



A warm greeting from your President as our weather is starting to get cold. Its already November and we are drawing to a close of yet another CSSS year (CSSS President tenure follows traditional calendar year from January to December).

I would like to thank the council and the members at large for supporting the society and society activities. This was an eventful year with the very successful hybrid (in-person and virtual) conference with >300 participants in total and more than 200 participants present at Edmonton. A series of students were recognized with various awards, and we welcomed two new Fellows this year. A new student award was also created during the conference at Edmonton. A soil health working group was also proposed during the conference and the members recently met to discuss various aspects. At the 2022 conference Dalhousie University presented their vision of 'Soils go Digital' for the 2023 Annual Meeting and I am looking forward meeting you all at Truro, Nova Scotia next year.

We won the bid to host 24th World Congress of Soil Science in 2030 in Canada (Toronto)... yaaaayyyyy. After the written submission in July, the bid was presented to the IUSS council at Glasgow and was accepted by the council with the strongest possible support. The bid was supported by organizations across Canada and some of our international partners. We also received strong support from the Senate of Canada. Senator Black and Senator Connor were present at the congress in Glasgow to support our bid. A special thanks to Dr Richard Heck from the University of Guelph and his team for making this happen.

Additionally, we had a good representation of Canadian soil scientists at the 22nd World Congress of Soil Science in Glasgow in August. Winning this bid brings a tremendous amount of responsibility to our society and the members. I am looking forward to working with the organizing team and the members at large over the next several years to make it happen.

Recently, I and Amanda Diochon (President-Elect) were called upon by the Standing Senate Committee on Agriculture and Forestry of the Senate of Canada to provide testimony on a study regarding status of soil health in Canada. We expressed a strong need for soil science education in Canada, soil data to understand status of soil health in Canada and development of a national soil advocate/champion leading to a national soil strategy. The recording can be accessed [at https://sencanada.ca/en/Committees/AGFO/NoticeOfMeeting/587654/44-1](https://sencanada.ca/en/Committees/AGFO/NoticeOfMeeting/587654/44-1)

As we get close to end of the calendar year, I look forward to the celebration of 'World Soil Day' across the country again this year.

Asim Biswas, CSSS President



CSSS Council

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Student Photo Contest

Are you a student interested in visually projecting your research? Do you have interesting and memorable research photos you would like to share? Then look no further as the CSSS is accepting submissions for the Canadian Journal of Soil Science (CJSS) student photo contest.

The CJSS is a quarterly journal and one photo will be selected for each issue.

Deadlines for submission are January 25, April 25, July 25, and October 25.

All submissions must meet the following specifications:

- Image should focus on some aspect of soil science to reflect CJSS content.
- Image size and resolution must be at least 8.5" x 11" **at 300 dpi or higher.**
- Cell phone photographs are acceptable as long as they meet the above criteria.
- No collages; one single image only.
- Image in focus and not blurry.
- Image must not include people.
- No manipulation or heavy editing of image required.
- Acceptable image formats are jpg, png, or tif.

Students may submit more than one image per competition and may enter more than one competition.

All entries should be sent to:

M. Anne Naeth (anaeth@ualberta.ca) and Erika H. Young (ehyoung@grenfell.mun.ca).

The next deadline for submission is January 25, 2023.

The top submission will receive a \$125 cash prize and the winning photograph will be featured on the cover of the Canadian Journal of Soil Science and on the CSSS website.

CJSS Photo Submissions

If you are interested in submitting photos for consideration by the CJSS as an issue cover or as advertising material but not as part of the student photo contest please send directly to M. Anne Naeth (anaeth@ualberta.ca). Any interested party can submit images provided that the images meet the criteria outlined for the student competition.

24th Congress of Soil Science

Colleagues,

As many of you have probably heard by now, the bid by the CSSS to host the 24th World Congress of Soil Science (WCSS) in Canada, during July of 2030, was successful!

Together with our partners, Destination Toronto (DT) and the Metro Toronto Convention Centre (MTCC), our bid was presented to the Council of the International Union of Soil Sciences during the 22nd WCSS, held this past August in Glasgow, Scotland. The attendance of Senators Robert Black (Ontario) and Brent Cotter (Saskatchewan), both members of the Senate Committee on Agriculture and Forestry (which has just initiated a study of soil health in Canada), re-enforced the national significance of our initiative and of our theme “Soils in a Warmer World”. Details of our vision can still be found on our dedicated bid website (www.24wcss.org).



Richard Heck, Senator Robert Black, Angela Jefferies (DT), Asim Biswas



Louis-Pierre Comeau, Angela Jefferies (DT)

Appreciation is extended to all members of our Bid Committee, which included Jacynthe Masse (Vice-Chair), Melissa Arcand, Nathan Basiliko, Angela Bedard-Haughn, Asim Biswas, Louis-Pierre Comeau, Kari Dunfield, David Lobb, Daniel Saurette and Joann Whalen. Their contributions, over the past year and a half, to evolving our vision and developing our bid package was fundamental to our success. Ultimately, our bid was also broadly supported by key governmental leaders, ministries, and agencies; national and international societies, institutes, and associations; universities; as well as various private sector stakeholders.

As our efforts now progressively turn to the planning, development, organization, and the eventual realization of the 24th WCSS, with activities envisaged across Canada, we look forward to engaging all interested individuals. As a society, hosting the WCSS in Canada also provides the stimulus and opportunity to re-invigorate our diverse activities, to strengthen our articulations with other national and international organizations, and to continue evolving our societal outreach, for a greater impact of our soil science.

Stay tuned for more information!

Richard Heck, Bid Committee Chair



Call for Nominations for CSSS Council Elections

At the end of 2022, the following CSSS Council elected positions will become vacant:

- President-Elect
- Eastern Councillor
- Graduate Student Representative (from west of Ontario)

These positions are filled by election (or acclamation if there is only one candidate). They each require consent of the nominee and signatures of (or supporting emails from) three current CSSS members who are not current members of council. The duties and responsibilities of these positions can be found on the CSSS website (<https://csss.ca/council-members/council-job-description/>). The Eastern Councillor and Graduate Student Representative's terms are for two years. Elected and appointed councillors are expected to attend the CSSS AGM each year of their term; funds to assist with travel to attend the AGM are available from the CSSS.

Please send (e-mail) nominations by November 7, 2022, to Lee-Ann Nelson (baumanl15@gmail.com). Elections, if necessary, will be held after that date.

2022 CSSS Annual Meeting of the Canadian Society of Soil Science | June 26-30, 2023, Truro, Nova Scotia

Call for Session Conveners and Pre/Post-Conference Workshop Organizers

The 2023 CSSS Annual Meeting, hosted by the Centre of Sustainable Soil Management will be held in Truro, on the Dalhousie University – Agricultural Campus in Truro. The theme of the conference this year is “Soils Go Digital.”

The Organizing Committee would like to encourage members to propose and lead scientific sessions. For those of you who are interested, please submit a brief proposal, which should include the session title; contact information and affiliation of the proposed session convener(s); and a summary of the proposed session (100-200 words).

The Organizing Committee would also like to solicit members to propose conference workshops, which are to be held either prior to or following the conference. Interested workshop leads should provide a brief proposal, which should include the workshop title, contact information and affiliation of the workshop leaders, and a summary of the proposed workshop (100-250 words).

All proposals must be received by January 1st, 2023, and notification of accepted session and workshop proposals will be made by January 15th, 2023. Online submission of conference abstracts will be open January 15th, 2023 and will be due March 1st, 2023.

If there are any questions, please contact Drs. Brandon Heung (Brandon.Heung@dal.ca) or David Burton (DBurton@dal.ca).



Positions / Opportunities



MSc and PhD Opportunity at University of Waterloo

We invite applications for one MSc and one PhD positions to participate in a recently funded collaborative research project called “Can-Peat: Canada’s peatlands as nature-based solutions to climate change”. The main goal of the Can-Peat project is to quantify the potential of peatland management in Canada to contribute to climate change mitigation as a nature-based solution. The Can-Peat project objectives are to create a Canadian peatland research network to advance models of peatland carbon cycling from site to national-scale and develop a decision-support framework for peatland management. The students will be guided by a team of researchers from the University of Waterloo and collaborators from partners in governments, industries, and conservation organizations.

MSc student will assemble a dataset of peatland physical, hydrological, and biogeochemical properties (including experimental data and field observations) from the selected study sites in the compilation of peatland datasets proposed in Can-Peat project. MSc student will use a robust machine learning model using the data to identify key environmental drivers and predict future changes in greenhouse gas emission rates under future climate scenarios. The goal will be to establish how peatlands in different regions are expected to respond to changing anthropogenic disturbances and climate warming to better understand the peatland carbon and greenhouse gas exchange and the resilience of their carbon source/sink function to disturbance.

PhD student will develop the reactive transport sub-models that evaluate the biogeochemical transformations of carbon and nutrients in peatlands under examples of anthropogenic disturbances and climatic scenarios to estimate the changes in carbon stocks and budgets for the future peatland ecosystems carbon balances. The outputs of these sub-models will be incorporated into the Canadian Model for Peatlands, to improve regional to national estimates of Net ecosystem exchange and carbon emissions into the Canadian Model for Peatlands frameworks for application at multiple scales and for spatially-referenced and spatially-explicit modelling approaches.

Applicants must have (or expect to soon complete) a degree in biogeochemistry, hydrology, soil science or a related field. Preference will be given to candidates with strong quantitative skills and demonstrated experience in one or more of the following areas: terrestrial biogeochemistry, environmental engineering, reactive transport modeling, and environmental climate change impact analysis. MSc student position can be created in lieu of a PhD position for exceptional candidates who prefer to undertake a Master’s degree.

If you have any questions regarding the application process and, eligibility, or a request for accommodation during the selection process, please contact Dr. Fereidoun Reza (frezanez@uwaterloo.ca) and Dr. Philippe Van Cappellen (pvc@uwaterloo.ca). Please submit your application package electronically as a single pdf file to Dr. Fereidoun Rezanezhad (frezanez@uwaterloo.ca). In your application email, please include “Can-Peat-MSc or PhD#_yourname” in the subject line and attach a single PDF file that contains:

- Your motivation for applying to the position and your research interests
- Curriculum vitae
- Copy of transcript(s) (unofficial transcripts will be accepted at the application stage)
- Contact information for up to 3 references

Positions / Opportunities (Con't)

MSc and PhD Opportunity at University of Waterloo (Con't)

Closing date: Applications will be reviewed as they are received. The positions will remain open until filled. **We thank all applicants for their interest, however, only those individuals selected for an interview will be contacted.**

The University is committed to implementing the Calls to Action framed by the Truth and Reconciliation Commission. We acknowledge that we live and work on the traditional territory of the Neutral, Anishinaabeg and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land granted to the Six Nations that includes ten kilometers on each side of the Grand River.

The University of Waterloo regards equity and diversity as an integral part of academic excellence and is committed to accessibility for all employees. As such, we encourage applications from women, persons with disabilities, Indigenous peoples (First Nations, Metis and Inuit), Black and members of racialized groups, individuals in the LGBTQ2+ communities, and others who may contribute to the further diversification of ideas.

Agriculture & Agri-Food Canada

M.Sc. and Ph.D. students in agro-ecology and climate change mitigation through Living Labs - Research Affiliate Program

Through Agriculture and Agri-Food Canada's Agricultural Climate Solutions (ACS) program, we are working directly with farmers and farming communities to evaluate farming practices aimed at improving soil carbon, reducing greenhouse gas emissions, and promoting co-benefits. This 'Living Lab' approach leverages local knowledge and community networks, as well as expertise in agricultural and environmental sciences, systems modelling, remote sensing, engineering, socio-economics and other disciplines.

Our team is building two agricultural Living Labs (LL): i. the Peace Region LL involves almost 60 crop and livestock farms across the Peace Region of northern British Columbia and Alberta; ii. the British Columbia LL involves a diversity of farms - from larger-scale cattle grazing systems in central BC to more spatially intensive farming (e.g., dairy, vegetables, orchards, vineyards) of the Okanagan and lower Fraser Valleys.

Over the next 5-8 years, we will be working with a network of committed and innovative farmers, producer groups, non-profit organizations and academics to identify and refine practices that can help mitigate climate change, protect our environment, enhance farmers' well-being, and promote knowledge sharing within and outside the farming community.

We are recruiting talented, imaginative and enthusiastic M.Sc. or Ph.D. candidates who are passionate about agriculture and the environment, and interested in contributing to these novel agricultural Living Lab experiments. If this opportunity excites you, consider joining our team! To learn more and apply for a position: [M.Sc. and Ph.D. students in agro-ecology and climate change mitigation through Living Labs \(cfp-psc.gc.ca\)](https://psc.gc.ca)

Positions / Opportunities (Con't)



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

Perennial Grains+Forage Intercropping - Graduate Student Position

Ecosystem services and profitability of perennial grain crops for integrated grain and forage production

Potential start dates: January or May 2023 (or until filled).

A PhD graduate student position available. Highly qualified candidates are encouraged.

Working with Dr. Akim Omokanye, Science Director, Peace Country Beef & Forage Association, several other project collaborators, and Dr. Guillermo Hernandez, Associate Professor, University of Alberta, and registered as a graduate student at University of Alberta, Department of Renewable Resources.

There is increasing interest among producers to grow perennial cereal grain crops (PCGC) because of their multiple uses for grain and forage production. PCGC can considerably increase the flexibility and profitability of mixed or livestock operations. They can provide forage for extending fall grazing, provide early spring grazing and bounce back to produce grain. PCGC have deeper root systems, permitting them to cope in drier climates and sequester more carbon from the atmosphere. Annual seeding costs are reduced. Growing legume forages with PCGC can provide a number of benefits which include: provide nitrogen to the PCGCs, facilitate soil organic matter accrual, increase forage quality, and can even support pollinators.

This ongoing study evaluates two PCGC species (wheat and rye) intercropped with alfalfa, white clover, and sainfoin in alternate and same row seeding methods for grain and forage systems at different sites. This ongoing project involves a bio-economic evaluation of PCGC pasture-cropping with legumes for crop and forage systems, a novel approach for integrating PCGC pastures and crops on crop-livestock farms. Support in developing and completing an impactful research project will be provided. Familiarity and interests in the research subject will be a strong asset.

The successful candidate will spend most of the research program tenure at the UAlberta campus in Edmonton (including completion of his/her coursework requirements) and with visits to the collaborating field sites and facilities across the province as part of the degree program. The successful candidate will have the great opportunity to work with a diverse group of researchers across scientific disciplines.

Apply with CV, scanned copies of transcripts and a brief letter introducing yourself and your research interests to:

Guillermo Hernandez, gbernand@ualberta.ca

Positions / Opportunities (Con't)

Post-doctoral Researcher | Urban Forest Ecosystems Lab | Tennessee State University

The Urban Forest Ecosystems Lab at Tennessee State University is looking for a highly motivated Post-doctoral Researcher. This is a 12-month, full-time position (salary: \$60,000 plus university benefits) with the possibility of an extension depending on job performance and funding availability. The selected candidate will lead a U.S. Forest Service-funded project on Urban Forests, Extreme Climate, and Urban Watersheds in the South. If interested, please send a one-page letter of interest and your CV to:

Yujuan Chen, Ph.D.
Associate Professor of Urban Forestry
Department of Agricultural and Environmental Sciences
College of Agriculture
Tennessee State University
3500 John A. Merritt Boulevard
Nashville, TN 37209
Email: Yujuan.Chen@tnstate.edu

Postdoctoral Research Fellow at the University of British Columbia

In the framework of the project «Climate-smart soil-root interactions»

Within the Faculty of Land and Food Systems at the University of British Columbia (Canada), we are seeking an outstanding candidate with a recent PhD (<5 years) and passionate to advance the fundamental understanding of soil-plant feedback controls on rhizosphere processes. The project implemented under highly controlled climatic conditions will target multiple processes at the frontier of several disciplines: soil chemistry, biogeochemistry, plant physiology and organic chemistry.

Work performed:

You will lead a NSERC/BC Genome/IAF/EMSL project funded for 2 years with the aim to characterize root traits and associated bioweathering processes under contrasting soil physicochemical conditions. The candidate will use advanced mass spectrometry approaches and set up a novel methodology for sampling rhizosphere solutions. You will be in charge of designing a soil-plant experimental system for monitoring plant above- and below-ground parameters as well as related changes in soil chemistry and mineralogy. The candidate will develop leads to elucidate the bioweathering mechanisms underlying the carboxylates exudation by roots and their potential role in influencing soil physicochemical and microbial properties. The candidate will also have the opportunity to supervise a team of three/four graduate and undergraduate students, gain leadership experience in collaborative projects

Qualifications:

- PhD in soil sciences, plant physiology, molecular biology environmental chemistry, biogeochemistry or related discipline
- Evidence of a promising publication record (importance is given to the quality instead of quantity)
- Demonstrated excellent analytical skills
- Hands-on expertise in geochemistry, biochemistry and/or molecular biology
- Strong statistical foundation for data analysis
- Expertise in rhizosphere processes, bioweathering and soil chemistry is an asset
- English language proficiency

Positions / Opportunities (Con't)

Postdoctoral Research Fellow at the University of British Columbia (Con't.)

What we offer:

Our SoilRes3 research group (<https://soilprocesses.landfood.ubc.ca>) needs you for your skills, expertise and interest in soil and environmental sciences and in the study of soil-plant interactions, but also for your mentorship abilities for graduate students, helping them to spreading their wings and to arouse their scientific curiosity.

We offer a high degree of flexibility and provide mentoring to support you in your preparation for the next step in your career. My standard lab policy is to make every effort to train the researcher with rigor and openness. You will be part of a dynamic team investigating soil processes and their controls on terrestrial biogeochemistry, in a highly innovative, interdisciplinary, diverse and inclusive research environment at the Faculty of Land and Food Systems.

You should reach out to current and past lab members for feedback on our research environment, and please keep it to yourself; this allows frank and fair discussions.

You will be working under the direction of Dr. Cornelis, who is always available to provide guidance on project developments. You will report directly to Dr. Cornelis and will work in a very stimulating and strongly collaborative environment with cross-cutting projects investigating soil-root interactions under changing environmental conditions.

It is Dr. Cornelis' role to help you develop your research program with mutual interest. Dr. Cornelis runs the research group transparently regarding his career decisions that would affect his mentorship and research. Dr. Cornelis will do his best to help you with personal matters (spousal accommodations, child care, ...) once you receive the offer, to mitigate discrimination against you based on these personal factors.

If of interest, we will work with you in 2024 to extend the funding for an additional two-year period in developing a complementary project.

The minimum salary is \$60,000 per year plus benefits.

How to apply:

Please do not let personal matters or lack of some skills make you feel you are ineligible for any position here. If some skills are missing, they can generally be taught.

The review of applications will begin immediately, and the position will remain open until filled. Preferred start dates are January-February 2023. Please send in one PDF file your CV and contacts for two references, as well as a 1-page cover letter stating your career goals and fit for the position to jack.edgar@ubc.ca. The shortlisted candidates will be contacted.

Equity and diversity are essential to academic excellence. An open and diverse community fosters the inclusion of voices that have been underrepresented or discouraged. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the B.C. Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Metis, Inuit, or Indigenous person. All qualified candidates are encouraged to apply; however, Canadians and permanent residents of Canada will be given priority.

Positions / Opportunities (Con't)

M.Sc. and Ph.D. students in agro-ecology and climate change mitigation through Living Labs - Research Affiliate Program

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We are recruiting talented, imaginative and enthusiastic M.Sc. or Ph.D. candidates who are passionate about agriculture and the environment, and interested in contributing to these novel agricultural Living Lab experiments. If this opportunity excites you, consider joining our team! To learn more and apply for a position (deadline, November 8, 2022): [M.Sc. and Ph.D. students in agro-ecology and climate change mitigation through Living Labs \(cfp-psc.gc.ca\)](https://www.cfp-psc.gc.ca) residents of Canada will be given priority.

The CSSS is now on Twitter

The CSSS is on Twitter, Facebook and LinkedIn, so please contact our Social Media Manager, Susan Fisk, to highlight the great research being done by soil scientists in Canada.

<https://groundedinsoils.wordpress.com/>



CANADIAN SOCIETY OF SOIL SCIENCE
SOCIÉTÉ CANADIENNE DE SCIENCE DU SOL

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