



2015

International
Year of Soils



Soil Interfaces for Sustainable Development

5th – 10th July, 2015

McGill University, Montreal

CONFERENCE PROGRAM

JOINT MEETING OF



International Union of Soil Sciences



CSSS / SCSS



AQSSS

Sponsorship



Venue

Soil interfaces for sustainable development is held at **McGill University**, one of Canada's best-known institutions of higher learning and one of the leading research-intensive universities in the world. McGill was founded in 1821 thanks to a generous bequest by James McGill, and since then has grown from a small college in downtown Montreal to a bustling university with 11 faculties, some 300 programs of study, and more than 37,500 students. The University also partners with four affiliated teaching hospitals to graduate over 1,000 health care professionals each year. A second campus occupies 650 hectares in the town of Ste-Anne-de-Bellevue on the western tip of the Island of Montreal. The Macdonald Campus is home to the Faculty of Agricultural and Environmental Sciences and the School of Dietetics and Human Nutrition, offering numerous research centers, a working farm, greenhouses, an arboretum with walking and ski trails, undergraduate and graduate training in soil science, and much more.

Table of Contents

Introduction of Committees	4
Event Location Key & Map of Campus	6
Special Events.....	7
Field Trips and Excursions.....	17
Basic Scientific Program.....	21
“Conference Program at a Glance”	26
Full Scientific Program	38
ISMOM Sponsored Sessions.....	39
CSSS Sponsored Sessions	47
AQSSS Sponsored Sessions	55
General Session.....	61
Poster Presentations	63
Corresponding Authors.....	74
Keynote Speakers	75
Oral Sessions	76
Poster Presentations	86
NOTES	97

Introduction of Committees

Commission 2.5 (soil chemical, physical and biological interfacial reactions) **of IUSS** (International Union of Soil Sciences) hosts an international symposia once every 4-years called the International Symposium on Interactions of Soil Minerals with Organic Components and Microorganisms (ISMOM). The aim of the symposia is to create a forum for exchange and discussion between scientists from different fields of soil science: chemistry, biology, biochemistry, physics, ecology and environmental science. Previously held in Canada, France, Italy, China and Chile, this meeting - **ISMOM 2015** - will follow the tradition of friendly, stimulating encounters between scientists from all facets of soil science. The difference between **ISMOM 2015** and previous symposia is that it will be jointly with the annual meetings of two Canadian soil science societies, which is a fitting way to share knowledge, ideas and build collaborations among soil scientists in the International Year of Soils 2015.

CSSS: (Canadian Society of Soil Science) is a non-governmental, non-profit organization for scientists, engineers, technologists, administrators and students involved in professional soil science. Its goal is to nurture the discipline of soil science in Canada and ensure its relevance in the future.

AQSSS: (Association Québécoise de Spécialistes en Sciences du Sol) is a non-profit Québec-based organization of scientists, technologists and students involved in professional soil science. The objective of AQSSS is to share and disseminate scientific and technical information on any subject of interest concerning the use, management and conservation of the soil.

Introduction of Committees

Organizing Committee

Joann Whalen, *Canada*

Carlos Monreal, *Canada*

Jean-Philippe Bellenger, *Canada*

Asim Biswas, *Canada*

Siobhan Staunton, *France*

Isabelle Royer, *Canada*

Barbara Cade-Menun, *Canada*

Tom Bruulsema, *Canada*



International Union of Soil Sciences



International Scientific Committee (ISMOM)

Denis Angers, *Canada*

Nathan Basliko, *Canada*

Jean-Philippe Bellenger,
Canada

Robert Bradley, *Canada*

Martin Couillard, *Canada*

Peter Dunfield, *Canada*
Emmanuel Frossard,

Switzerland

Ellen Kandeler, *Germany*

Petra Marschner, *Australia*

Francisco Matus, *Chile*

Paolo Nannipieri, *Italy*

Myrna Simpson, *Canada*

Rota Wagai, *Japan*

Kevin Wilkinson, *Canada*

CSSS Scientific Committee

Viacheslav Adamchuk

Brian Amiro

Angela Bedard-Haughn

Asim Biswas

Barbara Cade-Menun

Amanda Diochon

Sue Grayston

Bobbi Helgason

Maja Krzic

Jacynthe Masse

Steven Siciliano

Joann Whalen

Tom Yates

Noura Ziadi



AQSSS Scientific Committee

Suzanne Allaire

Nicolas Bélanger

Suzanne Brais

Athyne Cambouris

Pascale Cantin

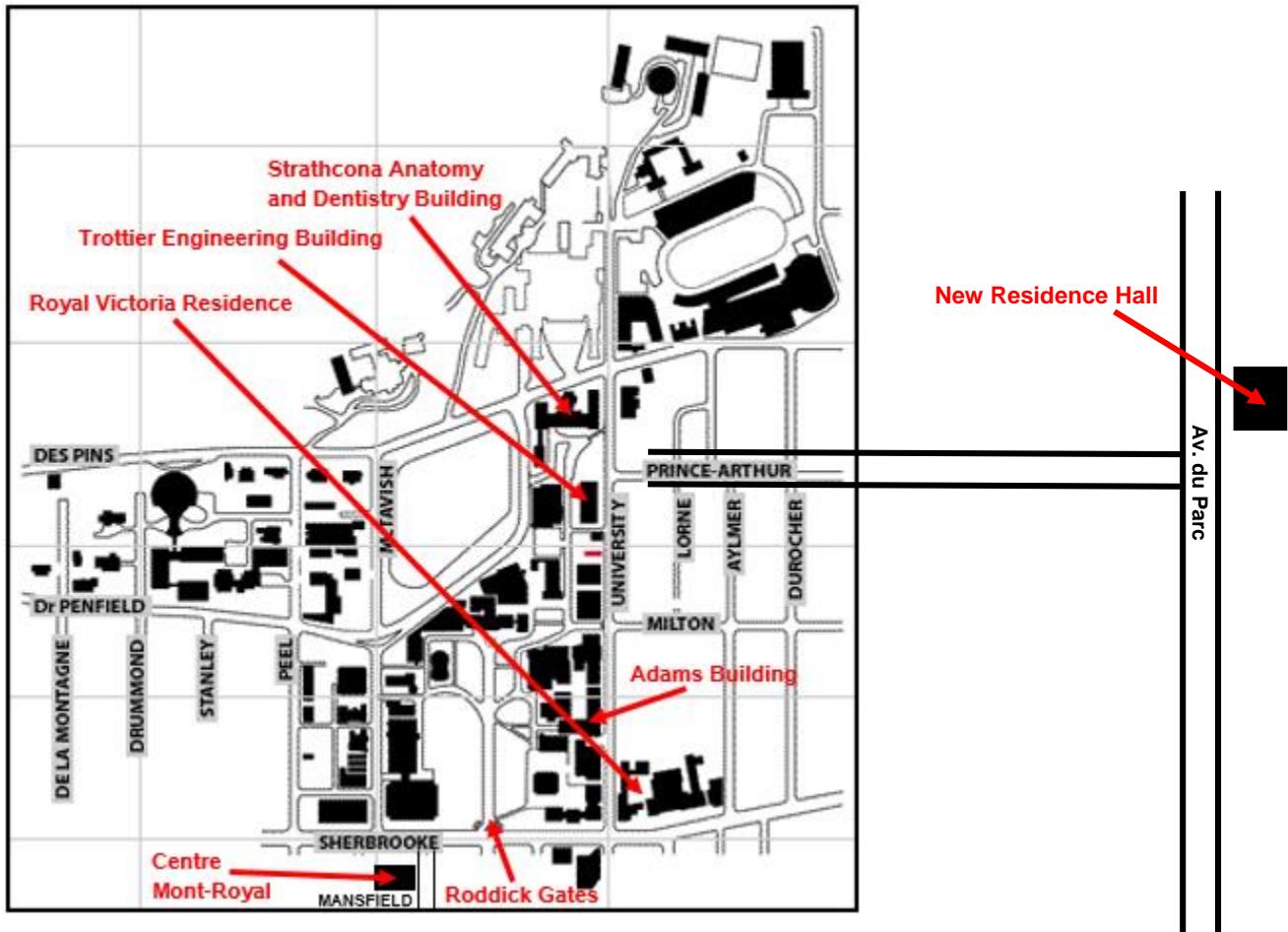
Francois Courchesne

Janylène Savard

Nicolas Tremblay

Event Location Key & Map of Campus

New Residence Hall	Salle des Pins Salle du Parc Ballroom A Ballroom B
Strathcona Anatomy and Dentistry Building (SADB)	SADB M-1 SADB 2/36 SADB M/48 SADB M/66
Trottier Engineering Building (ENGTR)	ENGTR 1100 ENGTR 1080
Adams Building	Auditorium
Centre Mont-Royal	1000 Sherbrooke



Special Events

For more information about the events or registration please visit the registration desk

“The Chemistry of Clay-Polymer Reactions”

Pre-Symposium Short Course

Benny K.G. Theng

Landcare Research, Palmerston North, New Zealand

Saturday July 4th – Sunday July 5th

Salle des Pins

Lecture 1

In this opening lecture we describe the basic structures, compositions and surface chemical properties of clay minerals. In terms of the clay-polymer interaction, montmorillonite is the most important mineral species because of its propensity for adsorbing and intercalating organic polymers. Kaolinite, halloysite, illite, palygorskite, sepiolite, allophane and imogolite are less frequently used than smectite. The same comment applies to vermiculite, mica and chlorite. Since the clay-polymer interaction commonly takes place in an aqueous medium, we also give a brief description of clay colloid chemistry. Here again, montmorillonite holds the limelight because of its capability for interlayer swelling and dispersibility in water.

Lecture 2

This lecture discusses the theoretical and practical aspects of the clay-polymer interaction. Uncharged polymers adopt a ‘train-loop-tail’ surface conformation, giving high-affinity type isotherms and little desorption on dilution. The adsorption of non-ionic polymers is primarily driven by entropy effects. Positively charged polymers are strongly adsorbed through electrostatic interactions, causing chain collapse. Negatively charged polymers tend to be repelled by clay surfaces but can adsorb by bridging through polyvalent cations. The effect of adsorbed polymers on the structure of the electrical double layer, interparticle interaction, and flocculation is also described. Polymers can flocculate aqueous clay suspensions through charge neutralization and interparticle bridging.

Lecture 3

This lecture summarizes the interactions of clay minerals with proteins and enzymes, including prion proteins and the layer-by-layer formation of clay-protein complexes. Proteins adsorb to clay surfaces through both enthalpic (electrostatic and van der Waals forces) and entropic (hydrophobic and conformational) interactions. Adsorption and intercalation by clay minerals cause conformational changes but no extensive unfolding of the polypeptide chains. Adsorption commonly reaches a maximum close to the protein isoelectric point. The pH-activity profile for adsorbed enzymes is often shifted to higher pH values, and the Michaelis-Menten rate constant is enhanced as compared with the corresponding free enzymes. Clay-immobilized enzymes can detoxify some organic pollutants in soil.

Lecture 4

Here we outline the interactions of clay minerals with nucleic acids. Adsorption of nucleic acids to clay minerals proceeds through electrostatic interactions, cation-bridging and ligand exchange. The latter bonding mode is important with kaolinite and allophane. Adsorption declines as solution pH increases from acid to alkaline but is enhanced in the presence of neutral electrolytes and polyvalent cations. Nucleic acids can intercalate into montmorillonite at pH < 6. Adsorption also leads to a change in molecular conformation. Clay-associated DNA may be amplified through the polymerase chain reaction and is capable of transforming competent cells. Montmorillonite can catalyse the formation of RNA from its activated monomers.

Lecture 5

This lecture summarizes the interactions of clay minerals with viruses and bacteriophages. Below the isoelectric pH of the virus, adsorption to clay minerals is largely accomplished through electrostatic interactions. Above this pH, van der Waals interactions and entropy effects associated with conformational changes come into play. Cation-bridging and ligand exchange are also involved. The clay-virus interaction is enhanced in the presence of neutral electrolytes and polyvalent cations. Adsorption of viruses and bacteriophages is confined to external clay particle surfaces, even in the case of expanding layer silicates (montmorillonite) because the molecules are too large to penetrate the interlayer space.

Lecture 6

Here we discuss the formation and properties of clay-polysaccharide complexes. Cationic and non-ionic polysaccharides are strongly adsorbed by clay minerals and can penetrate the interlayer space of montmorillonite. Anionic polysaccharides are weakly adsorbed and do not intercalate into montmorillonite although appreciable uptake can occur at acid pH, high ionic strength, and in the presence of polyvalent cations. All things being equal, polysaccharide adsorption to clay minerals decreases in the order cationic > non-ionic > anionic. Next to humic substances, polysaccharides and glomalin (a glycoprotein) are the most important aggregate-stabilizing agents in soil but their effectiveness is relatively short-lived.

Lecture 7

This lecture outlines the structural concepts of humic substances (HS) and their interactions with clay minerals through a variety of bonding modes. Complex formation between HS and clay minerals is influenced by the nature of exchangeable cations at the clay surface, medium pH and ionic strength, molecular weight of HS and clay mineral species. Humic substances generally fail to intercalate into montmorillonite but can do so under highly acidic conditions when the molecules are essentially uncharged. In soil, HS may aid mineral decomposition and metal ion mobilization, while clay-humic complexes are good sorbents of metal ions and non-ionic organic compounds and pollutants.

“Compositional Data Analysis”

Workshop

Dalel Abdi¹, Serge-Étienne Parent², Léon-Étienne Parent²

¹Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Canada

²Université Laval, Department of Soils and Agri-Food Engineering, Canada

Sunday July 5th (1-5 pm)

Salle des Pins

Compositional data refer to proportions, or parts of some whole, bounded between 0 and the unit of measurement, i.e., 1, 100%, 1000 g kg⁻¹, or 106 mg kg⁻¹. Examples of compositions are data presented in ppm, ppb, molarities, or any other concentration units, such as soil, compost and crop analysis. The constrained nature of compositional data implies particular and important numerical properties that have major consequences for any statistical analysis. Standard techniques are designed to be used with data that are free to range from $-\infty$ to $+\infty$ (Pawlowsky-Glahn and Egozcue, 2006). Any increase in one component must be associated with a decrease in one or more components in a closed system. This means that compositional data are intrinsically correlated to each other, and the results of standard statistical analysis such as regression, univariate and multivariate analysis are misleading (Aitchison, 1986). Hence, contradictions interpretations could be generated which raise a serious problem that needs to be treated with considerable circumspection. Compositional data analysis using additive log-ratio (alr), centred log-ratio (clr) or isometric log-ratio (ilr) coordinates avoids such difficulties and preserves sub-compositional coherence in the analysis (Aitchison, 1986; Egozcue et al, 2003). This workshop will provide examples of biased analysis obtained with agronomic data and present compositional approaches to deal with these problems using the “R” software.



Welcome Reception

Sunday, July 5th

6:00 – 9:00 pm

Ballroom A



Working Lunches

12:45 – 2:00 pm

Salle des Pins

Participants should pick up their lunch in the lobby outside *Ballroom A* and bring it to Salle des Pins, New Residence Hall, McGill University.

Monday July 6th

CSSS Pedology
Subcommittee

Tuesday July 7th

Session 6 – Agricultural
Greenhouse Gases

Wednesday July 8th

Session 9 – Soil Science
Education

Projectors and laptops provided

Please find **Susan Robinson** for assistance.

Guy Mehuys Memorial Luncheon

Monday July 6th

12:40 – 2:00pm

Ballroom A

In Memory of Professor Guy R. Mehuys

The science of soil organo-mineral interactions and how this provides a stable, healthy soil environment for food, fuel and fiber production is the basis of soil conservation, a topic to which **Professor Guy Mehuys** was devoted during his long and productive career at the Macdonald Campus of McGill University.

This conference has attracted the participation of **students from more than 25 countries** worldwide.

These students —the next generation of soil scientists—are preparing talks and posters that clearly recognize of the importance of soil organo-mineral interactions to address our global sustainable development goals. Student participants will bring new ideas, dynamism and energy to our discussions at the conference.



Those who sponsored a student on behalf of Professor Mehuys will be recognized at the **Professor Guy Mehuys Memorial Luncheon** on Monday, July 6, 2015, and acknowledged with thanks in the conference program book if they submitted their payment by **26 June 2015**.



6 JULY 2015

SOIL MOVIE NIGHT

#SoilCinema
#CinéSol



FILM SERIES
CELEBRATING THE
INTERNATIONAL
YEAR OF SOILS

EXPERT PANEL
DISCUSSION

PRIZES AND SNACKS

ALL ARE WELCOME

HOSTED BY THE
CANADIAN SOCIETY
OF SOIL SCIENCE

MCGILL UNIVERSITY
ADAMS BUILDING
AUDITORIUM
3450 UNIVERSITY ST
7:30 TO 9:30 PM

CSSS STUDENT EVENT

TRIVIA

NIGHT

★ 07. JULY. 7:30 ★

FREE FOOD

MCKIBBIN'S PUB
3515 BOUL. ST-LAURENT

Great chance to meet fellow soils
grad students!

Awards Gala Dinner

Price of dinner included in conference registration fee

Wednesday, July 8th

7:00 – 10:00 pm

Centre Mont-Royal (1000 Sherbrooke Entrance)

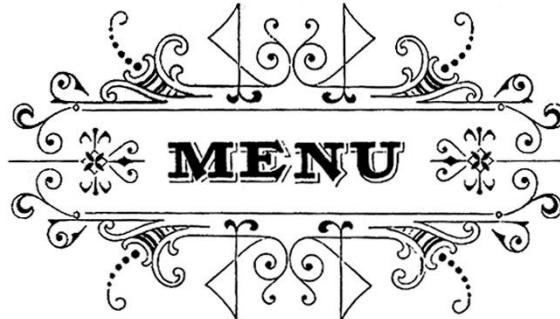
Salon Mont-Royal, 4th Floor

Pre-dinner Cocktails 7:00 – 7:25 pm

Cash Bar Available from 7:00 – 10:00 pm

Free Non-Alcoholic Beverages

Award Presentation at 9:15 pm



Spring field mix, roasted pear, dried cranberry and pistachio

Grilled supreme of chicken, fine herbs, sundried cherry sauce

OR

Roasted salmon fillet, vermouth & pink peppercorn sauce

Choco-Raspberry Mille-Feuille

Vegan Option Available

Coffee and Tea Included

“Back to Basics: Creating Paint from Soil”

Workshop

Symeon Lane and Ken Van Rees

Thursday, July 9th (9:00 am - 4:00 pm)

Strathcona Building, Room M/66

To celebrate the International Year of Soils we wanted to create a unique experience for attendees by organizing a workshop to create pigments from soils and then paint with them. Participants will explore and play with the various techniques for preparing pigments from soils local to the Montreal area as well as other natural materials. Time will also be given in the afternoon to paint with the pigments around the McGill campus. All materials will be supplied.



Field Trips and Excursions

Soil and Precision Agriculture Field Trip

Thursday, July 9th

This trip will take you (participants) to three research farms/ stations:

1. Macdonald Farm, Ste-Anne-de-Bellevue
2. VegPro International Inc., Sherrington
3. Agriculture and Agri-Food Canada, St-Jean-sur-Richelieu

The main focus of this field trip is to see some dominant soils on Montreal Island and area, familiarize various proximal sensors used for precision farming and some activities carried out in precision agriculture.



Schedule

08:00 am: Convening at the New Residence Hall, 3625 Parc Avenue, Montreal

08:15 am: Bus leaves for Macdonald campus (About 40 minute bus ride)

09:00 am: Engineering workshop area: presentation of proximal soil sensing technologies/ equipment

10:00 am: Visiting soil profiles (2 soil profiles)

10:45 am: Bus to Emily Lod's Seed farm (Farm is also within Campus)

11:00 am: Seed farm visit

11:45 am: Bus from seed farm to Macdonald campus

12:00 pm: Lunch at Tadja hall (Faculty house at Macdonald campus)

01:30 pm: Bus from Tadja hall to VegPro International Inc. (About 50 minute of bus ride)

02:30 pm: Visit of VegPro International Inc. site (Organic soils, Precision farming)

03:30 pm: Bus to AAFC

04:00 pm: Visit AAFC L'Acadie Experimental Farm, 1134 Québec 219, St-Jean-sur-Richelieu site (Precision farming)

04:45 pm: Bus from AAFC to Residence Hall 0

05:30 pm: Residence Hall



Touristic Excursion to the Montreal Botanical Gardens, Insectarium and Île Ste-Hélène



Thursday, July 9th

Join us for a fun-filled day of tours to Montreal's finest tourist attractions! At the Montreal Botanical Gardens and Insectarium, you will have the opportunity for a "behind the scenes" look at how the gardens and exhibits are designed and meet researchers who are responsible for curation and scientific content of the exhibits. Established in 1931 and considered to be one of the most important botanical gardens in the world due to the extent of its collections and facilities, the Montreal Botanical Gardens was designated a national historic site of Canada in 2008

After a buffet lunch at La Stanza, we will continue to Île Ste-Hélène, which was named in 1611 by Samuel de Champlain in honour of his wife, Hélène. Military installations were built on the island to protect the city, and some of the preserved artifacts are on exhibit at the Stewart Museum (Fort de l'Île Sainte-Hélène). Another attraction is the Biosphere, an interpretative museum about the Saint Lawrence River installed in the former American Pavilion from Expo 67. For those who prefer a quiet walk, there are more than 25 km of walkways, many in proximity to the Saint Lawrence River, decorated by well-manicured gardens and public art exhibits throughout the Jean-Drapeau Park.

Schedule

08:00 am: Departure from New Residence Hall

08:30 am: Arriving to Botanical Gardens and Insectarium (the visit will finish at 11:45 am)

12:00 pm: Departure from Botanical Gardens and Insectarium

12:00 pm: Buffet lunch at La Stanza

01:45 pm: Departure to l'Île St-Hélène. The bus will make three stops to drop off visitors at the Stewart Museum, the Biosphere and the Tour de Lévis (Jean-Drapeau Park).

04:15 pm: Pick-up of visitors from the Stewart Museum, the Biosphere and the Tour de Lévis (Jean-Drapeau Park).

04:45 pm: Return to the New Residence Hall



Organic, Mineral, and Forest Soils, and Soils in Organic Production / Sols organiques, minéraux et forestiers et sols en production biologique

Tournée AQSSS bilingue (anglais / français) / Bilingual (English / French) Field Trip



Schedule/ Programme (Thursday, July 9th)

08:00 am: Meet at New Residence Hall McGill, 3625 Avenue du Parc, Montréal (48 places)

08:15 am: 45 min. bus travel / 45 min. d'autobus

09:00 am: Veg Pro & Vert Nature, 147 Rang St-Paul, Sherrington.

"Mesclun" production on muck soils: Cropped muck soil profile, drainage, lettuce production. /Sols organiques en production de mesclun: Profil de sols organiques cultivés, drainage, production de laitues.

10:00 am: 30 min. bus travel; snack & beverage in the bus / 30 min. d'autobus; Collation & breuvage dans l'autobus

10:30 am: AAC, L'Acadie Experimental Farm / AAC, Station expérimentale de L'Acadie, 1134 route 219, St-Jean-sur-Richelieu

Mineral soils, crop management and nitrogen fertilization: Agricultural soil profile, presentation of research on sustainable nitrogen fertilization practices, instruments used to estimate crop vigor. / Sols minéraux, régie des cultures et fertilisation azotée : Profil de sols agricoles, présentation des travaux réalisés sur la régie raisonnée de la fertilisation azotée, instruments utilisés pour estimer l'état des cultures.

11:30 am: 45 min. bus travel / 45 min. d'autobus

12:15 pm: Native People House / Maison amérindienne, 510 Montée des Trente, Mont-Saint-Hilaire

Welcome, purification ceremony, drums & dance, lunch with Native People flavour, exhibits & shopping / Accueil, cérémonie de purification, tambours et danse, repas à saveur amérindienne, expositions et boutiques

14:05 pm: 5 min. bus travel / 5 min. d'autobus; Gault Nature Reserve of McGill University / Réserve naturelle Gault, Université McGill

Forest soils: Landscape and typical soil profile of the Montérégienne. /Sols forestiers: Paysages et profils de sols forestiers des Montérégienne

15:00 pm: 30 min. bus travel; snack & beverage in the bus / 30 min. d'autobus; Collation & breuvage dans l'autobus

15:30 pm: IRDA, Plateforme d'Innovation en Agriculture Biologique (PIAB)

Soils in organic production: To develop crop management practices supporting their productivity. / Sols en production biologique: Développer des pratiques et des régies culturelles favorisant leur productivité.

16:30 pm: 30 min. bus travel / 30 min. d'autobus

17:00 pm: New Residence Hall McGill

Basic Scientific Program

ISMOM Sponsored Sessions

MONDAY, July 6th

Breakfast (Salle du Parc)

Opening Ceremony (Ballroom A)

Plenary (Ballroom A)

Oral Session 2: Dynamics of pollutants in soil
(SADB M-1)

~COFFEE BREAK~

Oral Session 2: Dynamics of pollutants in soil
(SADB M-1)

~LUNCH BREAK~

Keynote session 2: Dynamics of pollutants in soil
(SADB M-1)

Oral Session 2: Dynamics of pollutants in soil
(SADB M-1)

~COFFEE BREAK~

Poster Sessions S2, S4, S7, S12, S13 (Ballroom B)

TUESDAY, July 7th

Keynote Session 4: Organo-mineral interactions in soil (SADB 2/36)

Oral Session 4: Organo-mineral interactions in soil (SADB 2/36)

~COFFEE BREAK~

Oral Session 3: Soil microbiology (SADB M-1)

~LUNCH BREAK~

Keynote Session 3: Soil microbiology (SADB M-1)

Oral Session 3: Soil microbiology (SADB M-1)

~COFFEE BREAK~

Poster Sessions S3, S6, S8, S11, S14 (Ballroom B)

WEDNESDAY, July 8th

Oral Session 1: Macro and micronutrient dynamics in soil (SADB M-1)

~COFFEE BREAK~

Oral Session 1: Macro and micronutrient dynamics in soil (SADB M-1)

~LUNCH BREAK~

Keynote Session 1: Macro and micronutrient dynamics in soil (SADB M-1)

Oral Session 1: Macro and micronutrient dynamics in soil (SADB M-1)

~COFFEE BREAK~

Poster Sessions S1, S5, S9, S15, S17 (Ballroom B)

FRIDAY, July 10th

Keynote Session 5: Analytical and methodological advances in soil study (SADB M-1)

Oral Session 5: Analytical and methodological advances in soil study (SADB M-1)

~COFFEE BREAK~

Oral Session 5: Analytical and methodological advances in soil study (SADB M-1)

~LUNCH BREAK~

Closing Ceremony

CSSS Sponsored Sessions

MONDAY, July 6th

Breakfast (Salle du Parc)
Opening Ceremony (Ballroom A)
Plenary (Ballroom A)
Oral Session 7: Chemical and biological controls on organic P cycling in terrestrial and aquatic environments (SADB 2/36)
~COFFEE BREAK~
Oral Session 7: Chemical and biological controls on organic P cycling in terrestrial and aquatic environments (SADB 2/36)
~LUNCH BREAK~
Keynote Session 7: Chemical and biological controls on organic P cycling in terrestrial and aquatic environments (SADB 2/36)
Oral Session 6: Agricultural greenhouse gas emissions (SADB 2/36)
~COFFEE BREAK~
Poster Sessions S2, S4, S7, S12, S13 (Ballroom B)

WEDNESDAY, July 8th

Keynote Session 12: Proximal soil sensing (SADB 2/36)
Oral Session 12: Proximal soil sensing (SADB 2/36)
Oral Session 13: Spatial and temporal dynamics of soil processes and their interactions at multiple scales to study complex soil systems (SADB 2/36)
~COFFEE BREAK~
Oral Session 13: Spatial and temporal dynamics of soil processes and their interactions at multiple scales to study complex soil systems (SADB 2/36)
~LUNCH BREAK~
Keynote Session 13: Spatial and temporal dynamics of soil processes and their interactions at multiple scales to study complex soil systems (SADB 2/36)
Oral Session 9: Soil science education and outreach (SADB 2/36)
~COFFEE BREAK~
Poster Sessions S1, S5, S9, S15, S17 (Ballroom B)

TUESDAY, July 7th

Keynote Session 6: Agricultural greenhouse gas emissions (SADB M-1)
Oral Session 6: Agricultural greenhouse gas emissions (SADB M-1)
~COFFEE BREAK~
Oral Session 11: Wetland soils in a changing climate (SADB 2/36)
~LUNCH BREAK~
Keynote Session 11: Wetland soils in a changing climate (SADB 2/36)
Oral Session 12: Proximal soil sensing (SADB 2/36)
~COFFEE BREAK~
Poster Sessions S3, S6, S8, S11, S14 (Ballroom B)
CSSS – General assembly of members
(Ballroom A)

FRIDAY, July 10th

Keynote Session 9: Soil science education and outreach (SADB 2/36)
Oral Session 9: Soil science education and outreach (SADB 2/36)
Oral Session 8: Microbial provision of essential services across managed and natural ecosystems (SADB 2/36)
~COFFEE BREAK~
Oral Session 8: Microbial provision of essential services across managed and natural ecosystems (SADB 2/36)
~LUNCH BREAK~
Closing Ceremony

AQSSS Sponsored Sessions

MONDAY, July 6th

Opening Ceremony (Ballroom A)

Plenary (Ballroom A)

Oral Session 16: Management Zones in Precision Agriculture/ Zones d'aménagement en Agriculture de Précision (ENGTR 1100)

~COFFEE BREAK~

Oral Session 16: Management Zones in Precision Agriculture/ Zones d'aménagement en Agriculture de Précision (ENGTR 1100)

~LUNCH BREAK~

Poster Sessions S2, S4, S7, S12, S13 (Ballroom B)

AQSSS – General assembly of members
(Ballroom A)

WEDNESDAY, July 7th

Keynote Session 15: Biochar in agriculture and environment/ Le biochar en agriculture et en environnement (ENGTR 1100)

Oral Session 15: Biochar in agriculture and environment/ Le biochar en agriculture et en environnement (ENGTR 1100)

~COFFEE BREAK~

Oral Session 15: Biochar in agriculture and environment/ Le biochar en agriculture et en environnement (ENGTR 1100)

~LUNCH BREAK~

Poster Sessions S1, S5, S9, S15, S17 (Ballroom B)

TUESDAY, July 7th

Oral Session 17: Soils of natural, managed and intensive forest systems/
Les sols de systems forestiers naturels, aménagés et intensifs (ENGTR 1100)

~COFFEE BREAK~

Oral Session 17: Soils of natural, managed and intensive forest systems/
Les sols de systems forestiers naturels, aménagés et intensifs (ENGTR 1100)

~LUNCH BREAK~

Keynote session 17: Soils of natural, managed and intensive forest systems/
Les sols de systems forestiers naturels, aménagés et intensifs (ENGTR 1100)

Oral Session 17: Soils of natural, managed and intensive forest systems/
Les sols de systems forestiers naturels, aménagés et intensifs (ENGTR 1100)

~COFFEE BREAK~

Poster Sessions S3, S6, S8, S11, S14 (Ballroom B)

FRIDAY, July 7th

Closing Ceremony

General Session

WEDNESDAY, July 8th

Oral Session 14: General soil science
(ENGTR 1100)

FRIDAY, July 10th

Oral Session 14: General soil science
(ENGTR 1080)

~COFFEE BREAK~

Oral Session 14: General soil science
(ENGTR 1080)

~LUNCH BREAK~

Closing Ceremony

“Conference Program at a Glance”

	ISMOM	CSSS	AQSSS/ *General*
Monday, July 6th			
07:00 – 09:30	Complimentary Breakfast (Salle du Parc)		
07:50 – 08:10	Opening Ceremony (Ballroom A)		
08:10 – 09:00	Plenary (Ballroom A) John Duxbury: Changing concepts of organo-mineral interactions in soils: Impacts on soil properties and sustainable development		
09:10 – 10:30	Oral Session 2 (SADB M-1): Dynamics of Pollutants in Soil 9:10 Rim Benjannet, Lotfi Khiari, Barry Thompson: Environmental model of P saturation for acidic soils of Prince Edward Island 9:30 Weixi Shu, Gordon Price, Rob Jamieson: Application of the Root Zone Water Quality Model (RZWQM) to stimulate fate and transport of emerging substances of concern in soils receiving long-term biosolids application 9:50 Johanne Cennerazzo, Alexis deJunet, Jean-Nicolas Audinot, Patrick Grysar, Corinne Leyval: Dynamics of PAH and derived organic compounds in a soil-plant microcosm spiked with ¹³C-phenanthrene 10:10 Daniel Gillis, Gordon Price, Shiv Prasher: Assessment of triclosan toxicity to the earthworm Eisenia fetida under laboratory conditions using GC-MS metabolomics	Oral Session 7 (SADB 2/36): Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments Tandra Fraser, L.M. Condron, P.M. Haygarth: On new opportunities and techniques for advancing the study of soil phosphorus Kim Schneider, Paul Voroney, Derek Lynch, Astrid Oberson, Emmanuel Frossard, Else Bünemann: Gross P mineralization and microbial P uptake in forage field soils along a soil test P gradient Sirajum Munira, Annemieke Farenhorst, Don Flaten, Cynthia Grant: Influence of soil pH and inorganic phosphate levels on glyphosate sorption Xiaoqian Jiang, Roland Bol, Volker Nischwitz, Nina Siebers, Sabine Willbold, Harry Vereecken, Wulf Amelung, Erwin Klumpp: Phosphorus containing water dispersible nanoparticles in arable soil	Oral Session 16 (ENGTR 1100): Management Zones in Precision Agriculture/ Zones d'Aménagement en Agriculture de Précision Doug Aspinall, Stewart Sweeney: High-resolution elevation data (h-red) clouds generated on-farm facilitate detailed soil mapping and precision management of Ontario farm fields Nicolas Tremblay, Carl Bélec, Philippe Vigneault, Lucie Grenon, Edith Fallon, Yacine Bouroubi: Response of corn to N rates as a function of soil properties in a precision farming context Doug Aspinall, Stewart Sweeney: Multi-temporal, multi-parameter geospatial data sets facilitate detailed soil mapping of Ontario farm fields Doug Aspinall, Stewart Sweeney: Sustainable cropping system management zones: a central role for intrinsic soil properties, landscape feature delineation
10:30 – 11:00	Coffee Break (outside of respective lecture rooms)		
11:00 – 12:40	Oral Session 2 (SADB M-1): Dynamics of Pollutants in Soil 11:00 Siobhan Staunton, Truong Phuc Hung, Yasmina El Khoulali, Roger Frutos, Hervé Quiquampoix: Conservation of insecticidal activity of CryIAc adsorbed on three contrasting soils and persistence with time	Oral Session 7 (SADB 2/36): Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments Philip Haygarth, Ying Wang, Ben Surridge: Fate and transport of labile DNA- and phospholipid-phosphorus through a grassland catchment transfer continuum	Oral Session 16 (ENGTR 1100): Management Zones in Precision Agriculture/ Zones d'Aménagement en Agriculture de Précision Xueming Yang, Craig Drury, Jingyi Yang, Dan Reynolds, Mary-Anne Reeb: The spring nitrate-N soil test can improve the general N recommendation for corn production on a clay loam in southwestern Ontario

<p>11:20 <u>Yu Zhang</u>, Gordon Price, Rob Jamieson: Sorption and desorption kinetics on mixtures of non-steroidal anti-inflammatory drugs in different textured agricultural soils</p>	<p><u>Anna Missong</u>, Roland Bol, Volker Nischwitz, Sabine Willbod, Jan Siemens, Erwin Klumpp: Phosphorus of colloidal forest soil fractions as revealed by field flow fractionation and liquid-state ³¹P-NMR</p>	<p><u>Tom Bruulsema</u>, Kevin King, Merrin Macrae: Managing soil interfaces with 4R crop nutrition</p>
<p>11:40 Alaa Zaghloul, M. Sader, S. El-Ashry, S. Hobballa: The assessment of non-point-source of contamination on the kinetics of some potentially toxic elements desorbed from contaminated soils</p>	<p>Courtney Giles, Lydia Lee, Elizabeth Rutila, Peter Isles, Yaoyang Xu, Andrew Schroth, Barbara Cade-Menun, Jane Hill, Gregory Druschel: Temporal characterization of phosphorus forms, bioavailability, and mobility in Lake Champlain sediments</p>	<p>Jean Caron, Guillaume Létourneau, Lélia Anderson, Valérie Bernier-English, Carole Boily, Julien Cormier, Nicolas Watters, Oleg Daugovish, Laurence Gendron: Irrigation strategies for strawberry in California and Quebec: yield, water savings and return on investment</p>
<p>12:00 <u>Rosaline Olobatoke</u>, Manny Mathuthu: Heavy metal concentration in soil in the tailing dam vicinity of an old gold mine in Johannesburg, South Africa</p>	<p><u>Nina Gottselig</u>, Thomas Meyn, Volker Nischwitz, Cynthia Halle, Harry Vereecken, Wulf Amelung, Roland Bol, Jan Siemens, Erwin Klumpp: Phosphorus nanoparticles and colloids of forest stream waters – fractionation and potential role in ecosystems</p>	<p><u>Vincent Pelletier</u>, Jacques Gallichand, Jean Caron, Steeve Pepin: Controlling water table depth for a sustainable cranberry production</p>
<p>12:20 Eucharia Nwaichi, Eugene Onyeike, Lasbrey Opara: Evaluation of soil microbial communities as influenced by crude oil pollution</p>	<p>Barbara Cade-Menun, Paul Sanborn, Farid Rahemtulla, Myrna Simpson, Corey Liu: A comparison of phosphorus forms and concentrations in midden samples and forest soils from Calvert Island, BC arable soil</p>	<p>Katelyn Congreves, Dave Hooker, Laura Van Eerd: Long-term nitrogen fertilizer application influences soil carbon and nitrogen dynamics</p>
<p>12:40 – 14:00</p>	<p>Guy Mehuys Memorial Luncheon (Ballroom A and Salle du Parc) CSSS Pedology Subcommittee Working Lunch (Salle des Pins)</p>	
<p>14:00 – 14:30</p>	<p>Keynote Session 2 <u>(SADB M-1)</u>: Dynamics of Pollutants in Soil <u>Beverly Hale</u>: The contributions of heritable variation, soil chemistry, and meteorological conditions in accumulation of Cd by <i>Glycine max</i> in Ontario</p>	<p>Keynote Session 7 <u>(SADB 2/36)</u>: Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments <u>Luisella Celi</u>: Role of iron oxides in controlling organic P cycling in soil</p>
<p>14:30 – 15:50</p>	<p>Oral Session 2 (SADB M-1): Dynamics of Pollutants in Soil <u>Kaya Muyumba Donato</u>, Olivier Pourret, Amandine Liénard, Michel-Pierre Faucon, Gregory Mahy, Gilles Colinet: Experimental assessment of copper and cobalt phytoavailability in soils from metalliferous ecosystems in Katanga</p>	<p>Oral Session 6 (SADB M-1): Agricultural Greenhouse Gas Emissions <u>Claudia Wagner-Riddle</u>, Kari Dunfield, Craig Drury, Robert Gordon, John Lauzon, Bill Van Heyst, Andrew VanderZaag: Farm-scale assessment of greenhouse gas mitigation strategies in dairy livestock-cropping-systems</p>

14:50	<u>Luba Vasiluk</u> , Michael Dutton, Andrea Amendola, Lisa Van Loon, Beverley Hale: A correlation between nickel/metal mineralogy and its bioaccessibility in artificial (OECD) spiked soils	Muhammed Sulaimain, Claudia Wagner-Riddle, Shannon Brown: Net ecosystem exchange of dairy cropping systems	
15:10	<u>Heather McShane</u> , Dina Schwertfeger, Timothy D. Schwingharner, William Hendershot: Adding silver nanoparticles to soils directly or in biosolids leads to differences in Ag speciation	Karen Thompson, Elizabeth Bent, Shannon Brown, Diego Abalos, Claudia Wagner-Riddle, Kari Dunfield: Effects of dairy manure management in annual and perennial cropping systems on N-cycling microbial community structure and associated in-situ N₂O fluxes	
15:30	<u>Jim Miller</u> , Tony Curtis, David Chanasyk, Sharon Reedyk: Influence of mowing and narrow grass buffer widths on reductions in sediment, nutrients, and bacteria in surface runoff	Chukwudi Amadi, Richard Farrell, Beyhan Amichev, Ken Van Rees: Farm-scale estimation of C sequestration and greenhouse gas mitigation by white spruce shelterbelts: HOLOS, ³PG and CBM-CFS₃ simulations	
16:00 – 16:30	Coffee Break (Ballroom A)		
16:30 – 17:50	Poster Sessions S2, S4, S7, S12 and S13 (Ballroom B)		
18:00			AQSS – General Assembly of Members (Ballroom A)
19:30 – 21:30	Soil Movie Night (Adams Building Auditorium)		

Tuesday, July 7th

08:00 – 08:30	Keynote Session 4 <small>(SADB 2/36):</small> Organo-Mineral Interactions in Soil <u>Rota Wagai</u> : Organo-mineral associations at different levels of soil aggregate hierarchy: What do we get from physical fractionation?	Keynote Session 6 <small>(SADB M-1):</small> Agricultural Greenhouse Gas Emissions <u>Philippe Rochette</u> : Nitrogen fertilization and soil N ₂ O emissions	
08:30 – 10:30	Oral Session 4 <small>(SADB 2/36):</small> Organo-Mineral Interactions in Soil <u>Sofia Oufqir</u> , James Dynes, Brandy Toner, Paul Bloom: Spatial distribution of soil organic matter across density fractions of soil day nanoparticles: STXM chemical mapping	Oral Session 6 (SADB M-1): Agricultural Greenhouse Gas Emissions <u>Megan Westphal</u> , Mario Tenuta, Martin Entz: Contribution of soil N₂O emissions from fall alfalfa plow-down in organic cropping systems	Oral Session 17 (ENGTR 1100): Soils of Natural, Managed and Intensive Forest Systems/ Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs <u>Paul Hazlett</u> , Nathan Basiliko, Emma Horrigan, Honghi Tran, Trevor Jones: Nutrient and trace metal leaching in boreal and temperate forest soils following wood ash applications
08:50	<u>Qiaoyun Huang</u> , Huayong Wu, Wenli Chen, Jeremy Fein, Peng Cai: Atomic force microscopy measurements of bacterial adhesion and biofilm formation onto clay-sized particles	<u>Mayowa Adelekun</u> , Wole Akinremi, Mario Tenuta: Nitrous oxide gas flux, emission factor and emission intensity following termination of perennial grass	<u>Lili Perreault</u> , Suzanne Brais, Nicolas Bélanger: Restoring a disturbed clayey forest soil using dehydrated sewage sludge

09:10	Carmen Enid Martinez, Michael Schmidt, Aubrey Fine, Joseph Dvorak: <i>Character of organic matter in deep soils of temperate forest ecosystems</i>	Mark Baah-Acheamfour, Scott Chang, Edward Bork, Cameron Carlyle: <i>Silvopastures and trees increase the size and stability of carbon pools in agroforestry systems of western Canada</i>	Adam Gorgolewski, Nathan Basiliko, John Caspersen, Trevor Jones, Paul Hazlett, Honghi Tran: <i>Wood ash as a forest soil amendment: Seedling growth responses, and responses of red-backed salamander populations</i>
09:30	Siobhan Staunton, Maguelone Nogaret, Laurie Amenc, Hervé Quiquampoix: <i>Choice of extraction cocktail to remove contrasting proteins from reference soil minerals with a view to soil metaproteomic analysis</i>	Gurbir Singh Dhillon, Derek Peak, Ken Van Rees: <i>Storage and stability of soil organic carbon under shelterbelt agroforestry systems</i>	Manuella Strukeli, Suzanne Brais, Daivid Paré: <i>Leaf litter and deadwood decomposition in boreal stands as a function of species, litter type and harvesting prescription: A 12-13 year litterbug experiment</i>
09:50	Amanda Diochon, E.G. Gregorich, B.H. Ellert, H.H. Janzen, B.B. Helgason: <i>The role of temperature and soil texture in decomposition: findings from a physical fractionation study</i>	Craig Nichol, Mesfin Fentabil, Gerry Neilsen, Kirsten Hannam, Denise Neilsen, Tom Forge, Melanie Jones: <i>Effect of microirrigation type, N-source and mulching on nitrous oxide emissions in semi-arid climate: An assessment across two years in Merlot grape vineyard</i>	Julien Fortier, Benoit Truax, Daniel Gagnon, France Lambert: <i>Environment and genotype control on foliar, fine root and litter traits in mature hybrid poplar plantations</i>
10:10	Michael Schmidt, Carmen Martinez: <i>Kinetic, thermodynamic and conformational insights of BSA adsorption onto montmorillonite revealed using in-situ ATR-FTIR/2D-COS</i>	Craig Drury, Xueming Yang, W. Dan Reynolds, Wayne Calder: <i>Managing fertilizer nitrogen application methods and N sources to improve crop performance and reduce ammonia volatilization and nitrous oxide emissions</i>	Suzanne Brais, Sara Foudy-Bey, Pascal Drouin: <i>Forest floor heterogeneity modulates fungal activity and C mineralization in boreal forests</i>
10:30 – 11:00	Coffee Break (outside of respective lecture rooms)		
11:00 – 12:40	Oral Session 3 (SADB M-1): Soil Microbiology	Oral Session 11 (SADB 2/36): Wetland Soils in a Changing Climate	Oral Session 17 (ENGTR 1100): Soils of Natural, Managed and Intensive Forest Systems/ Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs
11:00	Ellen Kandeler, Franziska Ditterich, Aurelia Gebala, Susanne Kramer, Sven Marhan, Christian Poll: <i>Microbial resource partitioning in microhabitats of soils</i>	Valérie Viaud, Emmanuel Tete, Pauline Buysse, Christophe Flechard: <i>Impacts of soil drainage conditions on soil heterotrophic respiration along a temperate agricultural hillslope transect</i>	Alexandre Collin, Christian Messier, Nicolas Bélanger: <i>Changes in soil conditions and foliar nutrition of sugar maple seedlings with increasing presence of conifers in a mixedwood of Southern Quebec</i>
11:20	Sebastian Preusser, Sven Marhan, Christian Poll, Ellen Kandeler: <i>Influence of substrate availability and environmental conditions on microbial communities and enzyme activities in topsoil and subsoil habitats</i>	Robin Brown, Angela Bedard-Haughn: <i>Agricultural surface drainage and changes in soil properties in eastern Saskatchewan</i>	Vincent Poirier, Marie Coyea, Denis Angers, Alison Munson: <i>Overstory and understory functional types drive mineral soil pH, C and N cycles, in mixedwood temperate plantation</i>
11:40	Bert VandenBygaart, Bobbi Helgason, Hannah Konschuh, Angela Beard-Haughn, Adam Gillespie, Ed Gregorich: <i>Stability of buried soil organic matter in cropland: What are the mechanisms?</i>	Xiaoyue Wang, Cherie Westbrooke, Bobbi Helgason, Angela Bedard-Haughn: <i>Assessing pedogenic controls on carbon mineralization, organic matter composition and microbial community dynamics in a mountain peatland</i>	Dan Pennock, Kendra Purton, Kent Watson: <i>Does bioturbation control the chernozemic-luvisolic boundary in central Saskatchewan?</i>

12:00	Michael Carson, Nathan Basiliko: <i>Methanogen community responses to a gradient of sulfur and metal contamination in Sudbury, ON peatlands</i>	Elizabeth Cowan: <i>Differences in CH₄ production, storage and transport among plant community types during a wet summer at Mer Bleue bog, Ottawa</i>	William Barnes, Sylvie Quideau, Matthew Swallow: <i>Sandy soils of the Athabasca oil sands region: what's driving productivity?</i>
12:20	Kazuyuki Inubushi, Shunsuke Hanazawa, Maasa Takahashi: <i>Effect of zeolite and bacteria on straw decomposition and greenhouse gas emission from paddy field</i>	Andrew Pinsonneault, Tim Moore, Nigel Roulet: <i>Patterns of microbial enzyme activity across three temperate Canadian peatlands</i>	Kevin Keys, David Burton: <i>Using historic soil survey data for spruce plantation sustainability assessments – a Nova Scotia case study</i>
12:40 – 14:00	Lunch Break (Ballroom A & Salle du Parc) Session 6 Agricultural Greenhouse Gases Working Lunch (Salle des Pins)		
14:00 – 14:30	Keynote Session 3 <small>(SADB M-1):</small> Soil Microbiology Kornelia Smalla: Soil microorganisms – architects and actors of biogeochemical interfaces	Keynote Session 11 <small>(SADB 2/36):</small> Wetland Soils in a Changing Climate Elyn Humphreys: Ecosystem-scale methane fluxes in Canadian wetlands	Keynote Session 17 <small>(ENGTR 1100):</small> Soils of Natural, Managed and Intensive Forest Systems/ Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs Sylvie Quideau: Restoring organic matter processes in reconstructed soils
14:30 – 15:50	Oral Session 3 (SADB M-1): Soil Microbiology Nicole Sukdeo , Ewing Teen, P. Michael Rutherford, Hugues B. Massicotte, Keith N. Egger: <i>Short-term shifts in fungal community structure accompanying soil disturbance: observations from a six-month microcosm study</i>	Oral Session 12 (SADB 2/36): Proximal Soil Sensing Shane Furze: <i>Enhancing digital elevation models for improved soils mapping</i>	Oral Session 17 (ENGTR 1100): Soils of Natural, Managed and Intensive Forest Systems/ Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs Martine Fugère , Robert Bradley, Mark Vellend: <i>Recreational fishing may increase greenhouse gas emissions: The earthworm connection</i>
14:50	Melissa Arcand , Bobbi Helgason: <i>Carbon limitation constrains soil microbial activity and influences microbial community composition in soils under organic management</i>	Asim Biswas , Wenjun Ji, Yakun Zhang, Viacheslav Adamchuk: <i>Three-dimensional soil mapping using proximal soil sensors</i>	Anya Reid , Bill Chapman, Marty Kranabetter, Cindy Prescott: <i>Tree response to organic-matter removal depends on soil properties at six long-term soil productivity (LTSP) sites in British Columbia, Canada</i>
15:10	Hermine Huot , Jessica Joyner, Theodore Muth, Richard Shaw, Roxanne Walker, Mike Wilson, Zongqi Cheng: <i>Bacterial diversity and profile characteristics of urban soils in New York City</i>	Brandon Heung , Derrick Ho, Jin Zhang, Anders Knudby, Chuck Bulmer, Margaret Schmidt: <i>A comparison of machine learning techniques in digital soil mapping for the Lower Fraser Valley, British Columbia</i>	Emily Smenderovac , Nathan Basiliko, Kara Webster, John Caspersen, Dave Morris, Paul Hazlett, Rob Fleming: <i>Microbial communities and functioning in boreal forest soil under intensified biomass harvests</i>

15:30	Navid Bazghaleh, Chantal Hamel, Yantai Gan, Diane Knight, Bunyamin Tar'an: <i>Genotype-specific variations shape the structure of root fungal communities and determine the response of chickpea to symbiotic fungi</i>	Jin Zhang, Brandon Heung, Derrick Ho, Anders Knudby, Chuck Bulmer, Margaret Schmidt: <i>Does increasing complexity of tree-based classifiers improve prediction results in digital soil mapping?</i>	Jason Shabaga, Nathan Basiliko, Trevor Jones: <i>Using principal component analysis to link post-harvest soil nutrient decline to latent biogeochemical processes in an Ontario hardwood forest</i>
16:00 – 16:30	Coffee Break (Ballroom A)		
16:30 – 17:50	Poster Sessions S3, S6, S8, S11 and S14 (Ballroom B)		
18:00	CSSS – General Assembly of Members (Ballroom A)		
19:30	CSSS Trivia Night (McKibbin's Pub)		

Wednesday, July 8th

08:00 – 08:30		Keynote Session 12 <u>(SADB 2/36):</u> Proximal Soil Sensing Raphael Viscarra Rossetti: Proximal multi sensor system for measuring soil condition	Keynote Session 15 <u>(ENGTR 1100):</u> Biochar in Agriculture and Environment/ Le Biochar en Agriculture et en Environment Kurt Spokas: Historic barriers to biochar utilization: Is there a way to avoid these same hurdles?
08:30 – 09:50	Oral Session 1 (SADB M-1): Macro and Micronutrient Dynamics in Soil Emmanuel Frossard, N. Buchmann, E.K. Bünenmann, D. Kiba, F. Lombo, A. Oberson, F. Tamburini, O.Y.A Traoré: <i>Soil properties and not inputs control the carbon, nitrogen, phosphorus relationships in cropped soils</i>	Oral Session 12 (SADB 2/36): Proximal Soil Sensing Fabio Rodrigo Leiva-Baron, Ricardo Alfaro Rodríguez: <i>Proximal sensors for site-specific fertilization: A case study in maize crops in Colombia</i>	Oral Session 15 (ENGTR 1100): Biochar in Agriculture and Environment/ Le Biochar en Agriculture et en Environment Patrick Brassard, Stéphanie Godbout, Vijaya Raghavan, Joahnn Palacios, Jean-Pierre Larouche, Dan Zegan: <i>Biochar production: A tool to mitigate climate change</i>
08:30	 Jeff Schoenau, Tom King, Gourango Kar, Hasan Ahmed, Derek Peak: <i>Following the fate of different sulfur fertilizers in prairie soils</i>	Awa Mbodj, Diane Bulot, Jonathan Lafond, Christian Dupuis, Silvio Gumiere: <i>Diagnosis of a drainage system based on GPR imagery in cranberry production</i>	Perry Mitchell, André Simpson, Ronald Soong, Myrna Simpson: <i>Biochar amendment alters the molecular-level composition of soil organic matter in a temperate forest soil</i>
08:50	 Kumundu Jayarathne, Darshani Kumaragamage, Don Flaten, Srimathie Indraratne, Doug Goltz: <i>A field microcosm study to investigate phosphorus release from Manitoba soils under prolonged flooding</i>	Viacheslav Adamchuk, Nadiia Adamchuk-Chala, Jasmeen Kaur, Joann Whalen, Asim Biswas: <i>Defining the spatial heterogeneity of soil biological activity</i>	Christophe Naisse, Thi Phong Ngo, Bernard Davasse, Abad Chabbi, Cornelia Rumpel: <i>Charcoal amendment changes soil carbon dynamics through its impact on (micro-) biological functioning after several centuries</i>
09:30	 Carlos Monreal, Marcela González: <i>Soil phosphatase and phytase activities in canola and wheat rhizospheres during the growing season</i>	Alan Moulin, Henry Wilson, Xiaoyuan Geng: <i>Statistical variability of soil test NO₃-N and the management zone concept</i>	Erin Karppinen, Katherine Stewart, Steven Siciliano: <i>Does a meat and bonemeal biochar enhance petroleum hydrocarbon degradation in frozen soil?</i>

09:50 – 10:30	Oral Session 1 (SADB M-1): Macro and Micronutrient Dynamics in Soil	Oral Session 13 (SADB 2/36): Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems	Oral Session 15 (ENGTR 1100): Biochar in Agriculture and Environment/ Le Biochar en Agriculture et en Environment
09:50	<u>Gabriel Maltais-Landry</u> , Eric Brennan, Emmanuel Frossard, Kate Scow, Peter Vitousek: <i>The effects of cover crops on phosphorus cycling in agricultural soils of California</i>	<u>David Burton</u> , Kyra Stiles, Bernie ZebARTH, Ryan Barrett: <i>Spatial and temporal variation in soil nitrogen supply in potato cropping systems in Prince Edward Island</i>	<u>Kayla Stewart</u> , Joinal Abedin, Peter Beckett, Graeme Spiers, Keith Chaulk: <i>Use of biochar as a soil amendment for fertility improvement in the sandy soils of Labrador</i>
10:10	<u>Haixiao Li</u> , Noura Ziadi, Léon-Étienne Parent, Christian Morel, Alain Mollier: <i>Tillage practice and phosphorus fertilization effects on the distribution and morphology of corn root</i>	<u>Nsalambi Nkongolo</u> , Jean-Jacques Mbui Kakuni, Michel Lokonda, Floribert Budjo, Jean-Remy Makana, Corneille Ewango: <i>Spatial variability of soil physical and thermal properties in Ituri Forest, Democratic Republic of Congo</i>	<u>Vicky Levesque</u> , Philippe Rochette, Noura Ziadi, Martin Chantigny, Martine Dorais, Hani Antoun: <i>Soil CO₂ and N₂O emissions: Is the mitigation efficiency of biochars impacted by periodic applications of mineral nitrogen fertilizer?</i>
10:30 – 11:00	Coffee Break (outside of respective lecture rooms)		
11:00 – 12:40	Oral Session 1 (SADB M-1): Macro and Micronutrient Dynamics in Soil	Oral Session 13 (SADB 2/36): Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems	Oral Session 15 (ENGTR 1100): Biochar in Agriculture and Environment/ Le Biochar en Agriculture et en Environment
11:00	<u>Blake Weiseth</u> , Jeff Schoenau, Derek Peak: <i>Impact of phosphorus fertilizer placement on crop, soil, and run-off water in a brown chernozem in south-central Saskatchewan</i>	<u>Bernie ZebARTH</u> , Claudia Goyer, Sheng Li, Sean Whitney, Sara Neupane: <i>Spatial variation in soil bacterial communities in a commercial potato field</i>	<u>Benjamin Pace</u> , Sarasadat Taherymoosavi, Paul Munroe, Stephen Joseph: <i>Mineral based nutrient dynamics of dual feedstock biochars under increasing pyrolysis temperatures</i>
11:20	<u>Andrea Jilling</u> , A. Stuart Grandy: <i>Organic matter distribution across particulate and mineral-associated fractions varies directly and interactively with cover cropping and tillage management</i>	<u>Marie-France Jones</u> : <i>Mapping temporal and spatial soil hydrothermal and mechanical properties by way of the soil traffability prediction model (STRAP)</i>	<u>Frédéric Rees</u> : <i>Mechanisms of soil pH regulation by biochar amendments and consequences for biochar long-term effects</i>
11:40	<u>Martin Chantigny</u> , Denis Angers, Philippe Rochette, Claudia Goyer: <i>Nitrification occurs in frozen agricultural soils – consequences on fate and management of fall-applied and soil residual N under cold climate</i>	<u>Ebrahim Mahmoudabadi</u> , Asim Biswas, Alireza Karimi Karouyeh: <i>The impacts of changing rangeland into forest park on availability of heavy metals</i>	<u>Sébastien Lange</u> , Suzanne Allaire: <i>Biochar as a component of potting soils: case studies</i>

12:00	Mathieu Vaillancourt, Anne Vanasse, Martin Chantigny, Denis Pageau, Denis Angers: <i>Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake</i>	Edison Aparecido Mome Filho, Richard Heck, Daniel Giménez, Miguel Cooper: <i>Scale-variability of surface microtopography on a highly-stable soil under stimulated rainfall</i>	Duminda Vidana Gamage, Ranjith Mapa, Saman Dharmakeerthi, Asim Biswas: <i>Impact of rice husk biochar on selected soil properties of two Alfisols of Sri Lanka</i>
12:20		Gordon Price, A. Georgallas, D. Burton, W. Shu: <i>Scaling mineral nitrogen dynamics by soil aggregate size</i>	Kangyi Lou, Anushka Upamali Rajapaksha, Yong Sik Ok, Scott Chang: <i>Adsorption of copper by pine sawdust biochar in synthetic oil sands process-affected water</i>
12:40 – 14:00	Lunch Break (Ballroom A & Salle du Parc) Session 9 Soil Science Education Working Lunch (Salle des Pins)		
14:00 – 14:30	Keynote Session 1 (SADB M-1): Macro and Micronutrient Dynamics in Soil Stephan Kraemer: Thermodynamics and kinetics of plant iron acquisition	Keynote Session 13 (SADB 2/36): Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems Yakov Pachepsky: Scales and scaling in soils: Soilscope for soilscape	
14:30 – 15:50	Oral Session 1 (SADB M-1): Macro and Micronutrient Dynamics in Soil 14:30 Amal Roy, Claudia Wagner-Riddle, Bill Deen, John Lauzon, Tom Bruulsema: <i>Nitrogen application rate, timing and history effects on corn nitrogen use efficiency</i> 14:50 Christelle Jouogo Noumsi, Nina Pourhassan, Romain Darnajoux, Thomas Wichard, Vincent Burrus, Jean-Philippe Bellenger: <i>Effect of organic matter on nitrogenase metal cofactors homeostasis in the soil bacterium Azotobacter vinelandii under diazotrophic conditions</i> 15:10 Maria de la Luz Mora, Gabriela Velasquez, Cornelia Rumpel, Leo Condron, Benjamin Turner, Marcela Calabi: <i>Origin of inositol phosphates in residual fractions derived from Hedley fractionation in Chilean Andisols</i> 15:30 John Knight: <i>The unknown 1922 work of Lewis Fry Richardson on soil heat, moisture and vapor movement</i>	Oral Session 9 (SADB 2/36): Soil Science Education and Outreach Ken Van Rees: <i>Innovation and creativity: Practical application in soil science field courses</i> Paul Hazlett: <i>Envirothon: Hands-on soils education for secondary school students – a soils professional perspective</i> Lindsey Andronak: <i>Envirothon: Hands-on soils education for secondary school students – a student perspective</i>	* Oral Session 14* (ENGTR 1100): General Soil Science Francis Larney, Henry Janzen, Andrew Olson, Barry Olson: <i>25th anniversary (1990-2015) findings from the Lethbridge simulated erosion study</i> Xueming Yang, W.D. Reynolds, C.F. Drury, J.Y. Yang: <i>Seeding various types of cover crops to winter wheat stubble in southwestern Ontario</i> Keith Reid, Tiequan Zhang, Keith Fuller: <i>Tile drains as modifiers of source and transport factors for nutrient exports from agricultural fields</i> Yves-Dady Botula, Attila Nemes, Jan De Pue, Paul Mafuka, Eric Van Ranst, Wim Cornelis: <i>Prediction of hydrophysical properties of soils for sustainable land management in DR Congo</i>
16:00 – 16:30	Coffee Break (Ballroom A)		

16:30 – 17:50	Poster Sessions S1, S5, S9, S15 and S17 (Ballroom B)
19:00 – 22:00	Awards Gala Dinner (Centre Mont-Royal)
Thursday, July 9th	

Touristic Excursion to the Montreal Botanical Gardens, Insectarium and Île Ste-Hélène

08:00

Departure from New Residence Hall
Arrive back at New Residence Hall

Soil and Precision Agriculture Field Trip

08:00

Departure from New Residence Hall
Arrive back at New Residence Hall

Organic, Mineral, and Forest Soils, and Soils in Organic Production/ Sols organiques, minéraux et forestiers et sols en production biologique

08:00

Departure from New Residence Hall
Arrive back at New Residence Hall

“Back to Basics: Creating Paint from Soil”

09:00 – 16:00

Strathcona Building, Room M/66

Canadian 4R Research Network Meeting

09:00 – 16:00

Strathcona Building, Room M/48

Friday, July 10th

08:00 – 08:30	Keynote Session 5 <small>(SADB M-1): Analytical and Methodological Advances in Soil Study</small> Peter Leinweber: Advances in the characterization of soil organic matter and speciation of major nutrient elements by the application of complementary mass spectrometric and synchrotron-based x-ray spectroscopic methods	Keynote Session 9 <small>(SADB 2/36): Soil Science Education and Outreach</small> Doug Hayhoe: Soil science education with K-12 students in Canada	
---------------	---	--	--

08:30 – 09:30	Oral Session 5 (SADB M-1): Analytical and Methodological Advances in Soil Study Andre Simpson, Myrna Simpson, Hussain Masoom: <i>The structure, associations and interactions of soil organic matter in-situ using comprehensive multiphase NMR spectroscopy</i>	Oral Session 9 (SADB 2/36): Soil Science Education and Outreach Jane MacIntyre: <i>Real life soil stories: an untapped resource</i>	*Oral Session 14* (ENGTR 1080): General Soil Science Myra Martel, Lilong Chai, Roland Kröbel, Douglas MacDonald, Shabtai Bittman, Henry Janzen, Karen Beauchemin, Sean McGinn, Shannan Little: <i>Ammonia and nitrous oxide emission factors of land applied cattle manure in Alberta and Ontario</i>
08:30	Dalel Abdi, Barbara Cade-Menun, Noura Ziadi, Léon-Étienne Parent: <i>Unbiased statistical analysis of soil ³¹P-NMR forms using compositional concept</i>	Claire Vasseur, Jocelyn Gagnon: <i>“La forêt m’invite”: A wild leek conservation project for high school students</i>	Baishali Dutta, Brian Grant, Katelyn Congreves, Ward Smith, Claudia Wagner-Riddle, Andrew VanderZaag, Raymond Desjardins.: <i>Model development and testing of soil temperature in DNDC for the effects of snow, biomass and residue cover and soil texture</i>
08:50	Adam Gillespie, David Chevrier, Teak Boyko, James Dynes, Tom Regier, Derek Peak: <i>Integrated light element x-ray excitation emission spectroscopy: speciation, diffraction, quantitation in one soil analysis</i>	Jacynthe Masse: <i>Planting seeds of knowledge in soil: How to get children’s hand (scientifically) dirty</i>	Yi Cheng: <i>Soil pH is a good predictor of dominating N₂O production pathways under aerobic conditions</i>
09:10		Oral Session 8 (SADB 2/36): Microbial Provision of Essential Services across Managed and Natural Ecosystems	
09:30 – 10:30	Kambiz Khosravi, Gordon Price: <i>Determination of phthalates in soils and biosolids using accelerated solvent extraction coupled with SPE and GC-MS</i>	Laurent Fontaine, David Paré, Nelson Thiffault, André Fortin, Yves Piché: <i>Apatite and orthoclase forest fertilization: insoluble phosphorus and potassium made available by ectomycorrhizal fungi and associated bacteria</i>	Mekonnen Giweta, Miles Dyck, S.S. Malhi, Sylvie Quideau, Dick Puurveen: <i>Comparison of nitrous oxide emissions from a gray soil subject to different long-term fertilizer and manure applications at the University of Alberta Breton Plots</i>
09:30	Ankapura Gowda: <i>Propericiazine as a selective and sensitive reagent for the spectrophotometric determination of microgram amounts platinum in minerals</i>	Chen Chen, Shan Huang, Xiaochun Peng: <i>Interactions of ammonium oxidation pathways in soil environments from Southern China</i>	Amal Roy, Aaron Glen, Alan Moulin, Henry Wilson: <i>Soil nitrous oxide emissions from cropland in southern Manitoba</i>
09:50			
10:10		Francesca Scandellari, Elisabetta Tome, Massimo Tagliavini: <i>The role of arbuscular mycorrhizal fungi in carbon cycle of agroecosystems</i>	Tanja Voegel, Mesfin Fentabil, Craig Nichol, Louise Nelson: <i>Nitrifier and denitrifier abundances in vineyard soil in response to agricultural management practices</i>
10:30 – 11:00	Coffee Break (outside of respective lecture rooms)		

11:00 – 12:40	Oral Session 5 (SADB M-1): Analytical and Methodological Advances in Soil Study	Oral Session 8 (SADB 2/36): Microbial Provision of Essential Services across Managed and Natural Ecosystems	* Oral Session 14* (ENGTR 1080): General Soil Science
11:00	<u>Anna Bosch</u> , Corina Doerfer, Jin-Sheng He, Karsten Schmidt, Thomas Scholten: Approximating soil respiration and belowground biomass on the Qinghai-Tibet plateau with different empirical models	<u>Claudia Goyer</u> , Sophie Wertz, Bernie ZebARTH, David Burton, Enrico Tatti, Martin Chantigny, Martin Filion: The amplitude of soil freeze-thaw cycles influence temporal dynamics of N₂O emissions and denitrifier transcriptional activity and community structure	<u>Katharina Keiblinger</u> , Thomas Schneider, Inés Wilhartitz, Stephan Fuchs, Kathrin Riedel, Sophie Zechmeister-Boltenstern: Metaproteomics of soil and leaf litter – Potentials and challenges
11:20	<u>Rejane Pimentel</u> , Richard Heck, Gabriela Almeida: Studying natural root systems in soil of the semi-arid region of Brazil	<u>Adriana Navarro Borrell</u> , Chantal Hamel, Yantai Gan, Jim Germida: Influence of 4-year crop rotations on the structure and function of the root endosphere community and performance of wheat	<u>Caroline Halde</u> , Julia Cooper, Marcin Baranski, Majimcha Nobel de Lange, Paolo Bárberi, Andreas Fliebach, Joséphine Peigné, Christophe David, Martin Entz: Soil carbon stocks and tillage intensity in organic farming systems: a meta-analysis
11:40	<u>Catherine Hepp</u> , T.B. Bruun, A. de Neergaard: Permanganate-oxidizable carbon as a soil quality indicator in agricultural upland systems of Southeast Asia	<u>Bobbi Helgason</u> , Sarah Kuzmicz, Henry Janzen, Adam Gillespie, Sean Hemmingsen, Etienne Yergeau, Charles Greer, Jim Germida, Peter Leinweber: Historical Rotation ABC: changes in microbial community dynamics over 100 years of wheat production	<u>Newton Lupwayi</u> , Yoong Soon: Nitrogen release from decomposing legume crop residues over three subsequent crops
12:00	<u>Hakima Chelabi</u> , Lotfi Khiari, Jacque Gualichand: Impact of changes in sample preparation parameters (drying, grinding and sieving) on soil characterization of coarse-textured results in Quebec	<u>Thomas Jeanne</u> , Richard Hogue, Nicolas Sanson, Léon-Étienne Parent: Study of soil bacterial, fungal and microfauna diversity in potato agroecosystems using high throughput sequencing	<u>Athyna Cambouris</u> , Thomas Morier, Karem Chokmani: Hyperspectral vegetation indices for detecting in-season nitrogen stress in a potato crop
12:20	<u>Melanie Aubin</u> , Maxime Paré, Réjean Girard: Determination of the fixation sites of metal trace elements in lake sediments from taiga and tundra forest with a scanning electron microscope	<u>Richard Hogue</u> , Thomas Jeanne, Samuel Morissette: Effect of four previous crops on potato yield and tuber quality and their impact on soil and rhizosphere bacterial communities	<u>Jean Lafond</u> : Nitrogen and phosphorus fertilization in wild lowbush blueberry in Quebec
12:40 – 14:00	BBQ Lunch (Trottier Lobby)		
14:00 – 14:30	Closing Ceremony (ENGTR 1080)		

Full Scientific Program

ISMOM Sponsored Sessions

Monday, July 6th

07:00 – 09:30 **Complimentary Breakfast**
(Room: Salle du Parc)

07:50 – 08:10 **Opening Ceremony**
(Room: Ballroom A)

08:10 – 09:00 **Plenary:**
(Room: Ballroom A)

John Duxbury

Changing concepts of organo-mineral interactions in soils: Impacts on soil properties and sustainable development

09:10 – 10:30 **Oral Session 2: Dynamics of Pollutants in Soil**
(Room: SADB M-1) *Session Chair: Jean-Philippe Bellenger

- 09:10 Rim Benjannet, Judith Nyiraneza, Lotfi Khiari, Barry Thompson
Environmental model of P saturation for acidic soils of Prince Edward Island
- 09:30 Weixi Shu, Gordon Price, Rob Jamieson
Application of the Root Zone Water Quality Model (RZWQM) to stimulate fate and transport of emerging substances of concern in soils receiving long-term biosolids application
- 09:50 Johanne Cennerazzo, Alexis deJunet, Jean-Nicolas Audinot, Patrick Grysan, Corinne Leyval
Dynamics of PAH and derived organic compounds in a soil-plant microcosm spiked with ¹³C-phenanthrene
- 10:10 Daniel Gillis, Gordon Price, Shiv Prasher
Assessment of triclosan toxicity to the earthworm Eisenia fetida under laboratory conditions using GC-MS metabolomics

10:30 – 11:00 **Coffee Break**
(Outside SADB M-1)

11:00 – 12:40 **Oral Session 2: Dynamics of Pollutants in Soil**
(Room: SADB M-1) *Session Chair: Jean-Philippe Bellenger

- 11:00 Siobhan Staunton, Truong Phuc Hung, Yasmina El Khoulali, Roger Frutos, Hervé Quiquampoix
Conservation of insecticidal activity of CryIAc adsorbed on three contrasting soils and persistence with time
- 11:20 Yu Zhang, Gordon Price, Rob Jamieson
Sorption and desorption kinetics on mixtures of non-steroidal anti-inflammatory drugs in different textured agricultural soils

- 11:40 Alaa Zaghloul, M. Sader, S. El-Ashry, E. Hobballa
The assessment of non-point-source of contamination on the kinetics of some potentially toxic elements desorbed from contaminated soils
- 12:00 Rosaline Olobatoke, Manny Mathuthu
Heavy metal concentration in soil in the tailing dam vicinity of an old gold mine in Johannesburg, South Africa
- 12:20 Eucharia Nwaichi, Eugene Onyeike, Lasbrey Opara
Evaluation of soil microbial communities as influenced by crude oil pollution

12:40 – 14:00 Guy Mehuys Memorial Lunch
(Room: Ballroom A)

14:00 – 14:30 Keynote Session 2: Dynamics of Pollutants in Soil
(Room: SADB M-1) *Session Chair: Jean-Philippe Bellenger

Beverley Hale

The contributions of heritable variation, soil chemistry, and meteorological conditions in accumulation of Cd by *Glycine max* in Ontario

14:30 – 15:50 Oral Session 2: Dynamics of Pollutants in Soil
(Room: SADB M-1) *Session Chair: Jean-Philippe Bellenger

- 14:30 Kaya Muyumba Donato, Olivier Pourret, Amandine Liénard, Michel-Pierre Faucon, Gregory Mahy, Gilles Colinet
Experimental assessment of copper and cobalt phytoavailability in soils from metalliferous ecosystems in Katanga
- 14:50 Luba Vasiluk, Michael Dutton, Andrea Amendola, Lisa Van Loon, Beverley Hale
A correlation between nickel/metal mineralogy and its bioaccessibility in artificial (OECD) spiked soils
- 15:10 Heather McShane, Dina Schwertfeger, Timothy D. Schwinghamer, William Hendershot
Adding silver nanoparticles to soils directly or in biosolids leads to differences in Ag speciation
- 15:30 Jim Miller, Tony Curtis, David Chanasyk, Sharon Reedyk
Influence of mowing and narrow grass buffer widths on reductions in sediment, nutrients, and bacteria in surface runoff

16:00 – 16:30 Coffee Break
(Room: Ballroom A)

16:30 – 17:50 Poster Session (S2, S4, S7, S12 and S13)
(Room: Ballroom B)

19:30 – 21:30 Soil Movie Night
(Adams Building Auditorium)

Tuesday, July 7th

08:00 – 08:30 **Keynote Session 4:** Organo-Mineral Interactions in Soil
(Room: SADB 2/36) *Session Chairs: Denis Angers and Francisco Matus

Rota Wagai

Organo-mineral associations at different levels of soil aggregate hierarchy: What do we get from physical fractionation?

08:30 – 10:30 **Oral Session 4:** Organo-Mineral Interactions in Soil
(Room: SADB 2/36) *Session Chairs: Denis Angers and Francisco Matus

- 08:30 Sofia Oufqir, James Dynes, Brandy Toner, Paul Bloom
Spatial distribution of soil organic matter across density fractions of soil day nanoparticles: STXM chemical mapping
- 08:50 Qiaoyun Huang, Huayong Wu, Wenli Chen, Jeremy Fein, Peng Cai
Atomic force microscopy measurements of bacterial adhesion and biofilm formation onto clay-sized particles
- 09:10 Carmen Enid Martinez, Michael Schmidt, Aubrey Fine, Joseph Dvorak
Character of organic matter in deep soils of temperate forest ecosystems
- 09:30 Siobhan Staunton, Maguelone Nogaret, Laurie Amenc, Hervé Quiquampoix
Choice of extraction cocktail to remove contrasting proteins from reference soil minerals with a view to soil metaproteomic analysis
- 09:50 Amanda Diochon, E.G. Gregorich, B.H. Ellert, H.H. Janzen, B.B. Helgason
The role of temperature and soil texture in decomposition: findings from a physical fractionation study
- 10:10 Michael Schmidt, Carmen Martinez
Kinetic, thermodynamic and conformational insights of BSA adsorption onto montmorillonite revealed using in-situ ATR-FTIR/2D-COS

10:30 – 11:00 **Coffee Break**
(Outside SADB 2/36)

11:00 – 12:40 **Oral Session 3:** Soil Microbiology
(Room: SADB M-1) *Session Chair: Nathan Basiliko

- 11:00 Ellen Kandeler, Franziska Ditterich, Aurelia Gebala, Susanne Kramer, Sven Marhan, Christian Poll
Microbial resource partitioning in microhabitats of soils
- 11:20 Sebastian Preusser, Sven Marhan, Christian Poll, Ellen Kandeler
Influence of substrate availability and environmental conditions on microbial communities and enzyme activities in topsoil and subsoil habitats
- 11:40 Bert VandenBygaart, Bobbi Helgason, Hannah Konschuh, Angela Beard-Haughn, Adam Gillespie, Ed Gregorich
Stability of buried soil organic matter in cropland: What are the mechanisms?

12:00 Michael Carson, Nathan Basiliko
Methanogen community responses to a gradient of sulfur and metal contamination in Sudbury, ON peatlands

12:20 Kazuyuki Inubushi, Shunsuke Hanazawa, Maasa Takahashi
Effect of zeolite and bacteria on straw decomposition and greenhouse gas emission from paddy field

12:40 – 14:00 **Lunch Break**

(Rooms: Ballroom A & Salle du Parc)

14:00 – 14:30 **Keynote Session 3: Soil Microbiology**

(Room: SADB M-1) *Session Chair: Ellen Kandeler

Kornelia Smalla

Soil microorganisms – architects and actors of biogeochemical interfaces

14:30 – 15:50 **Oral Session 3: Soil Microbiology**

(Room: SADB M-1) *Session Chair: Ellen Kandeler

14:30 Nicole Sukdeo, Ewing Teen, P. Michael Rutherford, Hugues B. Massicotte, Keith N. Egger
Short-term shifts in fungal community structure accompanying soil disturbance: observations from a six-month microcosm study

14:50 Melissa Arcand, Bobbi Helgason
Carbon limitation constrains soil microbial activity and influences microbial community composition in soils under organic management

15:10 Hermine Huot, Jessica Joyner, Theodore Muth, Richard Shaw, Roxanne Walker, Mike Wilson, Zonghqi Cheng
Bacterial diversity and profile characteristics of urban soils in New York City

15:30 Navid Bazghaleh, Chantal Hamel, Yantai Gan, Diane Knight, Bunyamin Tar'an
Genotype-specific variations shape the structure of root fungal communities and determine the response of chickpea to symbiotic fungi

16:00 – 16:30 **Coffee Break**

(Room: Ballroom A)

16:30 – 17:50 **Poster Session (S3, S6, S8, S11 and S14)**

(Room: Ballroom B)

19:30 **CSSS Trivia Night @ McKibbin's Pub**

Wednesday, July 8th

08:30 – 10:30 **Oral Session 1:** Macro and Micronutrient Dynamics in Soil (Room: SADB M-1) *Session Chair: Jean-Philippe Bellenger

- 08:30 Emmanuel Frossard, N. Buchmann, E.K. Büinemann, D. Kiba, F. Lombo, A. Oberson, F. Tamburini, O.Y.A Traoré
Soil properties and not inputs control the carbon, nitrogen, phosphorus relationships in cropped soils
- 08:50 Jeff Schoenau, Tom King, Gourango Kar, Hasan Ahmed, Derek Peak
Following the fate of different sulfur fertilizers in prairie soils
- 09:10 Kumudu Jayarathne, Darshani Kumaragamage, Don Flaten, Srimathie Indraratne, Doug Goltz
A field microcosm study to investigate phosphorus release from Manitoba soils under prolonged flooding
- 09:30 Carlos Monreal, Marcela González
Soil phosphatase and phytase activities in canola and wheat rhizospheres during the growing season
- 09:50 Gabriel Maltais-Landry, Eric Brennan, Emmanuel Frossard, Kate Scow, Peter Vitousek
The effects of cover crops on phosphorus cycling in agricultural soils of California
- 10:10 Haixiao Li, Noura Ziadi, Léon-Étienne Parent, Christian Morel, Alain Mollier
Tillage practice and phosphorus fertilization effects on the distribution and morphology of corn root

10:30 – 11:00 **Coffee Break**

(Outside SADB M-1)

11:00 – 12:40 **Oral Session 1:** Macro and Micronutrient Dynamics in Soil (Room: SADB M-1) *Session Chair: Jean-Philippe Bellenger

- 11:00 Blake Weiseth, Jeff Schoenau, Derek Peak
Impact of phosphorus fertilizer placement on crop, soil, and run-off water in a brown chernozem in south-central Saskatchewan
- 11:20 Andrea Jilling, A. Stuart Grandy
Organic matter distribution across particulate and mineral-associated fractions varies directly and interactively with cover cropping and tillage management
- 11:40 Martin Chantigny, Denis Angers, Philippe Rochette, Claudia Goyer
Nitrification occurs in frozen agricultural soils – consequences on fate and management of fall-applied and soil residual N under cold climate
- 12:00 Mathieu Vaillancourt, Anne Vanasse, Martin Chantigny, Denis Pageau, Denis Angers
Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake

12:40 – 14:00 **Lunch Break**
(Rooms: Ballroom A & Salle du Parc)

14:00 – 14:30 **Keynote Session 1:** Macro and Micronutrient Dynamics in Soil
(Room: SADB M-1) *Session Chair: Emmanuel Frossard

Stephan Kraemer
Thermodynamics and kinetics of plant iron acquisition

14:30 – 15:50 **Oral Session 1:** Macro and Micronutrient Dynamics in Soil
(Room: SADB M-1) *Session Chair: Emmanuel Frossard

- 14:30 Amal Roy, Claudia Wagner-Riddle, Bill Deen, John Lauzon, Tom Bruulsema
Nitrogen application rate, timing and history effects on corn nitrogen use efficiency
- 14:50 Christelle Jouogo Noumsi, Nina Pourhassan, Romain Darnajoux, Thomas Wichard, Vincent Burrus, Jean-Philippe Bellenger
Effect of organic matter on nitrogenase metal cofactors homeostasis in the soil bacterium Azotobacter vinelandii under diazotrophic conditions
- 15:10 Maria de la Luz Mora, Gabriela Velasquez, Cornelia Rumpel, Leo Condron, Benjamin Turner, Marcela Calabi
Origin of inositol phosphates in residual fractions derived from Hedley fractionation in Chilean Andisols
- 15:30 John Knight
The unknown 1922 work of Lewis Fry Richardson on soil heat, moisture and vapor movement

16:00 – 16:30 **Coffee Break**
(Room: Ballroom A)

16:30 – 17:50 **Poster Session (S1, S5, S9, S15 and S17)**
(Room: Ballroom B)

19:00 – 22:00 **Awards Gala Dinner**
(Centre Mont-Royal, Salon Mont-Royal)

Friday, July 10th

08:00 – 08:30 **Keynote Session 5:** Analytical and Methodological Advances in Soil Study

(Room: SADB M-1) *Session Chair: Myrna Simpson

Peter Leinweber

Advances in the characterization of soil organic matter and speciation of major nutrient elements by the application of complementary mass spectrometric and synchrotron-based x-ray spectroscopic methods

08:30 – 10:30 **Oral Session 5:** Analytical and Methodological Advances in Soil Study

(Room: SADB M-1) *Session Chair: Myrna Simpson

08:30 Andre Simpson, Myrna Simpson, Hussain Masoom

The structure, associations and interactions of soil organic matter in-situ using comprehensive multiphase NMR spectroscopy

08:50 Dalel Abdi, Barbara Cade-Menun, Noura Ziadi, Léon-Étienne Parent

Unbiased statistical analysis of soil ³¹P-NMR forms using compositional concept

09:10 Adam Gillespie, David Chevrier, Teak Boyko, James Dynes, Tom Regier, Derek Peak

Integrated light element x-ray excitation emission spectroscopy: speciation, diffraction, quantitation in one soil analysis

09:30 Kambiz Khosravi, Gordon Price

Determination of phthalates in soils and biosolids using accelerated solvent extraction coupled with SPE and GC-MS

09:50 Ankapura Gowda

Propericiazine as a selective and sensitive reagent for the spectrophotometric determination of microgram amounts platinum in minerals

10:30 – 11:00 **Coffee Break**

(Outside SADB M-1)

11:00 – 12:40 **Oral Session 5:** Analytical and Methodological Advances in Soil Study

(Room: SADB M-1) *Session Chair: Alain Plante

11:00 Anna Bosch, Corina Doerfer, Jin-Sheng He, Karsten Schmidt, Thomas Scholten

Approximating soil respiration and belowground biomass on the Qinghai-Tibet plateau with different empirical models

11:20 Rejane Pimentel, Richard Heck, Gabriela Almeida

Studying natural root systems in soil of the semi-arid region of Brazil

11:40 Catherine Hepp, T.B. Bruun, A. de Neergaard

Permanganate-oxidizable carbon as a soil quality indicator in agricultural upland systems of Southeast Asia

12:00 Hakima Chelabi, Lotfi Khiari, Jacque Guallichand
Impact of changes in sample preparation parameters (drying, grinding and sieving) on soil characterization of coarse-textured results in Quebec

12:20 Melanie Aubin, Maxime Paré, Réjean Girard
Determination of the fixation sites of metal trace elements in lake sediments from taïga and tundra forest with a scanning electron microscope

12:40 – 14:00 BBQ Lunch

(Room: Trottier Lobby)

14:00 – 14:30 Closing Ceremony

(Room: ENGTR 1080)

CSSS Sponsored Sessions

Monday, July 6th

07:00 – 09:30 **Complimentary Breakfast**

(Room: Salle du Parc)

07:50 – 08:10 **Opening Ceremony**

(Room: Ballroom A)

08:10 – 09:00 **Plenary:**

(Room: Ballroom A)

John Duxbury

Changing concepts of organo-mineral interactions in soils: Impacts on soil properties and sustainable development

09:10 – 10:30 **Oral Session 7: Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments**

(SADB 2/36) *Session Chairs: Noura Ziadi and Barbara Cade-Menun

- 09:10 Tandra Fraser, L.M. Condron, P.M. Haygarth
On new opportunities and techniques for advancing the study of soil phosphorus

- 09:30 Kim Schneider, Paul Voroney, Derek Lynch, Astrid Oberson, Emmanuel Frossard, Else Bünemann
Gross P mineralization and microbial P uptake in forage field soils along a soil test P gradient

- 09:50 Sirajum Munira, Annemieke Farenhorst, Don Flaten, Cynthia Grant
Influence of soil pH and inorganic phosphate levels on glyphosate sorption

- 10:10 Xiaoqian Jiang, Roland Bol, Volker Nischwitz, Nina Siebers, Sabine Willbold, Harry Vereecken, Wulf Amelung, Erwin Klumpp
Phosphorus containing water dispersible nanoparticles in arable soil

10:30 – 11:00 **Coffee Break**

(Outside SADB 2/36)

11:00 – 12:40 **Oral Session 7: Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments**

(Room: SADB 2/36) *Session Chairs: Noura Ziadi and Barbara Cade-Menun

- 11:00 Philip Haygarth, Ying Wang, Ben Surridge
Fate and transport of labile DNA- and phospholipid-phosphorus through a grassland catchment transfer continuum

- 11:20 Anna Missong, Roland Bol, Volker Nischwitz, Sabine Willbold, Jan Siemens, Erwin Klumpp
Phosphorus of colloidal forest soil fractions as revealed by field flow fractionation and liquid-state ³¹P-NMR

- 11:40 Courtney Giles, Lydia Lee, Elizabeth Rutila, Peter Isles, Yaoyang Xu, Andrew Schroth, Barbara Cade-Menun, Jane Hill, Gregory Druschel
Temporal characterization of phosphorus forms, bioavailability, and mobility in Lake Champlain sediments
- 12:00 Nina Gottselig, Thomas Meyn, Volker Nischwitz, Cynthia Halle, Harry Vereecken, Wulf Amelung, Roland Bol, Jan Siemens, Erwin Klumpp
Phosphorus nanoparticles and colloids of forest stream waters – fractionation and potential role in ecosystems
- 12:20 Barbara Cade-Menun, Paul Sanborn, Farid Rahemtulla, Myrna Simpson, Corey Liu
A comparison of phosphorus forms and concentrations in midden samples and forest soils from Calvert Island, BC arable soil

12:40 – 14:00 Guy Mehuys Memorial Lunch
(Room: Ballroom A)

14:00 – 14:30 Keynote Session 7: Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments
(Room: SADB 2/36) *Session Chairs: Noura Ziadi and Barbara Cade-Menun

Luisella Celi
Role of iron oxides in controlling organic P cycling in soil

14:30 – 15:50 Oral Session 6: Agricultural Greenhouse Gas Emissions
(Room: SADB M-1) *Session Chair: Joann Whalen

- 14:30 Claudia Wagner-Riddle, Kari Dunfield, Craig Drury, Robert Gordon, John Lauzon, Bill Van Heyst, Andrew VanderZaag
Farm-scale assessment of greenhouse gas mitigation strategies in dairy livestock-cropping-systems
- 14:50 Muhammed Sulaimain, Claudia Wagner-Riddle, Shannon Brown
Net ecosystem exchange of dairy cropping systems
- 15:10 Karen Thompson, Elizabeth Bent, Shannon Brown, Diego Abalos, Claudia Wagner-Riddle, Kari Dunfield
Effects of dairy manure management in annual and perennial cropping systems on N-cycling microbial community structure and associated in-situ N₂O fluxes
- 15:30 Chukwudi Amadi, Richard Farrell, Beyhan Amichev, Ken Van Rees
Farm-scale estimation of C sequestration and greenhouse gas mitigation by white spruce shelterbelts: HOLOS, ³PG and CBM-CFS₃ simulations

16:00 – 16:30 Coffee Break
(Room: Ballroom A)

16:30 – 17:50 Poster Session (S2, S4, S7, S12 and S13)
(Room: Ballroom B)

19:30 – 21:30 Soil Movie Night (Adams Building Auditorium)

Tuesday, July 7th

08:00 – 08:30 **Keynote Session 6:** Agricultural Greenhouse Gas Emissions
(Room: SADB M-1) *Session Chair: Brian Amiro

Philippe Rochette
Nitrogen fertilization and soil N₂O emissions

08:30 – 10:30 **Oral Session 6:** Agricultural Greenhouse Gas Emissions
(Room: SADB M-1) *Session Chair: Brian Amiro

- 08:30 Megan Westphal, Mario Tenuta, Martin Entz
Contribution of soil N₂O emissions from fall alfalfa plow-down in organic cropping systems
- 08:50 Mayowa Adelekun, Wole Akinremi, Mario Tenuta
Nitrous oxide gas flux, emission factor and emission intensity following termination of perennial grass
- 09:10 Mark Baah-Acheamfour, Scott Chang, Edward Bork, Cameron Carlyle
Silvopastures and trees increase the size and stability of carbon pools in agroforestry systems of western Canada
- 09:30 Gurbir Singh Dhillon, Derek Peak, Ken Van Rees
Storage and stability of soil organic carbon under shelterbelt agroforestry systems
- 09:50 Craig Nichol, Mesfin Fentabil, Gerry Neilsen, Kirsten Hannam, Denise Neilsen, Tom Forge, Melanie Jones
Effect of microirrigation type, N-source and mulching on nitrous oxide emissions in semi-arid climate: An assessment across two years in merlot grape vineyard
- 10:10 Craig Drury, Xueming Yang, W. Dan Reynolds, Wayne Calder
Managing fertilizer nitrogen application methods and N sources to improve crop performance and reduce ammonia volatilization and nitrous oxide emissions

10:30 – 11:00 **Coffee Break**
(Outside SADB M-1)

11:00 – 12:40 **Oral Session 11:** Wetland Soils in a Changing Climate
(Room: SADB 2/36) *Session Chair: Angela Bedard-Haughn

- 11:00 Valérie Viaud, Emmanuel Tete, Pauline Buysse, Christophe Flechard
Impacts of soil drainage conditions on soil heterotrophic respiration along a temperate agricultural hillslope transect
- 11:20 Robin Brown, Angela Bedard-Haughn
Agricultural surface drainage and changes in soil properties in eastern Saskatchewan

- 11:40 Xiaoyue Wang, Cherie Westbrooke, Bobbi Helgason, Angela Bedard-Haughn
Assessing pedogenic controls on carbon mineralization, organic matter composition and microbial community dynamics in a mountain peatland
- 12:00 Elizabeth Cowan
Differences in CH₄ production, storage and transport among plant community types during a wet summer at Mer Bleue bog, Ottawa
- 12:20 Andrew Pinsonneault, Tim Moore, Nigel Roulet
Patterns of microbial enzyme activity across three temperate Canadian peatlands

12:40 – 14:00 **Lunch Break**
(Rooms: Ballroom A & Salle du Parc)

14:00 – 14:30 **Keynote Session 11:** Wetland Soils in a Changing Climate
(Room: SADB 2/36) *Session Chair: Viacheslav Adamchuk

Elyn Humphreys
Ecosystem-scale methane fluxes in Canadian wetlands

14:30 – 15:50 **Oral Session 12:** Proximal Soil Sensing
(Room: SADB 2/36) *Session Chair: Viacheslav Adamchuk

- 14:30 Shane Furze
Enhancing digital elevation models for improved soils mapping
- 14:40 Asim Biswas, Wenjun Ji, Yakun Zhang, Viacheslav Adamchuk
Three-dimensional soil mapping using proximal soil sensors
- 15:00 Brandon Heung, Derrick Ho, Jin Zhang, Anders Knudby, Chuck Bulmer, Margaret Schmidt
A comparison of machine learning techniques in digital soil mapping for the Lower Fraser Valley, British Columbia
- 15:20 Jin Zhang, Brandon Heung, Derrick Ho, Anders Knudby, Chuck Bulmer, Margaret Schmidt
Does increasing complexity of tree-based classifiers improve prediction results in digital soil mapping?

16:00 – 16:30 **Coffee Break**
(Room: Ballroom A)

16:30 – 17:50 **Poster Session (S3, S6, S8, S11 and S14)**
(Room: Ballroom B)

18:00 **CSSS – General Assembly of Members**
(Room: Ballroom A)

19:30 **CSSS Trivia Night @ McKibbin's Pub**

Wednesday, July 8th

08:00 – 08:30 **Keynote Session 12:** Proximal Soil Sensing
(Room: SADB 2/36) *Session Chair: Asim Biswas

Raphael Viscarra Rossel
Proximal multi sensor system for measuring soil condition

08:30 – 09:50 **Oral Session 12:** Proximal Soil Sensing
(Room: SADB 2/36) *Session Chair: Asim Biswas

- 08:30 Fabio Rodrigo Leiva-Baron, Ricardo Alfaro Rodríguez
Proximal sensors for site-specific fertilization: A case study in maize crops in Colombia
- 08:50 Awa Mbodi, Diane Bulot, Jonathan Lafond, Christian Dupuis, Silvio Gumiere
Diagnosis of a drainage system based on GPR imagery in cranberry production
- 09:10 Viacheslav Adamchuk, Nadiia Adamchuk-Chala, Jasmeen Kaur, Joann Whalen, Asim Biswas
Defining the spatial heterogeneity of soil biological activity
- 09:30 Alan Moulin, Henry Wilson, Xiaoyuan Geng
Statistical variability of soil test NO₃-N and the management zone concept

09:50 – 10:30 **Oral Session 13:** Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems
(Room: SADB 2/36) *Session Chair: Asim Biswas

- 09:50 David Burton, Kyra Stiles, Bernie ZebARTH, Ryan Barrett
Spatial and temporal variation in soil nitrogen supply in potato cropping systems in Prince Edward Island
- 10:10 Nsalambi Nkongolo, Jean-Jacques Mbuyi Kakuni, Michel Lokonda, Floribert Budjo, Jean-Remy Makana, Corneille Ewango
Spatial variability of soil physical and thermal properties in Ituri Forest, Democratic Republic of Congo

10:30 – 11:00 **Coffee Break**
(Outside SADB 2/36)

11:00 – 12:40 **Oral Session 13:** Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems
(Room: SADB 2/36) *Session Chair: Asim Biswas

- 11:00 Bernie ZebARTH, Claudia Goyer, Sheng Li, Sean Whitney, Sara Neupane
Spatial variation in soil bacterial communities in a commercial potato field

- 11:20 Marie-France Jones
Mapping temporal and spatial soil hydrothermal and mechanical properties by way of the soil trafficability prediction model (STRAP)

- 11:40 Ebrahim Mahmoudabadi, Asim Biswas, Alireza Karimi Karouyeh
The impacts of changing rangeland into forest park on availability of heavy metals

- 12:00 Edison Aparecido Mome Filho, Richard Heck, Daniel Giménez, Miguel Cooper
Scale-variability of surface microtopography on a highly-stable soil under simulated rainfall

- 12:20 Gordon Price, A. Georgallas. D. Burton, W. Shu
Scaling mineral nitrogen dynamics by soil aggregate size

12:40 – 14:00 Lunch Break

(Room: Ballroom A & Salle du Parc)

14:00 – 14:30 Keynote Session 13: Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems

(Room: SADB 2/36) *Session Chair: Asim Biswas

Yakov Pachepsky

Scales and scaling in soils: Soilscape for soilscape

14:30 – 15:50 Oral Session 9: Soil Science Education and Outreach

(Room: SADB 2/36) *Session Chairs: Tom Yates, Amanda Diochon and Maja Krzic

- 14:30 Ken Van Rees
Innovation and creativity: Practical application in soil science field courses

- 14:50 Paul Hazlett
Envirothon: Hands-on soils education for secondary schools students – a soils professional perspective

- 15:10 Lindsay Andronak
Envirothon: Hands-on soils education for secondary school students – a student perspective

- 15:30 David Kroetsch, Richard Heck, Harold Lee
Soil science education for non-soil science professionals

16:00 – 16:30 Coffee Break

(Room: Ballroom A)

16:30 – 17:50 Poster Session (S1, S5, S9, S15 and S17)

(Room: Ballroom B)

19:00 – 22:00 Awards Gala Dinner

(Centre Mont-Royal, Salon Mont-Royal)

Friday, July 10th

08:00 – 08:30 **Keynote Session 9:** Soil Science Education and Outreach
(Room: SADB 2/36) *Session Chairs: Maja Krzic, Amanda Diochon and Tom Yates

Doug Hayhoe

Soil science education with K-12 students in Canada

08:30 – 09:30 **Oral Session 9:** Soil Science Education and Outreach
(Room: SADB 2/36) *Session Chairs: Maja Krzic, Amanda Diochon and Tom Yates

- 08:30 Jane MacIntyre
Real life soil stories: an untapped resource
- 08:50 Claire Vasseur, Jocelyn Gagnon
"La forêt m'invite": A wild leek conservation project for high school students
- 09:10 Jacynthe Masse
Planting seeds of knowledge in soil: How to get children's hand (scientifically) dirty

09:30 – 10:30 **Oral Session 8:** Microbial Provision of Essential Services across Managed and Natural Ecosystems

(Room: SADB 2/36) *Session Chairs: Bobbi Helgason and Jacynthe Masse

- 09:30 Laurent Fontaine, David Paré, Nelson Thiffault, André Fortin, Yves Piché
Apatite and orthoclase forest fertilization: insoluble phosphorus and potassium made available by ectomycorrhizal fungi and associated bacteria
- 09:50 Chen Chen, Shan Huang, Xiaochun Peng
Interactions of ammonium oxidation pathways in soil environments from Southern China
- 10:10 Francesca Scandellari, Elisabetta Tome, Massimo Tagliavini
The role of arbuscular mycorrhizal fungi in carbon cycle of agroecosystems

10:30 – 11:00 **Coffee Break**

(Outside SADB 2/36)

11:00 – 12:40 **Oral Session 8:** Microbial Provision of Essential Services across Managed and Natural Ecosystems

(Room: SADB 2/36) *Session Chairs: Bobbi Helgason and Jacynthe Masse

- 11:00 Claudia Goyer, Sophie Wertz, Bernie ZebARTH, David Burton, Enrico Tatti, Martin Chantigny, Martin Filion
The amplitude of soil freeze-thaw cycles influence temporal dynamics of N₂O emissions and denitrifier transcriptional activity and community structure

- 11:20 Adriana Navarro Borrell, Chantal Hamel, Yantai Gan, Jim Germida
Influence of 4-year crop rotations on the structure and function of the root endosphere community and performance of wheat
- 11:40 Bobbi Helgason, Sarah Kuzmicz, Henry Janzen, Adam Gillespie, Sean Hemmingsen, Etienne Yergeau, Charles Greer, Jim Germida, Peter Leinweber
Historical rotation ABC: changes in microbial community dynamics over 100 years of wheat production
- 12:00 Thomas Jeanne, Richard Hogue, Nicolas Sanson, Léon- Étienne Parent
Study of soil bacterial, fungal and microfauna diversity in potato agroecosystems using high throughput sequencing
- 12:20 Richard Hogue, Thomas Jeanne, Samuel Morissette
Effect of four previous crops on potato yield and tuber quality and their impact on soil and rhizosphere bacterial communities

12:40 – 14:00 BBQ Lunch

(Room: Trottier Lobby)

14:00 – 14:30 Closing Ceremony

(Room: ENGTR 1080)

AQSSS Sponsored Sessions

Monday, July 6th

07:00 – 09:30 **Complimentary Breakfast**

(Room: Salle du Parc)

07:50 – 08:10 **Opening Ceremony**

(Room: Ballroom A)

08:10 – 09:00 **Plenary:**

(Room: Ballroom A)

John Duxbury

Changing concepts of organo-mineral interactions in soils: Impacts on soil properties and sustainable development

09:10 – 10:30 **Oral Session 16: Management Zones in Precision Agriculture / Zones d'Aménagement en Agriculture de Précision**

(Room: ENGTR 1100) *Session Chair: Athyna Cambouris

09:10 Doug Aspinall, Stewart Sweeney

High-resolution elevation data (h-red) clouds generated on-farm facilitate detailed soil mapping and precision management of Ontario farm fields

09:30 Nicolas Tremblay, Carl Bélec, Philippe Vigneault, Lucie Grenon, Edith Fallon, Yacine Bouroubi

Response of corn to N rates as a function of soil properties in a precision farming context

09:50 Doug Aspinall, Stewart Sweeney

Multi-temporal, multi-parameter geospatial data sets facilitate detailed soil mapping of Ontario farm fields

10:10 Doug Aspinall, Stewart Sweeney

Sustainable cropping system management zones: a central role for intrinsic soil properties, landscape feature delineation

10:30 – 11:00 **Coffee Break**

(Outside ENGTR 1100)

11:00 – 12:40 **Oral Session 16:** Management Zones in Precision Agriculture / Zones d'Aménagement en Agriculture de Précision

(Room: ENGTR 1100) *Session Chair: Athyna Cambouris

- 11:00 Xueming Yang, Craig Drury, Jingyi Yang, Dan Reynolds, Mary-Anne Reeb
The spring nitrate-N soil test can improve the general N recommendation for corn production on a clay loam in Southwestern Ontario
- 11:20 Tom Bruulsema, Kevin King, Merrin Macrae
Managing soil interfaces with 4R crop nutrition
- 11:40 Jean Caron, Guillaume Létourneau, Lélia Anderson, Valérie Bernier-English, Carole Boily, Julien Cormier, Nicolas Watters, Oleg Daugovesh, Laurence Gendron
Irrigation strategies for strawberry in California and Quebec: yield, water savings and return on investment
- 12:00 Vincent Pelletier, Jacques Gallichand, Jean Caron, Steeve Pepin
Controlling water table depth for a sustainable cranberry production
- 12:20 Katelyn Congreves, Dave Hooker, Laura Van Eerd
Long-term nitrogen fertilizer application influences soil carbon and nitrogen dynamics

12:40 – 14:00 **Guy Mehuys Memorial Lunch**

(Rooms: Ballroom A & Salle du Parc)

16:30 – 17:50 **Poster Session (S2, S4, S7, S12 and S13)**

(Room: Ballroom B)

18:00 **AQSSS – General Assembly of Members**

(Room: Ballroom A)

19:30 – 21:30 **Soil Movie Night**

(Adams Building Auditorium)

Tuesday, July 7th

08:30 – 10:30 **Oral Session 17:** Soils of Natural, Managed and Intensive Forest Systems / Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs

(Room: ENGTR 1100) *Session Chair: Ken Van Rees

- 08:30 Paul Hazlett, Nathan Basiliko, Emma Horrigan, Honghi Tran, Trevor Jones
Nutrient and trace metal leaching in boreal and temperate forest soils following wood ash applications
- 08:50 Lili Perreault, Suzanne Brais, Nicolas Bélanger
Restoring a disturbed clayey forest soil using dehydrated sewage sludge
- 09:10 Adam Gorgolewski, Nathan Basiliko, John Caspersen, Trevor Jones, Paul Hazlett, Honghi Tran
Wood ash as a forest soil amendment: Seedling growth responses, and responses of red-backed salamander populations
- 09:30 Manuella Strukelj, Suzanne Brais, David Paré
Leaf litter and deadwood decomposition in boreal stands as a function of species, litter type and harvesting prescription: A 12-13 year litterbug experiment
- 09:50 Julien Fortier, Benoit Truax, Daniel Gagnon, France Lambert
Environment and genotype control on foliar, fine root and litter traits in mature hybrid poplar plantations
- 10:10 Suzanne Brais, Sara Foudyl-Bey, Pascal Drouin
Forest floor heterogeneity modulates fungal activity and C mineralization in boreal forests

10:30 – 11:00 **Coffee Break**

(Outside ENGTR 1100)

11:00 – 12:40 **Oral Session 17:** Soils of Natural, Managed and Intensive Forest Systems / Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs

(Room: ENGTR 1100) *Session Chair: Nicolas Bélanger

- 11:00 Alexandre Collin, Christian Messier, Nicolas Bélanger
Changes in soil conditions and foliar nutrition of sugar maple seedlings with increasing presence of conifers in a mixedwood of Southern Quebec
- 11:20 Vincent Poirier, Marie Coyea, Denis Angers, Alison Munson
Overstory and understory functional types drive mineral soil pH, C and N cycles, in mixedwood temperate plantation
- 11:40 Dan Pennock, Kendra Purton, Kent Watson
Does bioturbation control the chernozemic-luvisolic boundary in central Saskatchewan?

- 12:00 William Barnes, Sylvie Quideau, Matthew Swallow
Sandy soils of the Athabasca oil sands region: What's driving productivity?
- 12:20 Kevin Keys, David Burton
Using historic soil survey data for spruce plantation sustainability assessments – a Nova Scotia case study

12:40 – 14:00 **Lunch Break**

(Rooms: Ballroom A & Salle du Parc)

14:00 – 14:30 **Keynote Session 17:** Soils of Natural, Managed and Intensive Forest Systems / Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs

(Room: ENGTR 1100) *Session Chair: Suzanne Brais

Sylvie Quideau

Restoring organic matter processes in reconstructed soils

14:30 – 15:50 **Oral Session 17:** Soils of Natural, Managed and Intensive Forest Systems / Les Sols de Systems Forestiers Naturels, Aménagés et Intensifs

(Room: ENGTR 1100) *Session Chair: Dan Pennock

- 14:30 Martine Fugère, Robert Bradley, Mark Vellend

Recreational fishing may increase greenhouse gas emissions: The earthworm connection

- 14:50 Anya Reid, Bill Chapman, Marty Kranabetter, Cindy Prescott

Tree response to organic-matter removal depends on soil properties at six long-term soil productivity (LTSP) sites in British Columbia, Canada

- 15:10 Emily Smenderovac, Nathan Basiliko, Kara Webster, John Caspersen, Dave Morris, Paul Hazlett, Rob Fleming

Microbial communities and functioning in boreal forest soil under intensified biomass harvests

- 15:30 Jason Shabaga, Nathan Basiliko, Trevor Jones

Using principal component analysis to link post-harvest soil nutrient decline to latent biogeochemical processes in an Ontario hardwood forest

16:00 – 16:30 **Coffee Break**

(Room: Ballroom A)

16:30 – 17:50 **Poster Session (S3, S6, S8, S11 and S14)**

(Room: Ballroom B)

19:30 **CSSS Trivia Night @ McKibbin's Pub**

Wednesday, July 8th

08:00 – 08:30 **Keynote Session 15:** Biochar in Agriculture and Environment / Le Biochar en Agriculture et en Environnement

(Room: ENGTR 1100) *Session Chair: Suzanne Allaire

Kurt Spokas

Historic barriers to biochar utilization: Is there a way to avoid these same hurdles?

08:30 – 10:30 **Oral Session 15:** Biochar in Agriculture and Environment / Le Biochar en Agriculture et en Environnement

(Room: ENGTR 1100) *Session Chair: Suzanne Allaire

08:30 Patrick Brassard, Stéphanie Godbout, Vijaya Raghavan, Joahnn Palacios, Jean-Pierre Larouche, Dan Zegan

Biochar production: A tool to mitigate climate change

08:50 Perry Mitchell, André Simpson, Ronald Soong, Myrna Simpson
Biochar amendment alters the molecular-level composition of soil organic matter in a temperate forest soil

09:10 Christophe Naisse, Thi Phong Ngo, Bernard Davasse, Abad Chabbi, Cornelia Rumpel
Charcoal amendment changes soil carbon dynamics through its impact on (micro-) biological functioning after several centuries

09:30 Erin Karppinen, Katherine Stewart, Steven Siciliano
Does a meat and bonemeal biochar enhance petroleum hydrocarbon degradation in frozen soil?

09:50 Kayla Stewart, Joinal Abedin, Peter Beckett, Graeme Spiers, Keith Chaulk
Use of biochar as a soil amendment for fertility improvement in the sandy soils of Labrador

10:10 Vicky Levesque, Philippe Rochette, Noura Ziadi, Martin Chantigny, Martine Dorais, Hani Antoun
Soil CO₂ and N₂O emissions: Is the mitigation efficiency of biochars impacted by periodic applications of mineral nitrogen fertilizer?

10:30 – 11:00 **Coffee Break**

(Outside ENGTR 1100)

11:00 – 12:20 **Oral Session 15:** Biochar in Agriculture and Environment / Le Biochar en Agriculture et en Environnement

(Room: ENGTR 1100) *Session Chair: Suzanne Allaire

11:00 Benjamin Pace, Sarasadat Taherymoosavi, Paul Munroe, Stephen Joseph

Mineral based nutrient dynamics of dual feedstock biochars under increasing pyrolysis temperatures

- 11:20 Frédéric Rees
Mechanisms of soil pH regulation by biochar amendments and consequences for biochar long-term effects
- 11:40 Sébastien Lange, Suzanne Allaire
Biochar as a component of potting soils: case studies
- 12:00 Duminda Vidana Gamage, Ranjith Mapa, Saman Dharmakeerthi, Asim Biswas
Impact of rice husk biochar on selected soil properties of two Alfisols of Sri Lanka
- 12:20 Kangyi Lou, Anushka Upamali Rajapaksha, Yong Sik Ok, Scott Chang
Efficacy of biochar on remediation of metal contamination in oil sands process-affected water

12:40 – 14:00 Lunch Break

(Room: Ballroom A)

16:30 – 17:50 Poster Session (S1, S5, S9, S15 and S17)

(Room: Ballroom B)

19:00 – 22:00 Awards Gala Dinner

(Centre Mont-Royal, Salon Mont-Royal)

Friday, July 10th

14:00 – 14:30 Closing Ceremony

(Room: ENGTR 1080)

General Session

Wednesday, July 8th

14:30 – 15:50 Oral Session 14: General Soil Science

(Room: ENGTR 1100) *Session Chair: Barbara Cade-Menun

- 14:30 Francis Larney, Henry Janzen, Andrew Olson, Barry Olson
25th anniversary (1990-2015) findings from the Lethbridge simulated erosion study
- 14:50 Xueming Yang, W.D. Reynolds, C.F. Drury, J.Y. Yang
Seeding various types of cover crops to winter wheat stubble in southwestern Ontario
- 15:10 Keith Reid, Tiequan Zhang, Keith Fuller
Tile drains as modifiers of source and transport factors for nutrient exports from agricultural fields
- 15:30 Yves-Dady Botula, Attila Nemes, Jan De Pue, Paul Mafuka, Eric Van Ranst, Wim Cornelis
Prediction of hydrophysical properties of soils for sustainable land management in DR Congo

Friday, July 10th

08:30 – 10:30 Oral Session 14: General Soil Science

(Room: ENGTR 1080) *Session Chair: Noura Ziadi

- 08:30 Myra Martel, Lilong Chai, Roland Kröbel, Douglas MacDonald, Shabtai Bittman, Henry Janzen, Karen Beauchemin, Sean McGinn, Shannan Little
Ammonia and nitrous oxide emission factors of land applied cattle manure in Alberta and Ontario
- 08:50 Baishali Dutta, Brian Grant, Katelyn Congreves, Ward Smith, Claudia Wagner-Riddle, Andrew VanderZaag, Raymond Desjardins,
Model development and testing of soil temperature in DNDC for the effects of snow, biomass and residue cover and soil texture
- 09:10 Yi Cheng
Soil pH is a good predictor of dominating N₂O production pathways under aerobic conditions
- 09:30 Mekonnen Giweta, Miles Dyck, S.S. Malhi, Sylvie Quideau, Dick Puurveen
Comparison of nitrous oxide emissions from a gray soil subject to different long-term fertilizer and manure applications at the University of Alberta Breton Plots
- 09:50 Amal Roy, Aaron Glen, Alan Moulin, Henry Wilson
Soil nitrous oxide emissions from cropland in southern Manitoba

- 10:10 Tanja Voegel, Mesfin Fentabil, Craig Nichol, Louise Nelson
Nitrifier and denitrifier abundances in vineyard soil in response to agricultural management practices

10:30 – 11:00 **Coffee Break**
(Outside ENGTR 1080)

11:00 – 12:40 **Oral Session 14:** General Soil Science
(Room: ENGTR 1080) *Session Chair: Noura Ziadi

- 11:00 Katharina Keiblanger, Thomas Schneider, Inés Wilhartitz, Stephan Fuchs, Kathrin Riedel, Sophie Zechmeister-Boltenstern
Metaproteomics of soil and leaf litter – potentials and challenges
- 11:20 Caroline Halde, Julia Cooper, Marcin Baranski, Majimcha Nobel de Lange, Paolo Bärberi, Andreas Fliebach, Joséphine Peigné, Christophe David, Martin Entz
Soil carbon stocks and tillage intensity in organic farming systems: a meta-analysis
- 11:40 Newton Lupwayi, Yoong Soon
Nitrogen release from decomposing legume crop residues over three subsequent crops
- 12:00 Athyna Cambouris, Thomas Morier, Karem Chokmani
Hyperspectral vegetation indices for detecting in-season nitrogen stress in a potato crop
- 12:20 Jean Lafond
Nitrogen and phosphorus fertilization in wild lowbush blueberry in Quebec

12:40 – 14:00 **BBQ Lunch**
(Room: Trottier Lobby)

14:00 – 14:30 **Closing Ceremony**
(Room: ENGTR 1080)

Poster Presentations

Presentations are displayed by session and by alphabetical order

Session 1: Macro and Micronutrient Dynamics in Soil

01	Audette, Yuki	Forms of phosphorus in animal manure composts
02	Audette, Yuki	Kinetics of phosphorus forms applied as inorganic and organic amendments during plant growth in a calcareous soil
03	Barbieux, Sophie	Evaluation of phosphorus bioavailability according to the soil organic matter content – a pot experiment
04	Bilošová, Hana	Relationship between soil organic carbon and elements under different intensity management
05	Celi, Luisella	Soil matrix controls element cycling under alternating redox conditions
06	Sharifi, Mehdi	Effect of raw and alkaline-stabilized biosolids on corn biomass and soil available P in three soils
07	Kar, Gourango	Sulfur speciation in different sulfur fertilizers applied Saskatchewan soils
08	Kiani, Mina	Preliminary assessment of soil quality in two contrasting crop rotations at the Breton Plots, Alberta
09	Leon Castro, Leonardo	Soil mineral nitrogen released from the decomposition of green manure crops with different C/N ratios
10	Lu, Caiyan	Soil fertility and fertilization practice influenced the transformation and loss risk of reactive N in vegetable greenhouse systems
11	MacCormick, Elizabeth	Seasonal soil mineral nitrogen dynamics and crop yields from a three year field based study using salmon-based silage
12	Monreal, Carlos	Phosphorus substrate utilization in wheat and canola rhizosphere as determined by phenotype microarray during the growing season
13	Monreal, Carlos	Microbial utilization of substrates in canola rhizosphere
14	N'Dayegamiye, Adrien	Are legume crops beneficial on soil productivity and N supply in cold eastern Canada?
15	Nechi, Chaima	Potassium dynamics in sandy soils under potato crop
16	Nkongolo, Nsalambi	Soil nutrients as affected by three years of tillage, crop rotation and cover crop management
17	Nowell, Peter	Predicting phosphate adsorption by agricultural soils using the component additivity approach and the constant capacitance model
18	Nyiraneza, Judith	Critical phosphorus concentrations and P saturation ratio levels under potato production in Atlantic Canada
19	Paredes, Cecilia	Availability of inorganic phosphorus fraction in soil amended with cow manure
20	Parra, Leyla	Competitive interaction of selenium and phosphorus in wheat (<i>Triticum aestivum</i> L.)
21	Pei, Chengyin	Effect of interseeding cover crops on corn biomass and nitrogen requirement
22	Poblete, Patricia	Changes in phosphorus-fractions and phosphate-activity in ryegrass with two different phosphorus sources

23	Pourhassan, Nina	Nutrient release during litter decomposition in cold temperate forest: effects on the limitation of asymbiotic N ₂ -fixation
24	Price, Gordon	Crop yield and nutrient uptake response to different rates and frequency of alkaline treated biosolid applications
25	Redel, Yonathan	Rhizosphere phosphorus availability as affected by Al, Fe and Si content in volcanic grassland soils
26	Robbins, Naomi	Effects of buckwheat as a potato rotation crop on soil and water quality
27	Royer, Isabelle	Soil contaminated with trace metals for the production of bioenergy from biomass
28	Shi, Yi	Low molecular weight organic acids reduce inorganic phosphorus adsorbed in bicarbonate-extractable and Fe/Al-bound soil fractions
29	St. Luce, Mervin	Net nitrogen mineralization enhanced with the addition of nitrogen-rich particulate organic matter
30	Thomas, Ben	Short-term nitrogen dynamics in response to five rates of poultry litter with woodchip bedding
31	Thomas, Ben	Residual readily mineralizable nitrogen responds differently to manure-type in contrasting soil textures
32	Tikasz, Peter	The positive effects of Si on Al and Mn toxicity in sugar and silver maple
33	Whittaker, Jennifer	Nitrogen cycling from legume and grass forages during forage phase and subsequent potato phase

Session 2: Dynamics of Pollutants in Soil

01	Aoki, Shinsuke	Estimation of volumetric oil content with thermo-time domain reflectometry techniques
02	Bower, Jennifer	Impacts of competitive sorption processes on Pb bioavailability in urban soils
03	Bien, January	Polycyclic aromatic hydrocarbons (PAHs) in sewage sludge compost in context of soil fertility
04	Dai, Nancy	Bioaccessible nickel in various particle sizes of house dust from communities close to nickel mining and smelting operations
05	Gonzalez Linares, Monica	Toxicity of silver nanoparticles in biosolid-amended soil to the earthworm <i>Eisenia fetida</i>
06	Grobelak, Anna	The impact of a one-fold application of sewage sludge on the parameters of trace metals contaminated soil
07	Grobelak, Anna	The impact of organic additives on the content of PAHs in soil
08	Kacprzak, Małgorzata	The bioaccumulation of heavy metals in trees organisms during long-term field experiment on polluted soil
09	Lafrance, Pierre	Rendement de zones tampons végétales aménagées pour atténuer la contamination des eaux de surface par le glyphosate et l'AMPA en champs agricoles
10	Lafrance, Pierre	Small-scale horizontal variability of glyphosate and AMPA concentrations in top soil along three transects across two cultivated fields and their riparian buffer strips
11	Laird, Amanda	Determining detection limits for uptake of metals in mixtures from soils using PRSTM and DGT probes

12	Martin, Maria	Arsenic dynamics in paddy rice fields in temperate climate
13	Martin, Maria	Iron and arsenic coprecipitates: complex interfaces
14	Murata, Alison	Remediation of salt and chlorinated organic contaminated fine textured soils and ground water
15	Neczaj, Ewa	Application of different bio-wastes as a fertilizers for degraded soil - a review
16	Thorn, Ryan	Using XAFS synchrotron radiation and CISED sequential extraction to identify the effect of speciation and mineral association of nickel on bioaccessibility in soil
17	Vialykh, Elena	Kinetic speciation of metal nanoparticles in presence of biosolids

Session 3: Soil Microbiology

01	Abdellatif, Lobna	Root nodulation of lentil is enhanced by select phytohormone producing and H ₂ -oxidizing bacteria
02	Abdellatif, Lobna	Effect of plant growth promoting rhizobacteria on hyphal growth of arbuscular mycorrhizal fungi in axenic culture
03	Alotaibi, Fahad	Shifts in soil bacterial functional gene composition in response to willow planting and contamination level
04	Aulakh, Gurpreet	Methane oxidation dynamics and methanotroph community structures in peatlands across a sulphur and metal deposition gradient in Sudbury, Ontario
05	Bandekar, Basanti	Value enhancement of municipal organics through the addition of effective micro-organisms
06	Carneiro, Marco Aurelio Carbone	Occurrence and species richness of mycorrhizal fungi in soil under different management and use
07	Constant, Philippe	Soil hydrogenovorous bacteria – The rare biosphere in action mitigates the global emissions of atmospheric H ₂
08	Duran, Paola	Endophytic bacteria from wheat plants could be useful for Se biofortification and <i>Gaeumannomyces graminis</i> biocontrol
09	Fraser, Tandra	The global soil biodiversity initiative
10	Garcia Berumen, José Abraham	The role of microorganisms in a heavy metal polluted site in Mexico
11	Gebala, Aurelia	Does land use-intensity change microbial abundance and function on organo-mineral surfaces in grassland soils?
12	Gillis, Daniel	FLOGging a dead horse: linking decomposed organic matter carbon to nitrogen cycling in agroecosystems
13	Grishkan, Isabella	Influence of environmental disturbance on microfungal communities in Israeli soils
14	Guo, Galen	Chronic N and nutrient loading in a bog: A peek into the microbial black box
15	Huangfu, Yanchong	Microbial community study in the sediment of Oostanaula Creek watershed
16	Huot, Hermine	Bacterial diversity and profile characteristics of urban soils in New York City
17	Jazestani, Jamshid	PAH bioremediation for ecological sustainability

18	Kotze, Elmarie	The effect of rotational and continuous grazing on soil microbiological properties: Comparing the savanna and grassland biome
19	Liu, Ting	Body size is a sensitive trait-based indicator of soil nematode community response to fertilization in rice and wheat agroecosystems
20	Mafa-Attoye, Tolulope	Indications of shifting microbial communities associated with growing biomass crops on marginal lands in southern Ontario
21	Merino, Carolina	Soil microorganisms and enzyme activity at different levels of SOM complexity
22	Monokroukos, Nikolaos	Soil microbial community structure in the sacred groves of Epirus, Greece
23	Najat, Nassr	Improvement of wine terroir management according to biogeochemical cycle of nitrogen in soil
24	Noyce, Genevieve	Soil microbial responses to wood ash addition and forest fire in managed Ontario forests
25	Ouertani, Selmene	Microbial community structures in different horizontal sub-surface flow constructed wetlands enriched with biochar as revealed by 454-pyrosequencing analysis
26	Pichette, Jennifer	Microbial road kill: How roads impact bacterial activity and diversity
27	Silamikeli, Baiba	Isolation and characterization of filamentous fungi from forest soil and their use for biotechnological production of immunomodulatory glycoproteins
28	Smenderovac, Emily	Phyto-stabilization of Sudbury mine tailings: important microorganisms in naturally colonizing plant rhizospheres
29	Williams-Johnson, Shanay	Peatland microbial community structure and function along a sulphur and metal contamination gradient in Sudbury, Ontario

Session 4: Organo-Mineral Interactions in Soil

01	Abail, Zhor	Litter quality controls earthworm population dynamics in sustainable agroecosystems
02	Aoyama, Masakazu	Characterization of organic matter in density-size fractions of organically managed soils by diffuse reflectance infrared Fourier transform spectroscopy combined with NaClO oxidation
03	Calabi-Floody, Marcela	Nanoclays from Andisols and Cambisols soils: their implication on carbon stabilization potential
04	Chalavi, Vida	Effect of organic and chemical fertilizers on yield and quality characteristics of basil (<i>Ocimum basilicum</i> L.)
05	Contreras, Francisco	Organic matter content in different size aggregates from an Andisol
06	Coward, Elizabeth	Fe-C associations and soil organic matter stability in two tropical soils of contrasting parent materials
07	Fujii, Kazumichi	Mechanisms of organic matter accumulation and plant nutrient acquisition in permafrost soils of Northwest Territory, Canada

08	Ishida, Débora Ayumi	Investigation of the relationship between total soil organic carbon (SOC) and mineralogical and physical attributes of an Amazonian Ferralsol-Podzol soil system, Brazil
09	Lin, Lisa	Physical protection of cutin and suberin in soil via organo-mineral associations
10	Lun, Olivia	Evaluation of clay mineral and suberin and cutin protection of lignin in soil
11	Merino, Carolina	Effect of aluminum on available carbon from an Andic and Metamorphic temperate rain forest soil
12	Pronk, Geertje	The effect of clay mineral composition on microbial residues in artificial soils as reflected by amino sugar content
13	Siebers, Nina	Soil microaggregate formation as revealed by the bulk and spatial elemental composition
14	Staunton, Siobhan	A survey of glomalin related soil protein in relation to land-use and soil properties
15	Taghizadeh-Toosi, Arezoo	Impacts of agricultural management on soil organic carbon changes in Danish mineral soils
16	Vieira batista, Marcos Antonio	Soil chemicals attributes influenced by the use of spontaneous species as green manure
17	Xu, Jianming	Stability of soil nanoparticles as affected by natural organic matter in electrolyte solutions
18	Zavarzina, Anna	Differential adsorption of phenolic- and nitrogenous compounds on mineral phases
19	Zavarzina, Anna	Interaction of lichen laccases and soluble phenolics with minerals: implications for humification

Session 5: Analytical and Methodological Advances in Soil Study

01	Abdi, Dalel	Prediction of soil phosphorus forms using visible near infrared reflectance spectroscopy
02	Audette, Yuki	Towards an understanding of precipitation dissolution mechanisms of inorganic P in calcareous soils using mineral stability diagrams
03	Cade-Menun, Barbara	Investigation of soil legacy phosphorus transformation in long-term agricultural fields using sequential fractionation, P k-edge XANES and solution P-NMR spectroscopy
04	Estrada-Medina, Hector	Identifying drought susceptible areas by using GIS: meteorological and soil properties approaches
05	Gan, Qianjun	Comparison between mid-IR (ATR) and near-IR (DRIFT): Spectroscopy as a means of determining ten properties of soil employing partial least squares analysis
06	Gauthier, Mélanie	Développement et validation d'une approche d'évaluation en laboratoire de la santé globale des sols adaptée au marché agricole
07	Gillespie, Adam	Quantitative carbon speciation in soils using soft X-ray spectroscopy
08	Makhani, Mitalie	In situ quantification of canola root biomass in relation to canola growth and tolerance to climate stress in Québec
09	Périard, Yann	Methodological framework to predict soil hydraulic properties from a tomodensitometric analysis

10	Plante, Alain	Characterization of organo-mineral associations from tropical soil profiles using solid-state ¹³ C NMR and thermal analysis
11	Porter, Timothy	Portable field mass spectrometer for measurement of gases in soils
12	Sidhu, Savitz	Development of an experimental procedure for assessing the impact of freeze-thaw on macropore flow
13	Simpson, Myrna	Advanced analytical techniques for the characterization of soil organic matter composition and biogeochemistry
14	Taki, Rezvan	Comparisons of gap filling methods on nitrous oxide fluxes from a corn-soybean-wheat rotation over 6 years
15	Yang, Xueming	Microbial amino sugars of some Canadian agricultural soils

Session 6: Agricultural Greenhouse Gas Emissions

01	Adamchuk, Viacheslav	Using proximal soil sensing to optimize assessment of agricultural greenhouse gas emission
02	Ahmed, Naeem	N ₂ O emissions as affected by fertilization and water table management in south-western Ontario
03	Alotaibi, Khaled	Glycerol from the biodiesel industry: Can it reduce ammonia volatilization and nitrate leaching in soil treated with liquid manure?
04	Amadi, Chukwudi	Soil-atmosphere exchange of carbon dioxide, methane and nitrous oxide in shelterbelts compared with adjacent crop fields
05	Amiro, Brian	Beneficial management practices for greenhouse gas mitigation from agroecosystems
06	Amiro, Brian	Factors determining low and high emissions of greenhouse gases from Canadian beef cow-calf farms
07	Brin, Lindsay	Changes in snow cover alter nitrogen cycling and gaseous emissions in agricultural soils
08	Cambareri, Sebastian	Method and timing effect of field applied anaerobically digested and raw dairy manure on soil nitrous oxide emissions from corn production
09	Charles, Anaïs	Associating the potential of organic amendments for soil N ₂ O emissions to their chemical characteristics
10	Congreves, Katelyn	Measuring and modelling the long-term impact of crop management on soil C sequestration in semi-arid Canadian prairies
11	Hans, Geetkamal	Abundance of ammonia-oxidizing archaea and bacteria in woody perennial cropping systems
12	Jennewein, Stephen	The role of water-table, soil depth, and nitrogen fertilizer on the interaction of soil microbial biomass and gas emission
13	Leite Luiz F.C.	Green management of sugarcane and its effects on nitrous oxide emissions in Northeastern Brazil
14	Menasseri-Aubry, Safya	Overall evaluation of solid waste composting and agricultural recycling: a methodological framework proposal

15	Palacios, Joahnn	Development of a simplified and economical technology to measure N ₂ O and CH ₄ emissions from livestock buildings
16	Panday, Dinesh	Comparison of methods for predicting pore space indices in corn-soybean field
17	Raeini-Sarjaz, Mahmoud	Evaluation of the effect of depth and distance of subsurface drainage systems on methane gas emissions
18	Singh, Jessica	The effect of nitrogen fixation on direct and indirect nitrous oxide (N ₂ O) emissions in dairy crop rotations
19	VandenBygaart, Bert	Grazing influences C and N storage in the Northern Great Plains

Session 7: Chemical and Biological Controls on Organic P Cycling in Terrestrial and Aquatic Environments

01	Abdi, Dalel	The influence of phosphorus fertilization on grassland soil phosphorus forms: A ³¹ P-NMR study
02	Cade-Menun, Barbara	An investigation of the origins of inositol hexakisphosphate stereoisomers in crested wheatgrass pasture soils
03	Damar, Hada	Impact of long-term application of composted organic residue on soil organic and inorganic phosphorus dynamics
04	Giles, Courtney	Short-term transport and transformation of phosphorus species from a poultry manure amended soil during leaching
05	Giles, Courtney	Phosphorus transformations and mobility in the rhizosphere of phytase-exuding plants following a single cultivation cycle
06	Moore, Tim	C:P stoichiometry in Canadian peatlands and forest litter
07	Wang, Yu	P pools and microorganisms response to a 5-year P fertilization pot trial for wheat only in a rice-wheat rotation in paddy soils in the Taihu Lake region of southern China
08	Ziadi, Noura	Long-term phosphorus fertilization and tillage impact soil phosphorus transformation and distribution

Session 8: Microbial Provision of Essential Services Across Managed and Natural Ecosystems

01	Acuna, Jacqueline	Diversity and abundance of rhizobacteria encoding phosphatase gen from Chilean extreme environments
02	Arcand, Melissa	Thermodynamic profiles and carbon use efficiency of soil microbial communities in contrasting agroecosystems
03	Arteaga, Jessica	The use of a conceptual model to determine biological soil crusts as the first terrestrial ecosystem: Their role in embryophyte land colonization
05	Helgason, Bobbi	¹³ C cellulose assimilation in different transplanted Chernozems after 21 years of common management and climatic conditions
06	Masse, Jacynthe	Microbial communities and nitrogen cycle in reclaimed oil-sand soils

07	Dunfield, Kari	Abundance and gene expression of bacterial and archaeal ammonia monooxygenase (<i>amoA</i>) in a monoculture versus a diverse crop rotation, under conventional and no-till management
08	Navarro Borrell, Adriana	Fungal diversity associated with pulses and its influence on the subsequent wheat crop in a 2-year study
09	Neufeld, Katarina	Microbial community structure and activity after long-term use of dairy manure and fertilizer reflects soil properties and impacts soil N transformations
10	Spence, Jennifer	Evaluating the efficacy of the nitrification inhibition assay method using 3,5-dimethylpyrazole in soils that differ in texture and water content
11	Yichao, Shi	Growth of timothy root and associated arbuscular mycorrhizae as affected by phosphorus fertilization in North Québec

Session 9: Soil Science Education and Outreach

01	Burton, David	Developing an on-line nutrient management planner-training program in Atlantic Canada
02	Krzic, Maja	Web-based educational tool for forest floor description and humus form classification
03	Yang, Jingyi	EasyGrapher v4.6: Software for data visualization and statistical evaluation of DSSAT v4.x model and the CANB v4.0 Model
04	Yates, Thomas	Investigating student perceptions of academic and professional learning experiences in a field-based course

Session 11: Wetland Soils in a Changing Climate

01	Hobson, Claire	Examining the fate of carbon among wetlands reclamation trials in Fort McMurray, Alberta
02	Lafond, Jonathan	Detecting soil drainage and compaction issues by ground penetrating radar in Histosols
03	Saint-Laurent, Diane	Soil organic carbon in riparian ecosystems and the potential of C reservoirs in a context of environmental sustainability
04	Shahriar, Md Shayeb	Impact of short rotation willow on prairie wetland soil hydrology and salinity
05	Silamikeli, Inese	Variability of peat soil characteristics in boreo-nemoral environment (Latvia)
06	Zhang, Zhidan	Nutrient dynamics along drainage ditches under recent, medium and long-term drainage in the black soil zone of southeastern Saskatchewan

Session 12: Proximal Soil Sensing

01	Samson, Marie Élise	Impacts of subirrigation and low water potential on soil salinity and its effects on cranberry development
02	Zhang, Jin	Comparing logistic model trees and multinomial logistic regression for the prediction of soil development in BC
03	Zhang, Yakun	A new model to predict soil pH at depths in agricultural fields

Session 13: Spatial and Temporal Dynamics of Soil Processes and their Interactions at Multiple Scales to Study Complex Soil Systems

01	Andronak, Lindsey	The relationship between ion exchange membrane (PRS probe) measurements and extractable nutrient concentrations
02	Banihashemi, Avid	Interactions between the microbial processes and nutrient transformations in beach sediments under dynamic flow regimes
03	Cambouris, Athyna	Soil phosphorus distribution under two contrasting grasslands (2 and 10 yrs old)
04	Cao, Yu	Effect of long-term tillage regimes on topsoil pore network dynamics and field saturated hydraulic conductivity
05	DeBruyn, A.H.	Does row width and harvest date influence sugarbeet (<i>Beta vulgaris</i> L.) nitrogen requirements?
06	Elliott, Jane	Nutrients in snowmelt and rainfall-generated runoff from the clay soils of the Red River Valley, Manitoba, Canada
07	Grewer, David	Redistribution of soil organic matter by permafrost disturbance in the Canadian High Arctic
08	Gumiere, Silvio	Evaluating the Impact of the spatial distribution of land management practices on water erosion
09	He, Wentian	Uncertainty and sensitivity analysis of the DSSAT model: soil water, management and weather parameters
10	Kwak, Jin-Hyeob	Coarse woody debris increases soil respiration rates and microbial function but not soil enzyme activity in cover soils for oil sands reclamation
11	Lychuk, Taras	Effects of input management, crop diversity, environmental covariates and terrain attributes on crop yield in the semi-arid Canadian Prairie
12	Lychuk, Taras	Testing effectiveness of the environmental policy integrated climate model on predicting wheat, barley, and canola yield in the Canadian prairie
13	Manns, Hida	Interaction or a common entry: Soil organic carbon in soil water content measurement
14	Martel, Myra	Water footprint assessment of crop production in Canada using a Canadian water budget model
15	Sidhu, Savitz	Banded vegetation effects on soil water storage and temperature in Jornada Basin, New Mexico
16	Tian, Tian	Delineation of Fe-oxides pedofeatures in thin section of hydromorphic soils
17	Yang, Jingyi	Scenario analysis of Canadian farming system to residual soil N using a CANB v4.0 model

Session 14: General Soil Science

01	Bulot, Diane	Development of a real-time method for assessing subsurface drainage systems performance in cranberry production
01	Cambouris, Athyna	Corn yield and quality as a function of nitrogen fertilization and soil texture

02	Congreves, Katelyn	Predicting ammonia volatilization from swine slurry application using DNDC: Model development
03	Merino-Gerichevich, Cristian	Excess more than deficiency of boron affects the physiological features in highbush blueberry
04	Panday, Dinesh	Effect of tillage, cover crop and corn-soybean rotation on soil pore space indices
05	Périard, Yann	Evolution of soil hydraulic properties during repeated cycles of drainage and recharge
06	Seguel, Alex	Strategies to improve the phosphorus uptake efficiency of Al-tolerant wheat cultivars grown in volcanic soils
07	Xu, Yan	The relationship between compaction and structural properties of Québec soils

Session 15: Biochar in Agriculture and Environment/ Le Biochar en Agriculture et en Environnement

01	Antoun, Hani	Effet de l'ajout de biochar sur la symbiose tripartite <i>Ensifer melilot-Rhizophagus irregularis-Luzerne (Medicago sativa L.)</i>
02	Bekele, Asfaw	Reconstructed topsoil using biochar or oxidized lignite for site reclamation
03	Chan, Jaclyn	Comparing black carbon measurements from thermal analysis and national-scale MIR calibrations in minesoils
04	Drolet, Myriam	Effects of biochars soil application on nitrogen and phosphorus availabilities
05	Kumaragamage, Darshani	Amendments to increase maize (<i>Zea maize</i>) yield in an alfisol in Sri Lanka
06	Luo, Ling	Biochar alters activity of extracellular enzyme and abundance of bacterial and fungal populations in subtropical mangroves
07	Ngo, Thi Phuong	Biochar reduces loss of organic amendments in tropical field conditions

Session 17: Soils of Natural, Managed and Intensive Forest Systems/ Les Sols de Systèmes Forestiers Naturels, Aménagés et Intensifs

01	Buffet, Jean-Philippe	Mechanical site preparation treatment influences soil microbial community structure and function: Identification of multifunctional molecular stress indicators of sylvicultural practices
02	Civil, Nody	Caractérisation des chemins (écoulements) préférentiels superficiels sur l'efficacité du piégeage des sediments d'une bande riveraine à l'aide de l'imagerie LIDAR et de la modélisation
03	Nkongolo, Nsalambi	Baseline Assessment of Soil Chemical Properties and Nutrients in Ituri Forest, Democratic Republic of Congo

Corresponding Authors

Authors are displayed by session order

Keynote Speakers

Duxbury, John
Cornell University
New York, USA
jmd17@cornell.edu

Kraemer, Stephan
University of Vienna
Vienna, Austria
stephan.kraemer@univie.ac.at

Hale, Beverley
University of Guelph, Environmental Sciences
Ontario, Canada
bhale@uoguelph.ca

Smalla, Kornelia
Julius Kühn-Institute, Epidemiology and Pathogen
Diagnostics
Braunschweig, Germany
kornelia.smalla@jki.bund.de

Wagai, Rota
National Institute of Agro-Environmental Science
Kannondai, Japan
rota@affrc.go.jp

Leinweber, Peter
University of Rostock, Soil Science
Rostock, Germany
peter.leinweber@agrarfak.uni-rostock.de

Rochette, Philippe
Agriculture and Agri-Food Canada
Québec, Canada
philippe.rochette@agr.gc.ca

Celi, Luisella
University of Torino, Soil Biochemistry
Torino, Italy
luisella.celi@unito.it

Hayhoe, Doug
Tyndale University College
Ontario, Canada
dhayhoe@tyndale.ca

Humphreys, Elyn
Carleton University
Ontario, Canada
elyn.humphreys@carleton.ca

Viscarra Rossel, Raphael
Commonwealth Scientific and Industrial Research
Organization (CSIRO)
Canberra, Australia
raphael.viscarra-rossel@csiro.au

Pachepsky, Yakov
Beltsville, Agricultural Research Center
Maryland, USA
yakov.pachepky@ars.usda.gov

Spokas, Kurt
United States Department of Agriculture (USDA) –
Agricultural Research Service
Minnesota, USA
kurt.spokas@ars.usda.gov

Quideau, Sylvie
University of Alberta, Department of Renewable
Resources
Alberta, Canada
sylvie.quideau@ualberta.ca

Oral Sessions

Session 1

Chantigny, Martin

Soil & Crops Research and Development Centre,
AAFC
Québec, Canada
martin.chantigny@agr.gc.ca

Frossard, Emmanuel

Institute of Agricultural Sciences, Group of Plant
Nutrition
Zurich, Switzerland
emmanuel.frossard@usys.ethz.ch

Jayarathne, Kumundu

University of Winnipeg, Environmental Studies and
Sciences
Manitoba, Canada
dilshikajayarathne@gmail.com

Jilling, Andrea

University of New Hampshire, Natural Resources and
the Environment
New Hampshire, USA
aj5@wildcats.unh.edu

Jouogo Noumsi, Christelle

Université de Sherbrooke, Chemistry & Biology
Québec, Canada
christelle.jouogo.noumsi@usherbrooke.ca

Li, Haixiao

Université de Bordeaux, Science and Environment
Bordeaux, France
lihaixiao001@gmail.com

Maltais-Landry, Gabriel

Stanford University, Biology
California, USA
gmaltais@stanford.edu

Monreal, Carlos

Agriculture and Agri-Food Canada
Québec, Canada
carlos.monreal@agr.gc.ca

Roy, Amal

Brandon Research Centre, AAFC
Manitoba, Canada
amal.roy@agr.gc.ca

Schoenau, Jeff

University of Saskatchewan, Soil Science
Saskatchewan, Canada
jeff.schoenau@usask.ca

Vaillancourt, Mathieu

Université Laval
Québec, Canada
jd.mathieu.vaillancourt@gmail.com

Weiseth, Blake

University of Saskatchewan
Saskatchewan, Canada
blake.weiseth@usask.ca

Zhang, Tiequan

Agriculture and Agri-Food Canada
Québec, Canada
tiequan.zhang@agr.gc.ca

Session 2

Benjannet, Rim

Université Laval
Québec, Canada

rim.benjannet.1@ulaval.ca

Cennerazzo, Johanne

Université de Lorraine, Environnements Continentaux
Nancy, France

johanne.cennerazzo@gmail.com

Colinet, Gilles

Université de Liège, Gembloux Agri-Bio-Tech
Wallonia, Belgium

gilles.colinet@ulg.ac.be

Gillis, J. Daniel

McGill University, Bioresource Engineering
Québec, Canada

joseph.gillis@mail.mcgill.ca

McShane, Heather

McGill University
Québec, Canada

heather.mcshane@mail.mcgill.ca

Miller, Jim

Agriculture & Agri-Food Canada
Québec, Canada

jim.miller@agr.gc.ca

Nadler, Simon

Université du Québec à Montréal
Québec, Canada

nadlersimon@hotmail.com

Nwaichi, Eucharia

University of Massachusetts Amherst
Massachusetts, USA

nodullm@yahoo.com

Olobatoke, Rosaline

North-West University, CARST
Mafikeng, South Africa

yemisirose205@yahoo.com

Shu, Weixi

Dalhousie University, Agriculture
Nova Scotia, Canada

wx205944@dal.ca

Vasiluk, Luba

University of Guelph, Environmental Sciences
Ontario, Canada

lvasiluk@uoguelph.ca

Zaghoul, Alaa

National Research Center
Dokki, Cairo, Egypt

alaazaghoul2002@yahoo.com

Zhang, Yu

Dalhousie University
Nova Scotia, Canada

charlotte91zy@gmail.com

Session 3

Arcand, Melissa

Saskatoon Research Centre, AAFC
Saskatchewan, Canada
mmarcand@gmail.com

Baraniya, Divyashri

University of Florence, Agriculture and Environmental Sciences
Florence, Italy
dbaraniya@unifi.it

Bazghaleh, Navid

University of Saskatchewan, Semiarid Prairie Agricultural Research Centre
Saskatchewan, Canada
navid.bazghaleh@usask.ca

Carson, Michael

Laurentian University
Ontario, Canada
mcarson@laurentian.ca

Inubushi, Kazuyuki

Chiba University, Horticulture
Chiba, Japan
inubushi@faculty.chiba-u.jp

Kandeler, Ellen

University of Hohenheim, Soil Science and Land Evaluation
Stuttgart, Germany
kandeler@uni-hohenheim.de

Preusser, Sebastian

University of Hohenheim, Soil Science and Land Evaluation
Stuttgart, Germany
s.preusser@uni-hohenheim.de

Sukdeo, Nicole

University of Northern British Columbia, Natural Resources and Environmental Studies
British Columbia, Canada
nicole.sukdeo@unbc.ca

VandenBygaart, Bert

Eastern Cereal and Oilseed Research Centre, AAFC
Ontario, Canada
bert.vandenbygaart@agr.gc.ca

Session 4

Diochon, Amanda

Lakehead University, Geology
Ontario, Canada
adiochon@lakeheadu.ca

Huang, Qiayun

Huazhong Agricultural University, Agricultural Microbiology
Wuhan, South China
gyhunag@mail.hzau.edu.cn

Martinez, Carmen Enid

Cornell University, Soil and Crop Sciences
New York, USA
cem20@cornell.edu

Oufqir, Sofia

University of Minnesota, Soil, Water and Climate Minnesota, USA
oufqirsofia@gmail.com

Schmidt, Michael

Cornell University, Soil and Crop Sciences
New York, USA
ms2958@cornell.edu

Staunton, Siobhan

Institut National de la Recherche Agronomique (INRA)
- UMR Eco & Sols
Montpellier, France
staunton@montpellier.inra.fr

Session 5

Abdi, Dalel

Soils and Crops Research and Development Centre,
AAFC
Québec, Canada
dalel.abdi.1@ulaval.ca

Aubin, Melanie

Université du Québec à Chicoutimi, Département des
sciences fondamentales
Québec, Canada
melanie.aubin@uqac.ca

Bosch, Anna

University of Tuebingen, Geosciences
Tuebingen, Germany
anna.bosch@geographie.uni-tuebingen.de

Chelabi, Hakima

AgroEnviroLab
Québec, Canada
hchelabi@agro-enviro-lab.com

Gillespie, Adam

University of Saskatchewan, Canadian Light Source
Inc.
Saskatchewan, Canada
adam.gillespie@lightsource.ca

Gowda, Ankapura

Haranahalli Ramaswamy Institute of Higher Education
Karnataka, India
ankapuratgowda@rediffmail.com

Session 6

Adelekun, Mayowa

University of Manitoba, Soil Science
Manitoba, Canada
adelekmf@myumanitoba.ca

Amadi, Chukwudi

University of Saskatchewan, Soil Science
Saskatchewan, Canada
cca423@mail.usask.ca

Baah-Acheamfour, Mark

University of Alberta, Renewable Resources
Alberta, Canada
mbaahach@ualberta.ca

Dhillon, Gurbir Singh

University of Saskatchewan
Saskatchewan, Canada
gud510@mail.usask.ca

Hepp, Catherine

University of Copenhagen, Plant and Environmental
Sciences
Copenhagen, Denmark
hepp@plen.ku.dk

Khosravi, Kambiz

Dalhousie University, Engineering
Nova Scotia, Canada
k.khosravi@dal.ca

Pimentel, Rejane

University of Guelph
Ontario, Canada
rejane@uoguelph.ca

Simpson, Andre

University of Toronto
Ontario, Canada
andre.simpson@utoronto.ca

Vasiluk, Luba

University of Guelph, Environmental Sciences
Ontario, Canada
lvasiluk@uoguelph.ca

Drury, Craig

Agriculture and Agri-Food Canada
Ontario, Canada
craig.drury@agr.gc.ca

Fentabil, Mesfin

University of British Columbia, Earth & Environmental
Sciences
British Columbia, Canada
selames@gmail.com

Sulaimain, Muhammed

University of Guelph, Environmental Sciences
Ontario, Canada
mbinsula@uoguelph.ca

Thompson, Karen

University of Guelph, Environmental Sciences
Ontario, Canada
kthomp08@uoguelph.ca

Session 7

Cade-Menun, Barbara

Semiarid Prairie Agriculture Research Centre, AAFC
Saskatchewan, Canada
barbara.cade-menun@agr.gc.ca

Fraser, Tandra

Colorado State University, Environmental
Sustainability
Colorado, USA
tandra.fraser@colostate.edu

Giles, Courtney

James Hutton Institute
Dundee, United Kingdom
courtney.giles@hutton.ac.uk

Gottselig, Nina

Institute of Bio- and Geosciences, Agrosphere
Research Centre
Jülich, Germany
n.gottselig@fz-juelich.de

Haygarth, Philip

Lancaster University, Lancaster Environment Centre
Lancashire, United Kingdom
p.haygarth@lancaster.ac.uk

Jiang, Xiaoqian

Institute of Bio- and Geosciences (IBG-3)
Jülich, Germany
x.jiang@fz-juelich.de

Missong, Anna

Institute of Bio- and Geosciences (IBG-3), Agrosphere
Research Centre
Jülich, Germany
a.missong@fz-juelich.de

Munira, Sirajum

University of Manitoba, Soil Science
Manitoba, Canada
muniras@mymumanitoba.ca

Schneider, Kim

University of Guelph, Environmental Sciences
Ontario, Canada
kschne01@uoguelph.ca

Wagner-Riddle, Claudia

University of Guelph, Environmental Sciences
Ontario, Canada
cwagnerr@uoguelph.ca

Westphal, Megan

University of Manitoba, Soil Science
Manitoba, Canada
westphm@cc.umanitoba.ca

Session 8

Fontaine, Laurent

Université Laval
Québec, Canada
laurent.fontaine.1@ulaval.ca

Goyer, Claudia

Potato Research Centre, AAFC
New Brunswick, Canada
claudia.goyer@agr.gc.ca

Helgason, Bobbi

Saskatoon Research Centre, AAFC
Saskatchewan, Canada
bobbi.helgason@agr.gc.ca

Jeanne, Thomas

Institut de recherche et de développement en
agroenvironnement (IRDA)
Québec, Canada
thomas.jeanne@irda.qc.ca

Navarro Borrell, Adriana

Semiarid Prairie Agricultural Research Centre, AAFC
Saskatchewan, Canada
adriana.navarroburrell@agr.gc.ca

Scandellari, Francesca

Free University of Bolzano
Bolzano, Italy
francesca.scandellari@unibz.it

Session 9

Andronak, Lindsey

Western Ag Innovations Inc.
Saskatchewan, Canada
lindseyandronak@westernaq.ca

Hazlett, Paul

Natural Resources Canada, Canadian Forest Service
Canada
phazlett@nrcan.gc.ca

Kroetsch, David

Science and Technology Branch, AAFC
Ontario, Canada
david.kroetsch@agr.gc.ca

MacIntyre, Jane

Tyndale University College
Ontario, Canada
jmacintyre@tyndale.ca

Masse, Jacynthe

University of British Columbia
British Columbia, Canada
jacynthe.masse@alumni.ubc.ca

Van Rees, Ken

University of Saskatchewan
Saskatchewan, Canada
ken.vanrees@usask.ca

Vasseur, Claire

Biodôme de Montréal
Québec, Canada
cvasseur@ville.montreal.qc.ca

Session 11

Brown, Robin

University of Saskatchewan
Saskatchewan, Canada
robin.brown@usask.ca

andrew.pinsonneault@mail.mcgill.ca

Cowan, Elizabeth

Carleton University
Ontario, Canada
elizabethcowan3@cmail.carleton.ca

Viaud, Valérie

Institut national de la recherche agronomique, UMR
Rennes, France
valerie.viaud@rennes.inra.fr

Pinsonneault, Andrew

McGill University, Soil Science
Québec, Canada

Wang, Xiaoyue

University of Saskatchewan, Soil Science
Saskatchewan, Canada
xiaoyue.wang@usask.ca

Session 12

Adamchuk, Viacheslav

McGill University, Bioresource Engineering
Québec, Canada
viacheslav.adamchuk@mcgill.ca

Biswas, Asim

McGill University, Natural Resource Sciences
Québec, Canada
asim.biswas@mcgill.ca

Furze, Shane

University of New Brunswick
New Brunswick, Canada
furze.shane@gmail.com

Heung, Brandon

Simon Fraser University, Geography
British Columbia, Canada
bha4@sfsu.ca

Leiva-Baron, Fabio Rodrigo

National University of Colombia
Bogotá, Colombia
frleivab@unal.edu.co

Mbodj, Awa

Université Laval
Québec, Canada
awa.mbodj.1@ulaval.ca

Moulin, Alan

Brandon Research Centre, AAFC
Manitoba, Canada
alan.moulin@agr.gc.ca

Zhang, Jin

Simon Fraser University, Geography
British Columbia, Canada
jza18@sfsu.ca

Session 13

Biswas, Asim

McGill University, Natural Resource Sciences
Québec, Canada
asim.biswas@mcgill.ca

Burton, David

Dalhousie University
Nova Scotia, Canada
dburton@dal.ca

Mome Filho, Edison Aparecido

University of São Paulo, Agriculture
São Paulo, Brazil
edison_mome@hotmail.com

Nkongolo, Nsalambi

Lincoln University, Agriculture and Environmental
Sciences
Missouri, USA
nkongolo@lincolnu.edu

Price, Gordon

Dalhousie University,
Nova Scotia, Canada
gprice@dal.ca

Zebarth, Bernie

Potato Research Centre, AAFC
New Brunswick, Canada
bernie.zebarth@agr.gc.ca

Session 14

Botula, Yves-Dady

University of Kinshasa, Natural Resource Management
Kinshasa, Democratic Republic of Congo
ydbotula@yahoo.fr

Cambouris, Athyna

Soil Crops Research and Development Centre (SCRDC), AAFC
Québec, Canada
athyna.cambouris@agr.gc.ca

Chai, Lilong

Lethbridge Research Centre, AAFC
Alberta, Canada
lilong.chai@agr.gc.ca

Cheng, Yi

State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Science
Beijing, China
ycheng@issas.ac.cn

Dutta, Baishali

Agriculture and Agri-Food Canada
Ontario, Canada
baishali.dutta85@gmail.com

Dyck, Miles

University of Alberta, Renewable Resources
Alberta, Canada
mdyck@ualberta.ca

Halde, Caroline

Université Laval
Québec, Canada
caroline.halde.1@ulaval.ca

Keiblinger, Katharina

University of Natural Resources and Life Sciences, Soil Research
Vienna, Austria
katharina.keiblinger@boku.ac.at

Lafond, Jean

Agriculture and Agri-Food Canada
Québec, Canada
jean.lafond@agr.gc.ca

Larney, Francis

Agriculture and Agri-Food Canada
Québec, Canada
francis.larney@agr.gc.ca

Lupwayi, Newton

Lethbridge Research Centre, AAFC
Alberta, Canada
newton.lupwayi@agr.gc.ca

Reid, Keith

Agriculture and Agri-Food Canada
Ontario, Canada
keith.reid@agr.gc.ca

Roy, Amal

Brandon Research Centre, AAFC
Manitoba, Canada
amal.roy@agr.gc.ca

Voegel, Tanja

University of British Columbia, Biology
British Columbia, Canada
tanja.voegel@ubc.ca

Yang, Xueming

Greenhouse and Processing Crops Research Centre, AAFC
Ontario, Canada
xueming.yang@agr.gc.ca

Session 15

Brassard, Patrick

McGill University, Bioresource Engineering
Québec, Canada
patrick.brassard@irda.qc.ca

Karppinen, Erin

University of Saskatchewan
Saskatchewan, Canada
erin.karppinen@usask.ca

Lange, Sébastien

Université Laval, Centre de Recherche sur les
Matériaux Renouvelables (CRM)
Québec, Canada
suzanne.allaire@fsaa.ulaval.ca

Levesque, Vicky

Université Laval, Soils and Agri-Food Engineering &
Horticultural Research Center
Québec, Canada
vicky.levesque.1@ulaval.ca

Mitchell, Perry

University of Toronto, Chemistry
Ontario, Canada
perry.mitchell@mail.utoronto.ca

Naisse, Christophe

Université Paris VI, Ecology and Environmental
Sciences
Paris, France
christophe.naisse@univ-lorraine.fr

Pace, Benjamin

University of New South Wales, Materials Science
and Engineering
Sydney, Australia
b.pace@unsw.edu.au

Rees, Frédéric

Université de Lorraine – INRA Soils and Environment
Nancy, France
frederic.rees@univ-lorraine.fr

Stewart, Kayla

Laurentian University, Biology
Ontario, Canada
km_stewart@laurentian.ca

Vidana Gamage, Duminda

McGill University, Natural Resource Sciences
Québec, Canada
Duminda.vidanagamage@mail.mcgill.ca

Lou, Kangyi

University of Alberta
Alberta, Canada
sxchang@ualberta.ca

Session 16

Aspinall, Doug

Ontario Ministry of Agriculture, Food and Rural Affairs
Ontario, Canada
doug.aspinall@ontario.ca

Bruulsema, Tom

International Plant Nutrition Institute
Ontario, Canada
tom.bruulsema@ipni.net

Bulot, Diane

Université Laval, Pavillon de l'Envirotron
Québec, Canada
diane.bulot.1@ulaval.ca

Caron, Jean

Université Laval, Sols et de Génie Alimentaire
Québec, Canada
jean.caron@fsaa.ulaval.ca

Pelletier, Vincent

Université Laval
Québec, Canada
vincent.pelletier.8@ulaval.ca

Tremblay, Nicolas

Agriculture and Agri-Food Canada
Québec, Canada
nicolas.tremblay@agr.gc.ca

Yang, Xueming

Greenhouse & Processing Crops Research Centre,
AAFC
Ontario, Canada
xueming.yang@agr.gc.ca

Session 17

Barnes, William

University of Alberta, Renewable Resources
Alberta, Canada
wbarne@ualberta.ca

Brais, Suzanne

Université du Québec en Abitibi-Témiscamingue
(UQAT)
Québec, Canada
suzanne.brais@uqat.ca

Collin, Alexandre

Université du Québec à Montréal (UQAM)
Québec, Canada
alxcollin@gmail.com

Fortier, Julien

Université du Québec à Montréal (UQAM) – Forest
Research of the Eastern Townships
Québec, Canada
fortier.julien@courrier.uqam.ca

Fugère, Martine

Université de Sherbrooke
Québec, Canada
martine.fugere@usherbrooke.ca

Gorgolewski, Adam

University of Toronto
Ontario, Canada
adam.gorgolewski@mail.utoronto.ca

Hazlett, Paul

Natural Resources Canada, Canadian Forest Service
Ontario, Canada
phazlett@nrcan.gc.ca

Keys, Kevin

Nova Scotia Department of Natural Resources
Nova Scotia, Canada
kevin.keys@novascotia.ca

Pennock, Dan

University of Saskatchewan, Soil Science
Saskatchewan, Canada
dan.pennock@usask.ca

Perreault, Lili

Université du Québec en Abitibi-Témiscamingue
(UQAT)
Québec, Canada
lili.perreault@uqat.ca

Poirier, Vincent

Université Laval, Center for Forest Research
Québec, Canada
vincent.poirier.1@ulaval.ca

Reid, Anya

University of British Columbia
British Columbia, Canada
anyamartinareid@gmail.com

Shabaga, Jason

University of Toronto Mississauga
Ontario, Canada
jason.shabaga@utoronto.ca

Smenderovac, Emily

University of Toronto, Forestry
Ontario, Canada
esmenderovac@laurentian.ca

Strukelj, Manuella

Université du Québec en Abitibi-Témiscamingue
(UQAT)
Québec, Canada
manuella.strukelj-humphery@uqat.ca

Poster Presentations

Session 1

Audette, Yuki

University of Guelph

Ontario, Canada

yaudette@uoguelph.ca

Barbieux, Sophie

University of Liège, Gembloux Agri-Bio Tech
Wallonia, Belgium

sophie.barbieux@ulg.ac.be

Bilošová, Hana

Agroresearch Rapotín Ltd.

Rapotín, Czech Republic

h.karabcova@centrum.cz

Celi, Luisella

University of Torino, Soil Biochemistry

Torino, Italy

luisella.celi@unito.it

Halloran, Samantha

Trent University, Environmental & Life Sciences Dept.

Ontario, Canada

samanthahalloran@trentu.ca

Kar, Gourango

University of Saskatchewan

Saskatchewan, Canada

gok203@mail.usask.ca

Kiani, Mina

University of Alberta, Science

Alberta, Canada

mkiani@ualberta.ca

Leon Castro, Leonardo

McGill University, Natural Resource Sciences

Québec, Canada

leonardo.leoncastro@mail.mcgill.ca

Lu, Caiyan

State Key Laboratory of Forest and Soil Ecology,
Pollution Ecology and Environmental Engineering,
Chinese Academy of Sciences

Shenyang, China

microyan76@126.com

MacCormick, Elizabeth

Dalhousie University, Agriculture

Nova Scotia, Canada

ea.maccormick@gmail.com

Monreal, Carlos

Agriculture and Agri-Food Canada

Québec, Canada

carlos.monreal@agr.gc.ca

Mora, Maria de la Luz

Universidad de la Frontera

Temuco, Chile

mariluz.mora@ufrontera.cl

N'Dayegamiye, Adrien

Research and Development Institute for the Agro-Environment (IRDA)

Québec, Canada

adrien.ndaye@irda.qc.ca

Nechi, Chaima

Laval University

Québec, Canada

chaima.nechi.1@ulaval.ca

Nkongolo, Nsalambi

Lincoln University of Missouri, Agriculture and Environmental Sciences

Missouri, USA

nkongolo@lincolnu.edu

Nowell, Peter

University of Guelph, Environmental Sciences

Ontario, Canada

pnowell@uoguelph.ca

Nyiraneza, Judith

Agriculture and Agri-Food Canada

Prince Edward Island, Canada

judith.nyiraneza@agr.gc.ca

Parades, Cecilia

Universidad de la Frontera

Temuco, Chile

cecilia.paredes@ufrontera.cl

Parra, Leyla

Universidad de la Frontera, Center of Plant, Soil Interaction and Natural Resources Biotechnology

Temuco, Chile

leyla.p.alumna@gmail.com

Pei, Chengyin

Trent University, Environmental Life and Sciences

Ontario, Canada

chengyinpei@trentu.ca

Poblete, Patricia

Universidad de la Frontera

Temuco, Chile

patty.grant87@gmail.com

Pourhassan, Nina

Université de Sherbrooke, Centre Sève, Chimie
Québec, Canada
nina.pourhassan@usherbrooke.ca

Price, Gordon

Dalhousie University, Engineering
Nova Scotia, Canada
gprice@dal.ca

Redel, Yonathan

Universidad de la Frontera, Scientific and
Technological Bioresource Nucleus
Temuco, Chile
yonathan.redel@ufrontera.cl

Royer, Isabelle

Agriculture and Agri-Food Canada
Québec, Canada
isabelle.royer@agr.gc.ca

Shi, Yi

University of Chinese Academy of Sciences, Forest
and Soil Ecology
Shenyang, China
shiyi@iae.ac.cn

St. Luce, Mervin

Soils and Crops Research and Development Centre,
AAFC
Québec, Canada
mervin.st.luce@agr.gc.ca

Thomas, Ben

McGill University, Natural Resource Sciences
Québec, Canada
ben.thomas@mail.mcgill.ca

Tikasz, Peter

McGill University
Québec, Canada
peter.tikasz@mail.mcgill.ca

Whittaker, Jennifer

Crops and Livestock Research Centre, AAFC
Prince Edward Island, Canada
jwhittaker@dal.ca

Session 2

Aoki, Shinsuke

Meiji University, Agriculture
Tokyo, Japan
s_aoki@meiji.ac.jp

Bower, Jennifer

University of Vermont, Geology
Vermont, USA
jbower@uvm.edu

Bien, January

Czestochowa University of Technology, Institute of
Environmental Engineering
Czestochowa, Poland
enecz@is.pcz.czest.pl

Dai, Nancy

University of Guelph
Ontario, Canada
ndai@uoguelph.ca

Gonzalez Linares, Monica

McGill University, Natural Resource Sciences
Québec, Canada
monica.gonzalezlinares@mail.mcgill.ca

Grobelak, Anna

Czestochowa University of Technology,
Environmental Engineering
Czestochowa, Poland
agrobelak@is.pcz.czest.pl

Kacprzak, Małgorzata

Czestochowa University of Technology,
Environmental Engineering
Czestochowa, Poland
mkacprzak@is.pcz.czest.pl

Lafrance, Pierre

Université INRS – Centre Eau, Terre et
Environnement (ETE)
Québec, Canada
pierre.lafrance@ete.inrs.ca

Laird, Amanda

University of Guelph
Ontario, Canada
laird@uoguelph.ca

Martin, Maria

Università di Torino, DISAFA
Turin, Italy
maria.martin@unito.it

Murata, Alison

University of Alberta, Renewable Resources
Alberta, Canada
amurata@ualberta.ca

Neczaj, Ewa

Czestochowa University of Technology, Institute of
Environmental Engineering
Czestochowa, Poland
enecz@is.pcz.czest.pl

Staunton, Siobhan

INRA, UMR Eco & Sols
Montpellier, France
staunton@montpellier.inra.fr

Thorn, Ryan

University of Guelph
Ontario, Canada
thornr@uoguelph.ca

Vialykh, Elena

University of Calgary, Chemistry
Alberta, Canada
elena.vialykh@ucalgary.ca

Session 3

Abdellatif, Lobna

Agriculture and Agri-Food Canada
Saskatchewan, Canada
lobna.abdellatif@agr.gc.ca

Alotaibi, Fahad

Université de Montréal, Soil Science
Québec, Canada
fahad.alotaibi@umontreal.ca

Aulakh, Gurpreet

Laurentian University, Biology
Ontario, Canada
gs_aulakh@laurentian.ca

Bandekar, Basanti

Dalhousie University
Nova Scotia, Canada
basanti.bandekar@gmail.com

Carneiro, Marco Aurelio Carbone

Universidade Federal de Lavras
Minas Gerais, Brazil
marcocarbone@dcs.ufla.br

Constant, Philippe

INRS – Institut Armand-Frappier
Québec, Canada
philippe.constant@iaf.inrs.ca

Durán, Paola

Universidad de la Frontera, Scientific and
Technological Bioresource Nucleus
Temuco, Chile
paola.duran@ufrontera.cl

Fraser, Tandra

Colorado State University, Environmental
Sustainability
Colorado, USA
tandra.fraser@colostate.edu

García Berumen, José Abraham

Centro de Investigación y de Estudios Avanzados
(IPN)-Departamento de Biotecnología y Bioquímica
Mexico City, Mexico
jagarcia@ira.cinvestav.mx

Gebala, Aurelia

University of Hohenheim, Soil Science and Land
Evaluation
Stuttgart, Germany
aurelia.gebala@uni-hohenheim.de

Gillis, Daniel

McGill University, Bioresource Engineering
Québec, Canada
joseph.gillis@mail.mcgill.ca

Grishkan, Isabella

University of Haifa, Evolution
Haifa, Israel
grishkan@research.haifa.ac.il

Guo, Galen

Laurentian University
Ontario, Canada
gguo@laurentian.ca

Huangfu, Yanchong

University of Tennessee, Biosystems Engineering &
Soil Science
Tennessee, USA
yhuangfu@vols.utk.edu

Huot, Hermine

University of New York, Earth and Environmental Sciences
New York, USA
hermine.huot@yahoo.fr

Jazestani, Jamshid

McGill University, Bioresource Engineering
Québec, Canada
jamshid.jasestani@mail.mcgill.ca

Kotzé, Elmarie

University of the Free State, Soil, Crop and Climate Sciences
Bloemfontein, Free State, South Africa
kotzee@ufs.ac.za

Liu, Ting

Nanjing Agricultural University/ McGill University
China/ Canada
ting.liu3@mail.mcgill.ca

Mafa-Attoye, Tolulope

University of Guelph, Environmental Science
Ontario, Canada
tmafaat@uoguelph.ca

Merino, Carolina

Universidad de la Frontera, Ciencias Químicas y Recursos Naturales
Temuco, Chile
c.merinoguzman@gmail.com

Monokroukos, Nikolaos

Department of Biological Applications and Technology, University of Ioannina
Ioannina, Greece
nmonokro@bio.auth.gr

Najat, Nassr

RITTMo Agroenvironnement
Alsace, France
najat.nassr@rittmo.com

Noyce, Genevieve

University of Toronto, Physical and Environmental Sciences
Ontario, Canada
genevieve.noyce@mail.utoronto.ca

Ouertani, Selmene

Université Laval, Centre de recherche et d'innovation des végétaux
Québec, Canada
selmene.ouertani.1@ulaval.ca

Pichette, Jennifer

Laurentian University
Ontario, Canada
jx_pichette@laurentian.ca

Silamikele, Baiba

University of Latvia, Microbiology and Biotechnology
Riga, Latvia
silamikelebaiba@gmail.com

Smenderovac, Emily

Laurentian University, Living with Lakes Center
Ontario, Canada
esmenderovac@laurentian.ca

Williams-Johnson, Shanay

Laurentian University, Living with Lakes Center, Biology
Ontario, Canada
swilliamsjohnson@laurentian.ca

Session 4

Abail, Zhor

McGill University, Natural Resource Sciences
Québec, Canada
zhor.abail@mail.mcgill.ca

Aoyama, Masakazu

Hirosaki University, Agriculture and Life Science
Aomori, Japan
aoymam@hirosaki-u.ac.jp

Calabi-Floody, Marcela

Universidad de la Frontera, Soil Interaction and Natural Resources Biotechnology
Temuco, Chile
marcela.calabi@gmail.com

Chalavi, Vida

Sari Agricultural Sciences and Natural Resources University
Sari, Mazandaran, Iran
v.chalavi@sanru.ac.ir

Contreras, Francisco

University de la Frontera
Temuco, Chile
franciscocontrerasrivas@gmail.com

Coward, Elizabeth

University of Pennsylvania
Pennsylvania, USA
ecoward@sas.upenn.edu

Engoke, Canon

International Institute of Tropical Agriculture (IITA)
Ibadan, Oyo State, Nigeria
c.engoke@cgiar.org

Kazumichi, Fujii

Forestry and Forest Products Research Institute,
AFFRC
Ibaraki, Japan
fkazumichi@affrc.go.jp

Ishida, Débora Ayumi

Universidade de São Paulo
Piracicaba, Brazil
deborahishida@usp.br

Lin, Lisa

University of Toronto
Ontario, Canada
lisa.lin@mail.utoronto.ca

Lun, Olivia

University of Toronto
Ontario, Canada
olivia.lun@mail.utoronto.ca

Merino, Carolina

Universidad de la Frontera, Ciencias Químicas y
Recursos Naturales
Temuco, Chile
c.merinoguzman@gmail.com

Pronk, Geertje

University of Waterloo, Earth and Environmental
Sciences
Ontario, Canada
gpronk@uwaterloo.ca

Siebers, Nina

Institute of Bio- and Geosciences, IBG-3 Agrosphere
Jülich, Germany
n.siebers@fz-juelich.de

Staunton, Siobhan

INRA, UMR Eco&Sols
Montpellier, France
staunton@montpellier.inra.fr

Taghizadeh-Toosi, Arezoo

Aarhus University
Aarhus, Denmark
arezoo.taghizadeh-toosi@agro.au.dk

Vieira Batista, Marcos Antonio

Instituto Federal de Educação Ciência e Tecnologia
do Ceará-IFCE
Fortaleza, Brazil
batistamar@ig.com.br

Xu, Jianming

Institute of Soil and Water Resources and
Environmental Science, Zhejiang University
Zhejiang, China
jmxu@zju.edu.cn

Xu, Renkou

State Key Laboratory of Soil and Sustainable
Agriculture, Institute of Soil Science, Chinese
Academy of Science
Beijing, China
rxxu@issas.ac.cn

Zavarzina, Anna

Moscow State University, Soil Science
Moscow, Russia
zavarzina@mail.ru

Session 5

Abdi, Dalel

Soil and Crops Research and Development Centre,
AAFC
Québec, Canada
dalel.abdi.1@ulaval.ca

Audette, Yuki

University of Guelph
Ontario, Canada
yaudette@uoguelph.ca

Cade-Menun, Barbara

Semiarid Prairie Agriculture Research Centre, AAFC
Saskatchewan, Canada
barbara.cade-menun@agr.gc.ca

Estrada-Medina, Hector

Universidad Autónoma de Yucatán (UADY)
Yucatán, Mexico
hestr001@gmail.com

Gan, Qianjun

McGill University, Food Science
Québec, Canada
gianjun.gan@mail.mcgill.ca

Gauthier, Mélanie

Agro-Enviro-Lab
Québec, Canada
mgaughier@agro-enviro-lab.com

Gillespie, Adam

University of Saskatchewan, Canadian Light Source
Inc.
Saskatchewan, Canada
adam.gillespie@lightsource.ca

Makhani, Mitalie

McGill University, Natural Resource Sciences
Québec, Canada
mitalie.makhani@mail.mcgill.ca

Périard, Yann

Laval University, Soils and Agri-Food Engineering
Québec, Canada
yann.periard-larrivee.1@ulaval.ca

Plante, Alain

University of Pennsylvania
Pennsylvania, USA
aplante@sas.upenn.edu

Porter, Timothy

University of Nevada Las Vegas
Nevada, USA
tim.porter@unlv.edu

Sidhu, Savitz

McGill University, Natural Resource Sciences
Québec, Canada
savitz.sidhu@mail.mcgill.ca

Simpson, Myrna

University of Toronto, Environmental NMR Centre,
Environmental and Physical Sciences
Ontario, Canada
myrna.simpson@utoronto.ca

Taki, Rezvan

University of Guelph, Environmental Sciences
Ontario, Canada
rtaki@uoguelph.ca

Yang, Xueming

Greenhouse and Processing Crops Research Centre,
AAFC
Ontario, Canada
xueming.yang@agr.gc.ca

Session 6

Adamchuk, Viacheslav

McGill University, Bioresource Engineering
Québec, Canada
viacheslav.adamchuk@mcgill.ca

Ahmed, Naeem

McGill University
Québec, Canada
naeemahm@live.com

Alotaibi, Khaled

Soils and Crops Research and Development Centre,
AAFC
Québec, Canada
kalotaib@gmail.com

Amadi, Chukwudi

University of Saskatchewan, Soil Science
Saskatchewan, Canada
cca423@mail.usask.ca

Amiro, Brian

University of Manitoba
Manitoba, Canada
brian_amiro@umanitoba.ca

Lindsay, Brin

Potato Research Centre, AAFC
New Brunswick, Canada
lindsay.brin@gmail.com

Cambareri, Sebastian

University of Guelph, Environmental Sciences
Ontario, Canada
scambare@uoguelph.ca

Charles, Anaïs

McGill University, Natural Resource Sciences
Québec, Canada
ac.anais.charles@gmail.com

Congreves, Katelyn

Agriculture and Agri-Food Canada
Québec, Canada
kcongrev@uoguelph.ca

Hans, Geetkamal

University of British Columbia Okanagan,
Biochemistry
British Columbia, Canada
geet.hans@ubc.ca

Jennewein, Stephen

University of Florida, Everglades Research and Education Centre
Florida, USA
skiesareours@ufl.edu

Leite Luiz, F. C.

Piauí Federal University
Piauí, Brazil
luiz.f.leite@embrapa.br

Menasseri-Aubry, Safya

INRA, UMR INRA/Agrocampus Ouest « Sol Agro et hydrosystème Spatialisation »
Rennes, France
safya.menasseri@agrocampus-ouest.fr

Palacios, Joahnn

IRDA (Research and development institute for the Agri-environment)
Québec, Canada
joahnn.palacios@irda.qc.ca

Panday, Dinesh

Lincoln University, Center of Excellence GIS Lab,
Agriculture and Environmental Sciences
Missouri, USA
dinesh.panday239@my.lincolnu.edu

Raeini-Sarjaz, Mahmoud

Sari Agricultural Sciences and Natural Resources University
Sari, Mazandaran, Iran
m.raeini@sanru.ac.ir

Singh, Jessica

University of Guelph, Environmental Sciences
Ontario, Canada
jsingh16@uoguelph.ca

Vandenbygaart, Bert

Eastern Cereal and Oilseed Research Centre, AAFC
Ontario, Canada
bert.vandenbugaart@agr.gc.ca

Wu, Lan-Fang

Chinese Academy of Sciences, Geographical Sciences and Natural Resources Research
Beijing, China
wulf@igsnrr.ac.cn

Session 7

Abdi, Dalel

Soils and Crops Research and Development Centre, AAFC
Québec, Canada
dalel.abdi.1@ulaval.ca

Cade-Menun, Barbara

Semiarid Prairie Agriculture Research Centre, AAFC
Saskatchewan, Canada
barbara.cade-menun@agr.gc.ca

Damar, Hada

Université Laval, Soils and Agri-Food Engineering
Québec, Canada
dhdammam@yahoo.fr

Giles, Courtney

James Hutton Institute
Dundee, United Kingdom
courtney.giles@hutton.ac.uk

Moore, Tim

McGill University, Geography
Québec, Canada
tim.moore@mcgill.ca

Wang, Yu

Chinese Academy of Sciences, Soil Science
Beijing, China
wangyu@issas.ac.cn

Ziadi, Noura

Agriculture or Agri-Food Canada
Québec, Canada
noura.ziadi@agr.gc.ca

Session 8

Acuna, Jacquelinne

Universidad de la Frontera, Scientific and Biotechnological Bioresource Nucleus (BIOREN-UFRO)
Temuco, Chile
jacquelinne.acuna@ufrontera.cl

Arcand, Melissa

Agriculture and Agri-Food Canada
Québec, Canada
mmarcand@gmail.com

Arteaga, Jessica

Laurentian University, Biology
Ontario, Canada
jarteaga@laurentian.ca

Chen, Chen

South China Institute of Environmental Sciences
Guangzhou, China
chen.chen6@mail.mcgill.ca

Helgason, Bobbi

Saskatoon Research Centre, AAFC
Saskatchewan, Canada
bobbi.helgason@agr.gc.ca

Jeanne, Thomas

Institut de recherche et de développement en agroenvironnement (IRDA)
Québec, Canada
thomas.jeanne@irda.qc.ca

Masse, Jacynthe

University of British Columbia
British Columbia, Canada
jacynthe.masse@alumni.ubc.ca

Munroe, Jake

University of Guelph, Environmental Sciences
Ontario, Canada
jake.munroe89@gmail.com

Navarro Borrell, Adriana

Semiarid Prairie Agricultural Research Centre, AAFC
Saskatchewan, Canada
adriana.navarroburrell@agr.gc.ca

Neufeld, Katarina

University of British Columbia, Land and Food Systems
British Columbia, Canada
neufeld.katarina@gmail.com

Spence, Jennifer

Dalhousie University
Nova Scotia, Canada
jennifer.spence@dal.ca

Ziadi, Noura

Agriculture or Agri-Food Canada
Québec, Canada
noura.ziadi@agr.gc.ca

Session 9

Burton, David

Dalhousie University
Nova Scotia, Canada
dburton@dal.ca

Krzic, Maja

University of British Columbia, Land and Food Systems
British Columbia, Canada
krzic@interchange.ubc.ca

Jingyi, Yang

Greenhouse and Processing Crops Research Centre,
AAFC
Ontario, Canada
jingyi.yang@agr.gc.ca

Yates, Thomas

University of Saskatchewan, Soil Science
Saskatchewan, Canada
tom.yates@usask.ca

Session 11

Hobson, Claire

Carleton University, Environmental Sciences
Ontario, Canada
cmhobson@connect.carleton.ca

Lafond, Jonathan

Université Laval, département des sols et de génie
agroalimentaire
Québec, Canada
jonathan.lafond.2@ulaval.ca

Saint-Laurent, Diane

Université du Québec à Trois-Rivières (UQTR)
Québec, Canada
diane.saint-laurent@uqtr.ca

Shahriar, Md Shayeb

University of Saskatchewan, Soil Science
Saskatchewan, Canada
shayeb.shahriar@usask.ca

Silamikele, Inese

University of Latvia, Biology
Riga, Latvia
Inese.silamikele@lu.lv

Zhang, Zidan

University of Saskatchewan, Soil Science
Saskatchewan, Canada
zhidanzhang79@163.com

Session 12

Samson, Marie-Élise

Laval University, Agricultural and Food Sciences
Québec, Canada
marie-elise.samson.1@ulaval.ca

Zhang, Jin

Simon Fraser University, Geography
British Columbia, Canada
jza18@sfu.ca

Zhang, Yakun

McGill University, Natural Resource Sciences
Québec, Canada
yakun.zhang@mail.mcgill.ca

Session 13

Andronak, Lindsey

Western Ag Innovations
Saskatchewan, Canada
lindseyandronak@westernag.ca

Banihashemi, Avid

University of Waterloo, Ecohydrology Research Group
Ontario, Canada
a2baniha@uwaterloo.ca

Cambouris, Athyna

Soil and Crops Research and Development Centre,
AAFC
Québec, Canada
athyna.cambouris@agr.gc.ca

Cao, Yu

University of Guelph, Environmental Sciences
Ontario, Canada
ycao02@uoguelph.ca

Congreves, Katelyn

Agriculture and Agri-Food Canada
Québec, Canada
kcongrev@uoguelph.ca

Elliot, Jane

Environment Canada
Ontario, Canada
jane.elliot@ec.gc.ca

Grewer, David

University of Toronto at Scarborough
Ontario, Canada
david.grewer@mail.utoronto.ca

Gumiere, Silvio

Université Laval, département des sols et de génie
agroalimentaire
Québec, Canada
silvio-jose.gumiere@fsaa.ulaval.ca

He, Wentian

Greenhouse and Processing Crops Research Centre,
AAFC
Ontario, Canada
wentian.he@agr.gc.ca

Kwak, Jin-Hyeob

University of Alberta, Renewable Resources
Alberta, Canada
jinhyeob@ualberta.ca

Lychuk, Taras

Brandon Research Centre, AAFC
Manitoba, Canada
taras.lychuk@agr.gc.ca

Manns, Hida

University of Guelph
Ontario, Canada
hmanns@trentu.ca

Martel, Myra

Lethbridge Research Centre, AAFC
Alberta, Canada
myra.martel@agr.gc.ca

Robbins, Naomi

University of PEI, Canadian Rivers Institute
Prince Edward Island, Canada
robbins.n@gmail.com

Sidhu, Savitz

McGill University, Natural Resource Sciences
Québec, Canada
savitz.sidhu@mail.mcgill.ca

Tian, Tian

University of Guelph, Environmental Sciences
Ontario, Canada
tian01@uoguelph.ca

Van Eerd, L.L.

University of Guelph, Environmental Sciences
Ontario, Canada
Ivaneerd@uoguelph.ca

Yang, Jingyi

Greenhouse and Processing Crops Research Centre,
AAFC
Ontario, Canada
jingyi.yang@agr.gc.ca

Zhao, Ying

University of Saskatchewan, Soil Science
Saskatchewan, Canada
yzhao@soils@gmail.com

Session 14

Cambouris, Athyna

Soil Crops Research and Development Centre
(SCRDC), AAFC
Québec, Canada
athyna.cambouris@agr.gc.ca

Congreves, Katelyn

Agriculture and Agri-Food Canada
Québec, Canada
kcongrev@uoguelph.ca

Daei, Mohammad Ali

Medical Doctor and Researcher in Biology
Iran
drdaeip@gmail.com

Merino-Gerichevich, Cristian

BIOREN-UFRO, Universidad de La Frontera
Temuco, Chile
cristian.merino@ufrontera.cl

Panday, Dinesh

Lincoln University, Agriculture and Environmental
Sciences
Minnesota, USA
dinesh.panday239@my.lincoln.edu

Périard, Yann

Laval University, Soils and Agri-Food Engineering
Québec, Canada
yann.periard-larivée.1@ulaval.ca

Seguel, Alex

Universidad de la Frontera, Scientific and
Technological Bioresource
Temuco, Chile
alex.seguel@ufrontera.cl

Xu, Yan

Université Laval
Québec, Canada
xuyan86313@gmail.com

Session 15

Antoun, Hani

Université Laval, département des sols et génie agroalimentaire & CRIV
Québec, Canada
hani.antoun.1@ulaval.ca

Bekele, Asfaw

Imperial Oil Resources
Calgary, Canada
asfaw.bekele@esso.ca

Chan, Jaclyn

University of Queensland, Mined Land Rehabilitation
Ontario, Canada
j.chan9@uq.edu.au

Hossaini, Faiza

University of Tehran
Tehran, Iran
fa_hosseini.90@ut.ac.ir

Indraratne, Srimathie

University of Peradeniya, Agriculture
Peradeniya, Sri Lanka
srimathipi@yahoo.ca

Luo, Ling

University of Hong Kong, Biological Sciences
Hong Kong, China
luoling@hku.hk

Ngo, Thi Phuong

Bioren centre, universidad de la Frontera
Temuco, Chile
ngophuongchimie@gmail.com

Session 17

Buffet, Jean-Philippe

INRS – Institut Armand-Frappier
Québec, Canada
jean-philippe.buffet@iaf.inrs.ca

Civil, Nody

Université Laval, département des sols et de genie agroalimentaire
Québec, Canada
nody.civil.1@ulaval.ca

Elmi, Abdirashid

Kathmandu University, Department of Environment and Tech Management
Nepal
a.elmi@ku.edu.kw

Nkongolo, Nsalambi

Lincoln University of Missouri, Agriculture and Environmental Sciences
Missouri, USA
nkongolo@lincolnu.edu

Trunov, Alexander

Institute of Global Climate and Ecology
Chita, Russia
trunov88@bk.ru

NOTES

NOTES

NOTES