CANADIAN SOCIETY OF SOIL SCIENCE
SOCIÉTÉ CANADIENNE DE LA SCIENCE DU SOL

CSSS Newsletter **July 2020**

PRESIDENT'S MESSAGE

Hello CSSS members,

I hope everyone is having a safe and enjoyable summer and weathering the COVID-19 pandemic.

Thank you to all who participated in our AGM in June. Despite the tedium of the 3.5-hour Zoom meeting, we accomplished a number of important things. This included adopting a new Communications Plan and a two-year trial with a Social Media and Blog Manager as part of a new Social Media Strategy. Our Science Communication Intern Samantha Fowler did an excellent job leading the creation of both the Communications Plan and Social Media Strategy and presenting them to membership. The Social Media Manager will be supported in large part through a gracious financial contribution from the Department of Soil Science at the University of Saskatchewan to the Society. Pending the hiring of this person, we hope to launch on a number of platforms by the end of July! At the AGM we also approved the creation of an ad-hoc committee led by Professor Richard Heck (U Guelph) to put together a bid to host the 2030 World Congress of Soil Science in Toronto. More information is in this newsletter. Membership also enthusiastically supported creation of a student photo competition, an initiative led by our CSSS Council Student Representative, Gazali Issah. This initiative will help collect great photos for the covers of the Canadian Journal of Soil Science while also awarding winning CSSS student members with cash prizes! More information is in this newsletter.

In order to turn some (many?) of you in to excellent soil science content creators for the Society's new social media and blog presence, we have arranged for two workshops exclusively for CSSS members that will be led by science communications experts from the Soil Science Society of America (SSSA) and the Alliance of Crop, Soil, and Environmental Science Societies (ACSESS). On Tuesday July 21 (12 pm ET) Susan Fisk and Rachel Schutte will run ***Communications 101: Sharing Relatable Science in 2020***, and on Monday August 10 (1pm ET) they will run ***Photography for Relatable Science.*** Enrollment in the July 21 workshop is limited, but there are a few spaces left. Additional information is in this newsletter.

It was of course disappointing to not be able meet in person at our intended annual meeting in June, but hopefully this absence will lead to more of us coming together at our next meeting, stronger as a society and more engaged in, and excited about, soil science than ever.

Sincerely,

Nathan Basiliko, Laurentian University, Sudbury, Ontario (2020 CSSS President)

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2020 CSSS Student Photo Contest

Are you a graduate interested in visually projecting your research? Do you have interesting and memorable research photos willing to share? Then look no further as the CSSS is accepting submissions from graduate students for a photo contest.

Below are all the details regarding the photo contest.

All submissions must meet the following specifications:

- Image size and resolution: at least 8.5" x 11" at 300 dpi.
- No collages; one single image only.
- The photograph should be in focus and not blurry.
- Manipulation and heavy editing are NOT required.
- Image formats accepted are .jpg, .png, or.tif.

All entries should be sent to Anne Naeth (anne.naeth@ualberta.ca) and Gazali Issah (gazali.issah@usask.ca).

Deadline for submission is August 31, 2020.

The top four submissions will each receive $125 cash prize. Each winning picture will be featured on the cover page of the CJSS (four issues/year).

Regards,

Gazali Issah, PhD Candidate
Department of Soil Science, University of Saskatchewan
Cell phone: 306-881-1398, E-mail: gazali.issah@usask.ca

American Society of Agronomy, the Crop Science Society of America, and the Soil Science Society of America Annual Meeting News

Phoenix Annual Meeting COVID-19 Update

The health and safety of our attendees, sponsors, and staff remain our highest priority. So, after careful consideration, the ASA, CSSA, and SSSA boards voted unanimously to shift our November 8-11, 2020 Annual Meeting to a virtual meeting.

In connection with our Annual Meeting theme of "2020: Translating Visionary Science to Practice", this virtual format presents us with exciting opportunities to connect worldwide.

Your headquarters staff is working out details and we will send information as soon as possible. In the meantime, any updates will be available here.

Updated FAQs are available on our FAQ page: https://www.acsmeetings.org/

IUSS Presidential Elections 2020 - status

The election of the next President of the IUSS is due this year. The appointment of the President represents a total of six years commitment to the Union by serving two years each as President-Elect (2021/22), President (2023/24) and Past-President (2025/26). The Standing Committee on Presidential Elections has defined the respective procedure and the guidelines. Nominations should be made by two accomplished, highly-respected senior soil scientists.

Full nomination documentation had to be submitted electronically to Prof. Dr. Rainer Horn (Email: rhorn@soils.uni-kiel.de) by June 1, 2020, copying iuss@umweltbundesamt.at.

Nominations for two candidates were received, who fulfill the nomination criteria. The candidates are:

- Edoardo Costantini, Italy
- Victor Chude, Nigeria

The projected timetable for the Presidential Election process is as follows:

- Nomination documents will be made available on the IUSS website in July 2020.
- Candidates voted on by Council (1 vote per National Member in good financial standing in IUSS) by end of September, 2020.
- Result of Election presented to President and Executive Committee following the conclusion of the vote and subsequently announced to members by email and on the IUSS website.
- Report on the process and any issues arising will be presented to Council and Executive Committee before the end of 2020.

The schedule outlined above may be amended if unforeseen circumstances arise.

Procedure and guidelines: https://www.iuss.org/media/president_election_full_info_2020.pdf

Changes Coming to your CSSS Newsletter

To increase engagement with the CSSS newsletter, we are currently considering to create a new newsletter template that reflects modern design practices and the new CSSS Communications Plan. The front page of the newsletter will be updated to focus on actionable items and allow for scanning of content. This should include a table of contents and a box with actionable items (ex. sign up for a conference, apply to a job, submit to a contest). To further encourage members to read the newsletters, we plan to include “teasers” in the email of three highlighted articles in the newsletter. Also, the newsletter would be used to promote members and their work through From the Field spotlights and teasers from blog posts. Additional changes could include the addition of on-brand colour accents, updated cover photos, and clickable social media and website links. If you have any further ideas of suggestions, do not hesitate to communicate with us.

Louis-Pierre Comeau
Louis-pierre.comeau@canada.ca
CSSS Eastern Councillor

Samantha Fowler
sfowler@laurentian.ca
CSSS Student Intern

In Memoriam - Dr. Morris Schnitzer

Morris Schnitzer, born in Bochum, Germany, passed away peacefully on 9th June 2020 at the age of 98. He published a book on his early life odyssey under the title "My Three Selves" (Lugus Publications, Toronto, 2002), soon to be reissued as a textbook under a new title by the Azrieli Foundation.. Morris obtained his B.Sc. honors in 1951, M.Sc in 1952, and Ph.D. in 1955 in soil chemistry all from McGill University, Canada. From 1954 to 1956 he worked as a Research and Development Chemist for the Aluminum Company of Canada (ALCAN) in Arvida. Quebec, Canada. His task was to develop analytical methods for the analysis of metals in aluminum alloys. In 1956 he joined the Research Branch of Agriculture Canada. His first research dealt with the formation of complexes between metals and fulvic acid in Spodosols soils. The characterization of these complexes led to in-depth studies on the characteristics of fulvic acid and its chemical structure. From 1961 to 1962, Morris did post-doctorate studies in the Organic Chemistry Department of the Imperial College of Science and Technology in London, England, under the guidance of Sir Derek Barton, Nobel Laureate in Organic Chemistry. He conducted his research on a Spodosol fulvic acid which he had brought from Canada. More important than the research were his many discussions with Sir Derek on how to apply natural products chemistry for solving structural problems in fulvic acid. After his return to Canada, Morris started a long-term investigation on the oxidative degradation of humic acids, fulvic acids and humins as well as whole soils, using a variety of oxidants. These studies showed that: (a) isolated aromatic rings are important structural units of all humic substances; (b) aliphatic chains are linking aromatic rings to form aromatic networks; and (c) humic substances structures contain voids of various molecular dimensions that can trap organics and inorganics. In the early 1980's his research focused on 13C-NMR analysis of humic substances, soil organic matter, and whole soils. These experiments showed the importance of aliphatic C in these materials. In another application, Curie point-pyrolysis-gas chromotography/mass spectrometry was used in structural studies on humic and fulvic acids. This research resulted in the development of two-dimensional structural models for humic acids. In other investigations, Morris and his co-workers examined colloid-chemical properties of humic materials, mechanism of water retention, reaction with metals and minerals, and with organic pollutants including pesticides. A more comprehensive account of Morris' life-time research has been published in Advances in Agronomy 68: 1-58, 2000. Morris retired in January 1991 and was appointed Emeritus Distinguished Research Scientist by Agriculture and Agri-Food Canada. He continued his research until 2012. Over the years, Morris attracted about 30 visiting scientists from 15 different countries in addition to numerous Canadian scientists to work in his laboratory in Ottawa, Canada. Morris authored and coauthored more than 400 scientific papers in peer reviewed journals, 3 books including the first book ever published on humic substances in the environment and numerous book chapters on humic materials and soil organic matter.

Morris was awarded Fellowships by the Canadian Society of Soil Science (1971), Soil Science Society of America (1977), American Society of Agronomy (1977), Honorary Member, International Humic Substances Society (1982,1986), and Royal Society of Canada (1991). He received the Soil Science Award of the Soil Science Society of America in 1984, the Soil Science Distinguished Service Award of the Soil Science Society of America in 1995 and was awarded in Israel the Wolf Prize in Agriculture in 1996. He was chairman of Commission II (Soil Chemistry) of the International Society of Soil Science (1978 - 1982), and served on the editorial boards of the *Canadian Journal of Soil Science, Soil Science and Geoderma.*

Morris will be greatly missed by his friends, colleagues, co-workers and scientists all over the world involved in humic research. He is survived by his daughter Eve Schnitzer and her family.

24th World Congress of Soil Science

During its 2020 Annual General Meeting, the CSSS membership authorized the development of a bid to host the 24th World Congress of Soil Science, in Toronto, during July of 2030. A Bid Committee was also subsequently formally established, to be responsible for coordinating the conceptualization, formal Preliminary Notification of intent (to the 2020 Inter-Congress Council Meeting), development, assembly, formal submission of a Full Bid document (to the IUSS Secretariat, via the President of the CSSS), promotion/outreach (including among voting delegations of the IUSS Council) prior to and during the 22nd WCSS, as well as formal Oral Presentation and representation to the IUSS Council Meeting during the 22nd WCSS (in 2022), of the various elements of the CSSS bid to host the 24th WCSS.

Any CSSS members, who would like to participate in the Bid Committee, are asked to express their interest by email: 24WCSS@gmail.com.

Dr. Richard J. Heck, P.Ag.

Chair, CSSS Bid Committee for the 24th WCSS

Webinar on Soil Biodiversity, a nature-based solution?

The webinar on soil biodiversity is a great preparation for the World Soil Day celebration on 5th December 2020 and the Global Symposium on Soil Biodiversity (GSOBI20) to be held in February 2021. The key objective of the symposium is to fill some critical knowledge gaps and promote discussion to find a solution to live in harmony with nature, and ultimately, achieve the SDGs through the conservation and sustainable use of soil biodiversity.

The Webinar Presentations, Recording, and Report are now available.

Presentations: http://www.fao.org/global-soil-partnership/resources/events/detail/en/c/1275159/

Listen to the recording: https://www.youtube.com/watch?v=Hb6C69FG-xk&feature=youtu.be

Download the report: http://www.fao.org/3/ca9533en/ca9533en.pdf

Finally, in the framework of the GSOBI20, the photo & video contest is launched, get involved now.
Read more: http://www.fao.org/about/meetings/soil-biodiversity-symposium/contest/en/

Upcoming Communications Workshops

We are pleased to announce that **Susan Fisk** (Director of Public and Science Communications at the Soil Science Society of America and ACSESS) and **Rachel Schutte** (Science Communications Manager at the SSSA and ACSESS) are going to run on-line workshops (via Zoom) for CSSS members this summer to help improve our science communication skills and build sharable soils content as we roll out our society's Communications Plan and Social Media Strategy! Please see the dates and workshop information below.
If you are interested in participating in one or both of these, please email Nathan Basiliko at nbasiliko@laurentian.ca, in particular as enrollment for the July 21 workshop will be capped at ~16-20 participants.

On Tuesday July 21 beginning at 12 pm ET (lasting ca. 2h; note there will be some "homework" prior, and enrollment will be limited)

Communications 101 - Sharing relatable science in 2020

Have you ever thought: I wish people understood what I did? Or: Why doesn't everyone value my science? This workshop will help you develop clear science messages for the general public. You will learn how to define your audiences; create compelling messages for each audience; and frame your messages to be audience-relatable. Bring your pre-written "elevator pitch" and learn how to shorten, simplify and summarize it to improve others' understanding of your science!

Photography for Relatable Science

The four fastest-growing social networks are Instagram, Snapchat, Pinterest and Tumblr. What do they have in common? PHOTOS! Our brains are most efficient when dealing with visual content. Photos are processed 60,000 times faster than text! This makes photos a valuable tool when sharing our stories as science professionals. Photos can be shared in web stories, blogs, social media, and even print. Visuals bring a richness and clarity to your science story – but only when used correctly. Every visual you share states what you stand for, so it's crucial to understand the messages they give off. In this workshop you will learn: What are the various types of photos that can help communicate research; What tools are needed (don't worry, they aren't expensive); how to manage photos efficiently; and how to correctly use photos to communicate what you do. Attendees are encouraged to bring a fully charged smartphone or tablet. It's highly recommended that participants create Facebook, Twitter and/or Instagram accounts before arriving to the workshop – there will not be time during the workshop.

International Soil Classification Congress (ISCC)

The ISCC in Mexico, originally scheduled for April 2020, then postponed to October 2020, has now been postponed to October 2021. I received the following message from the organizers to communicate to you:

In view of the difficulty of having predictions that guarantee the health of the participants in the short term, we have decided to postpone the ISCC2020 for the following year according to this new schedule:

October 14: Arrive to Monterrey international airport

October 15-19: Field Workshop

October 20-22: Conference UNAM-Juriquilla, Querétaro

Post Congress courses:

V International Workshop of Soil Quality Indicators

XII International Workshop of Soil Classification

From October 25 to 30, 2021.

Other topic: The excursion to Iceland is planned as scheduled: June 9 to 18, 2021. However, we do not know yet, when we can give you the respective further information.

I wish you all the best for your health and hope that you will not be affected by covid-19.

Best regards

Peter Schad
Chair of the IUSS Working Group WRB
WRB homepage: https://www.boku.wzw.tum.de/index.php?id=wrb&L=0

Job Openings

Graduate Student Position Available in Soil Science/Agronomy at the University of Manitoba

A graduate student position (MSc) is available for a motivated candidate to work in the area of soil fertility, agronomy and nutrient dynamics. The student will work on a project assessing the effect of amending soils with struvite, a recovered magnesium ammonium phosphate precipitate from wastewater that can be used as a source of nutrients for crop production. It is also pending approval for use in organic agricultural production systems as a source of phosphorus and is recognized for helping to recycle waste phosphorus, working towards more sustainable nutrient management. Specifically, the graduate student will focus on assessing the ability of three different green manure crops to access phosphorus from struvite and make it available to a subsequent wheat crop. The opportunity to be involved in assessments of the effect of struvite application on water quality implications also exists. The student will have the opportunity to participate in interdisciplinary work with partners at the University of Manitoba, the University of Guelph, Agriculture and Agri-Food Canada (Brandon Research and Development Centre), and industry partners. The work will involve conducting field and laboratory work. Candidates should have an interest in soil science and nutrient dynamics and have completed a bachelor's degree in soil science, environmental science, agronomy or a related discipline. Laboratory and or field experience is an asset.
Conditions of employment

The position will be based in the Department of Soil Science, University of Manitoba with an anticipated start date of January 2021. Applications will begin to be reviewed in mid-July 2020. Interested candidates should contact Dr. Francis Zvomuya (francis.zvomuya@umanitoba.ca) and Kim Schneider (kschne01@uoguelph.ca) for more information and to apply send a statement of their research interests and related past experience, as well as a copy of their current CV and academic transcripts.

Environmental Science 2 PhD Opportunities

An interdisciplinary team of researchers from McGill University (Peter Douglas, Cynthia Kallenbach), the Centre Eau Terre Environnement of the Institut nationale de la recherche scientifique (INRS-ETE; Isabelle Laurion, Jérôme Comte), and the Université de Montréal (Roxane Maranger) are recruiting two Ph.D. students for our FRQNT funded project Investigating the role of soil microbial processes in aquatic greenhouse gas emissions in Eastern Canadian permafrost landscapes. One PhD student will be based at McGill University and the other at INRS-ETE.

For more information please click the link below.

https://mcusercontent.com/ca7fd4410b9dab34e3ef8b381/files/844d91d2-5678-427c-8a2e-f0693cc8a14d/FRQNT_Job_ad_1_.pdf

Job Openings (Con't.)

M.Sc. and Ph.D. Current Research Opportunities at Trent University, Peterborough

The Environmental & Life Sciences Graduate Program at Trent University in Peterborough, Ontario https://www.trentu.ca/els/ has a number of open M.Sc. and Ph.D. positions in our labs as listed below. Our program takes in new students in January, May and September. These positions are open for September, 2020 and onward unless stated otherwise. Please visit our website, Current Research Opportunities page to see the full descriptions of these positions and faculty contact information: https://www.trentu.ca/els/current-research-opportunities.

Climate change impacts to the subarctic ecosystem involving permafrost wetland habitat and shorebird breeding ecology. A graduate student project will investigate how climate change may affect wildlife habitat through effects on permafrost. Supervisor: Dr. Glen Brown, Ministry of Natural Resources and Forestry, Adjunct Professor at Trent University

Ecological research on lakes and rivers in the Laboratory of Freshwater Ecology. Research for these positions could range from foodweb responses to environmental stress to landscape studies of carbon and nutrients. Supervisor: Dr. Maggie Xenopoulos

Cell and molecular biology studying the functions of proteins linked to human disease. The Huber Lab uses the social amoeba Dictyostelium discoideum as a model system for studying the functions of proteins linked to human disease. Current research is focused on revealing the cellular and molecular mechanisms underlying the neuronal ceroid lipofuscinoses (NCLs), commonly known as Batten disease (the most common form of childhood neurodegeneration). Supervisor: Dr. Robert Huber

Agricultural Soil Health Linking Microbial Functioning to the Fate of Carbon in Soil. Research conducted in the ASH lab broadly focuses on characterizing the impacts of climate change and agricultural management on below-ground carbon and nutrient transformations mediated by the soil microbiome. Supervisor: Dr. Karen Thompson

Chemical and Biomedical Sciences - analytical chemistry and biochemistry focused on molecules linked to diseases, environment, forensic science, and food safety, among other topics. The projects will use chemical and analytical tools to design and develop new technologies for study and detection of targets of interest. Supervisor: Dr. Sanela Martic

Applied Conservation Genetics - The research will involve genotyping saplings and working with partners to develop a restoration plan in which trees will be planted in a manner that should maximize the genetic diversity of future generations. Supervisor: Dr. Joanna Freeland

Molecular Ecology - Develop genomic markers and use them to characterize hybridization dynamics in a well-studied cattail species complex that in Canada comprises Typha latifolia, T. angustifolia, and their invasive hybrid T. x glauca. Supervisors: Dr. Marcel Dorken and Dr. Joanna Freeland, Dept. of Biology; Dr. Aaron Shafer, Forensic Science Program

Nutrients and ecosystem health - Decades of acid rain and timber harvesting have depleted soil nutrient levels and lake chemistry is changing alarmingly. Understanding the key processes involved and mitigation options including the application of wood ash are the focus of this research project. Supervisor: Dr. Shaun Watmough

Job Openings (Con't.)

M.Sc. and Ph.D. Current Research Opportunities at Trent University, Peterborough (Con't.)

Molecular Parasitology/Biochemistry - The research in our laboratory studies the biology of the waterborne parasite, Giardia intestinalis, by using molecular and biochemical approaches. This protist is found in freshwater lakes and streams, and it infects humans, domestic animals, and wildlife. Supervisor: Dr. Janet Yee

Ph.D. in Environmental and isotope geochemistry - This Ph.D. project aims at using non-conventional isotope composition (e.g., Nd) to track sources, transfer mechanisms and the fate of emerging contaminants (e.g., rare earth elements, REEs) in the environment. Supervisors: Dr. Doug Evans and Dr. Huy Dang

Chemical Property and Environmental Fate Modelling - Research involves application of theory to prediction and modelling of chemical fate in the environment, and the estimation of physico-chemical properties from quantum chemical calculations and other approaches. Current projects include fate of BPA metabolites, perfluorinated organic acid fates in a large-scale ecosystem model, modelling partitioning in complex media such as soils and biomaterials, and indoor air exchange with dust and dirt films. Supervisor: Dr. J. Mark Parnis

Ecology of Lake and River Ecosystems - Graduate PhD positions are available in the Laboratory of Freshwater Ecology at Trent University in Peterborough, Ontario to conduct ecological research on lakes and rivers. Research for these positions could range from nutrient effects on animal nutrition and food webs to landscape studies of carbon and nutrients. Supervisors: Dr. Maggie Xenopoulos and Dr. Paul Frost

CO2 mineralization within mine wastes and natural systems - Prof. Ian Power's research team aims to better understand fundamental geochemical, mineralogical, and geobiological processes that are relevant to addressing environmental challenges including carbon management and sequestration, an emerging field in geoscience that is ripe for scientific inquiry and technological advances! Supervisor: Dr. Ian Power

Mercury source tracing and mercury bioaccumulation in the Wabigoon river system - Positions for graduate students (MSc and/or PhD) are available for projects assessing the extend and the magnitude of mercury contamination in the Wabigoon river system. The research aims to track legacy Hg released from an industrial facility and to distinguish the contamination from natural Hg. Supervisor: Dr. Holger Hintelmann

Carbon, Energy and Water Cycling on the Arctic Tundra - This research is aimed at understanding the essential processes that control interactions between the Arctic tundra and atmosphere and helping to predict how future changes will feedback on the climate system. Supervisor: Dr. Peter Lafleur

CANADIAN SOCIETY OF SOIL SCIENCE

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