



PRESIDENT'S MESSAGE

Summer is drawing to a close and I hope it has been enjoyable and productive for you. We began the summer with the 2017 CSSS annual meeting, from June 10-14, 2017 at Trent University in Peterborough, Ontario. I was impressed with the large turnout of CSSS student members, and 14 student members attending the conference received CSSS and CSSS-CJSS travel awards valued at \$600 each. Congratulations! More than 30 student members competed for the C.F. Bentley Award for the best oral presentation and there were more than 20 entries for the President's Award for the best poster presentations. The quality of the student contributions was exceptional and you should all be very proud of your accomplishments! A big thank you to the judging team led by Noura Ziadi, CSSS President Elect, for evaluating the student presentations.

I wanted to express our sincere appreciation to Mehdi Sharifi and his Organizing Committee, who worked very hard to assemble an outstanding program of events for our 2017 CSSS annual meeting, and to all the Session Co-chairs for organizing a first-rate set of talks and posters on timely and emerging topics in soil science. Your efforts are gratefully acknowledged! The conference theme of "Soil and the Environment" is more relevant than ever, as we consider soil functions and their contribution to ecosystem health in the context of global climate change. The talks we heard highlight the opportunities and challenges to manage our agricultural, rangeland and forest soils, and it is clear that CSSS members are in an excellent position to address these issues, now and in the future.

The CSSS continues to promote and publicize events and meetings across Canada, to support soil science and boost the visibility of our society. You should be aware of the Summit on Canadian Soil Health 2017, sponsored by the Soil Conservation Council of Canada that will be held from August 22-23, 2017 in Guelph Ontario. Another event of interest to you will be the Symposium Sols Vivants Montréal/ Living Soil Symposium Montreal from October 13-15, 2017 at Concordia University. If you would like to publicize your upcoming event, please send the information to Wole Akinremi, CSSS Western Councillor, so it can be posted on the website.

We are already making plans for the 2018 CSSS annual meeting, which will be held jointly with the Canadian Geophysical Union in Niagara Falls, Ontario from June 10-14, 2018. Other groups participating in the conference are the Computational Infrastructure for Geodynamics, Canadian Society for Agricultural and Forest Meteorology and the Eastern Section of the American Seismological Association. It promises to be an excellent opportunity to network with our colleagues in these allied societies. In addition to morning plenaries, a number of concurrent and joint sessions are planned to encourage interdisciplinary dialogue. In November, we will send out a call for CSSS members to contribute to the scientific programme, so it is a good time to start thinking about the sessions and speakers that you would like to see at our conference next

Finally, the International Union of Soil Science is holding elections for officers of the IUSS Divisions and Commissions. The CSSS is asked to submit the vote for Canada. I invite you to review the list of nominated persons and their biographies on the IUSS website at http://www.iuss.org/index.php?article_id=649 and we will set up a voting procedure in the fall of 2017, according to the IUSS statutes and by-laws.

Enjoy the rest of the summer!

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CSSS President



CSSS Council 2016

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Women Soil Scientists Taking the Lead

Past and Present Presidents of the Canadian Society of Soil Scientists

At the recent AGM held at Trent University, the Canadian Society of Soil Science (CSSS) 2015-2018 presidents lined up for a photo. The rare opportunity to have Barbara Cade-Menun (president in 2015), Maja Krzic (president of 2016), Joann Whalen (current president of 2017), and Noura Ziadi (incoming president of 2018) in a photograph together highlighted the unique fact that the CSSS is being led by four consecutive women presidents.

In some types of organizations, this would not be such a notable fact. However, women are poorly represented in the presidency roles of scientific societies around the world, and soil science societies are no exception. The International Union of Soil Sciences has not had a single woman president during its entire existence as an organization, from 1924 to present. The British Soil Science Society, the Soil Science Society of America and Soil Science Australia have fared slightly better, with two women presidents each.

The CSSS is somewhat ahead in this regard, having already had five women presidents, with a sixth incoming for 2018. This increase in woman representation is also reflected in the increasing female membership of the society, which as of 2017 is 64% male and 36% female.

However, it has been a long road to becoming a society led by four consecutive women presidents. The society was established in 1955, and the first female president, Anne Naeth of the University of Alberta, was not elected until 2005, fifty years after establishment. The second female president, Cynthia Grant of Agriculture and Agri-Food Canada, was elected in 2010. In the 62 years of the society's existence, all 6 of the women presidents have come to power in the last 12 years. The early 2000s marked the beginning of woman leadership for the CSSS, reflecting the broader trend of increasing representation of women in soil science at large. While by 2017 equal representation of women in scientific societies is long overdue, having 4 women presidents in a row is certainly one way of making up for lost time!



The 2015 - 2018 CSSS presidents, from left to right: Barbara Cade-Menun (2015), Maja Krzic (2016), Joann Whalen (2017), and incoming president Noura Ziadi (2018).

Emma Avery (MSc student, University of British Columbia)

2017 CSSS Annual Meeting Pedology Tour

It was a beautiful day for a pedology tour. On the way to the first site we received a crash course in how the geography of the land was shaped by the glaciers from Daniel Saurette of OMAFRA. Our first stop was an Orthic Gray Brown Luvisol (A) where we were assisted by the land owner's friendly dog. The second site was a beautiful farm belonging to Peter Doris who greeted us with coffee and lemon strawberry water. Adam Gillespie of OMAFRA took us through the Brunisolic Gray Brown Luvisol (B) that was under pasture and had beautiful soil layers. After lunch outside the Lang Pioneer Village we stopped at an Orthic Melanic Brunisol (C) as the land (and the pit) got rockier. Our last stop had us moving on to the Canadian Shield where one of the smaller members of our team was carried off by a band of mosquitos. The pit was Orthic Humo-Ferric Podzol (D) in a forested area that went down over 1.6 meters.



by Carolyn Marshall, Dalhousie University

Future CSSS Annual Meetings

2018 at **Niagara Falls**, joint with CGU and CIG, June 10-14, 2018.

2019 proposed to be held at **University of Saskatchewan** in celebrating the 100th anniversary. May be joint with Rhizosphere.

2020 proposed to be held in **Charlottetown**, Prince Edward Island.

FROM THE FIELD: Soil-Based Partitioning for Precision Agriculture

I am an MSc student at McGill University. My background is in Environmental Studies, and I am particularly interested in soil as a key to resource management, specifically in precision agriculture. I am currently researching precision agriculture techniques in blueberry cultivation for an Agriculture and Agri-Food Canada (AAFC) funded project, under the co-supervision of Dr. Vi-aschelav Adamchuk (McGill), Dr. Asim Biswas (Guelph), and Dr. Athyna Cambouris (AAFC).



Site specific management based on within-field variation of soil is a fundamental technique in precision agriculture to reduce agricultural input without diminishing yield⁽¹⁾. An ongoing challenge is establishing a link between relatively homogenous management zones derived from soil data with actual crop yield. Our research integrates densely sampled apparent electrical conductivity (EC_a) of soil with elevation to encompass a number of yield limiting factors (nutrient/water storage, susceptibility to runoff) and identify potential regions of the field most receptive to site specific management. In fall 2016, we collected elevation data and EC_a measurements at multiple depths with Veris and Dualem soil sensors. Soil and yield were sampled in a 33-m grid, and soil was analyzed for texture and nutrients.

Preliminary results indicated four distinct areas of the field defined as areas of combined highest/lowest EC_a and highest/lowest elevation. Soil attributes from these four locations were compared for significant difference by Tukey test and two-way ANOVA ($\alpha = 0.05$). Soil attributes in the four areas were found to be significantly different from each other, with the highest yield and nutrient levels in the area of low elevation/high EC_a and the lowest yield and nutrient levels in the area of high elevation/low EC_a . This summer we are implementing trials of fertilizer treatments in the four areas to test the crop response to different levels of nitrogen application which will allow us to prescribe management practices.

Reference:

1. McBratney, A., Whelan, B., Ancev, T. and Bouma, J. (2005). Future directions of precision agriculture. *Precision agriculture*, 6(1), 7-23.

Allegra Johnston, McGill University

2017 Annual Meeting Report

The 2017 CSSS annual meeting was successfully held at Trent University in Peterborough, Ontario from June 10 to 14. Trent School of Environment was one of the conference sponsors and provided wonderful support before and during the conference. SWAT and SWAT-CUP pre-conference workshop offered by Dr. Saeid Ashraf Vaghefi and Dr. G.Abbas Sayyad. The workshop had 10 attendees and conference organizers received very positive feedback from attendees. Pedology and Soil Mapping pre-conference tour offered and sponsored by Ontario Ministry of Agriculture and Rural Affairs and had 35 attendees. Dan Saurette organized and led the tour. The conference was well attended with 180 professionals and students attendees. The conference gold sponsors were: OMAFRA, OMOECC, and OMNRF; silver sponsors were: UOG, Lakehead university, and bronze sponsor was Western AG. Awards sponsored by Canadian Science Publishing and CSSS. Several graduate and undergraduate students volunteered in this event.

Mehdi Sharifi, AAFC Summerland

2017 CSSS Awards

2017 CSSS Student Book Awards

This award recognizes undergraduates at Canadian universities who demonstrate excellence in Soil Science. Candidates are nominated by their academic department.

Bourbon, Karolane, Laval University
Britton, Tony, University of Manitoba
Dessureault, Louis-Philippe, McGill University
Foo, Sylyanne, University of Alberta
Healy, Andrew, Dalhousie University
Nilson, Braden, UNBC
Rodgers, Thea, UBC
Rusnak, Brett, Guelph University
Shim, So Yeon, University of Saskatchewan
Stanley, Camilla, University of Toronto
Telmosse, Geneviève, Université du Québec à Chicoutimi
Amanda Skakum, Laurentian University

The 2017 C.F. Bentley Award for Oral Presentation

1. Harris Ivens, Queen's University
2. Tim Philpott, University of British Columbia
3. Michael Carson, Laurentian University and Lori Van den Enden, University of Toronto

2017 CSSS and CJSS International Travel Awards

The Canadian Society of Soil Science (CSSS) and the Canadian Journal of Soil Science (CJSS) are pleased to jointly sponsor two annual awards to provide travel funds for student members of CSSS to attend international soil science meetings. The Travel Award for International Soil Science Meetings 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 Recipients were

Michael Carson, Laurentian University
Brittany McAdams, University of Alberta

2017 CSSS Fellows

Barbara Cade-Menun: Agriculture and Agri-Food Canada, Swift Current
Gerry Neilsen: Agriculture and Agri-Food Canada, Summerland

Suggested Reading

"Dirt is Good" Jack Gilbert, a very prominent microbial ecologist involved in the Earth Microbiome initiative. Suggested by Bobbi Helgason, AAFC Saskatoon.

<https://www.amazon.ca/Dirt-Good-Advantage-Childs-Developing/dp/1250132606>

UPCOMING CONFERENCES

Symposium Sols Vivants Montréal // Living Soils Symposium Montreal, October 13-15, 2017

<https://www.eventbrite.ca/e/symposium-sols-vivants-montreal-living-soils-symposium-montreal-tickets-35826559203>

2nd Global Soil Biodiversity Conference, **15-21 October, 2017**, Nanjing, China.

ASA, CSSA &SSSA International annual meetings. 2017 Annual Meeting, October 22-25, Tampa, FL.

North American Forest Soils Conference - International Symposium on Forest Soils
Joint conference sponsored by the SSSA, CSSS, IUSS and IUFRO



Québec City
Québec, Canada

Soils-Forests Interactions in Changing Environments
June 10-14th 2018 (post-conference tour June 15-16th)

The 13th North American Forest Soils Conference is being held jointly with the 9th International Symposium on Forest Soils in the UNESCO World Cultural Heritage Site of the Historic District of Old Québec in the spring of 2018. We cordially invite you to consider participating in this conference.

We invite presentations on research using field trials, laboratory investigations, long-term monitoring experiments and ecosystem modelling studies that address the conference theme and sub-themes. If possible, presentations should include a statement of the forest management implications of the work. The conference sub-themes are intended to encourage submissions with broad representation of the various soils-forests regions of North America and internationally.

Thematic Sessions:

1. The role of forests and forest soils in climate change adaptation and mitigation
2. Fire effects on forest soils
3. Management practices, land-use change and soil-forest productivity
4. Technological advances in forest soils research
5. Forest soil monitoring networks and environmental change: successes and challenges
6. Societal change and forest soils: a balancing act

For more information please consult:
<http://www.ccf-cfr.ca/index.php?n=Colloque.NAFSC-ISFS2018>

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