

["Carbon sequestration in perennial bioenergy crops on marginal land"](#)

[PhD Graduate Research Assistantship Opportunity](#)

["Impact of freeze-thaw and greenhouse gas emissions from perennial bioenergy crops on marginal land"](#)

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