

2022 Joint Canadian Society of Soil Science (CSSS) Annual Meeting- Alberta Soil Science Workshop (ASSW)

May 23-27, 2022

Lister Conference Centre
11613 87 Ave NW
University of Alberta Campus
Edmonton, Alberta

Registration

Monday, May 23, 2022

13:00-21:00, Hallway off the Maple Leaf room

Reception

Monday, May 23, 2022

18:30-21:00, Reception, Maple Leaf room

Oral Presentation Time Table

Tuesday, May 24, 2022

Time	Name	Title
8:15-8:30	Scott Chang & Symon Mezbahuddin	Opening Ceremony in Maple Leaf Room

Session I – Plenary. Room: Maple Leaf Chairs: Scott Chang and Symon Mezbahuddin		
08:30 - 09:20	Yong Sik Ok	Metal Contamination and Bioremediation of Agricultural Soils for Food Safety and Sustainability
9:20- 10:10	William Shotyk	Soil: The Key to Understanding Trace Elements in Air, Water, and Plants, from Source Assessment to Ecological Significance
10:10-10:30	Coffee break (sponsored by Canadian Natural Resources Limited (CNRL)) (Derek MacKenzie: Soil Health Leadership Meeting)	

Session 15 - Beyond Soil Test P: Phosphorus Biogeochemistry in Canadian Soils. Room: Maple Leaf Convenors: Aimé J. Messiga, Barbara Cade-Menun, Noura Ziadi		
10:30 – 10:45	Pablo Raguet	Dynamic of organic phosphorus in ploughed soil layer of three contrasting long-term field experiments
10:45 – 11:00	Busayo Kodaolu	Phosphorus accumulation and availability in a long-term field experiment treated with inorganic phosphorus fertilizer and organic fertilizers from different sources
11:00-11:15	Sylvia Nyamaizi	Starter phosphorus on silage corn biomass, root growth and soil phosphate changes in the Fraser Valley
11:15-11:30	Thidarat Rupngam	Phosphorus solubility and redox reactions in a soil under waterlogging conditions
11:30-11:45	Barbara J. Cade-Menun	Phosphorus biogeochemistry differs in rhizosphere compared to bulk soils in long-

		term wheat fertilization trials in Saskatchewan, Canada
11:45-12:00	Discussion	
12:00-13:00	Lunch (Pedology Committee AGM, Aurora Room)	

Session 21 - Soil Structure and Soil Health. Room: Maple Leaf Convenors: Mary Thornbush, Richard Heck, Adam Gillespie, Olatunbosun Ayetan		
13:00-13:15	Jeff Battigelli	Assessing soil mesofauna communities using long-term soil quality monitoring plots in agricultural soils across Alberta
13:15-13:30	Cindy Denoncourt	Can animal manure support both carbon sequestration and nitrogen supply in agricultural soils?
13:30-13:45	Yelena Gomez	Drainage of a cultivated organic soil by biomass-filled drainage trench
13:45-14:00	Ekene Mark-Anthony Iheshiulo	Do Diversified Crop Rotations Influence Soil Structure? A Global Meta-Analysis Examining Species Diversity and Management Practices
14:00-14:15	Mary Thornbush	Computed Tomography Image Analysis used to Identify and Quantify Crusts in Agricultural Soils
14:15-14:30	Discussion	
14:30-15:00	Coffee break (sponsored by Canadian Natural Resources Limited (CNRL))	

Session 12 - Soil Fertility and Nutrient Management for Sustainable Crop Production. Room: Maple Leaf Convenors: Len Kryzanowski		
15:00-15:15	Jilene Sauvé	Monitoring of Soil Salinity and Sodicity for Wastewater Irrigation
15:15-15:30	Manushi Henagama Liyanage	Agronomic response of spring wheat to struvite as affected by green manure crops in a crop rotation
15:30-15:45	Hiral Jariwala	Are controlled release fertilizers (CRFs) ready for climate-smart agriculture?
15:45-16:00	Ibrahim Mohammed	¹³ C Solid-state NMR investigation of functional groups distribution and molecular structure of reactive soil organic matter fraction after long-term application of organic amendments
16:00-16:15	Kwame Ampong	Applying humalite for enhancing wheat production and soil health
16:15-16:30	Leah Ritcey-Thorpe	It's in the roots: nutrient acquisition strategies of field crops in response to seed inoculation and organic soil management
16:30-16:45	Tom Bruulsema	Furthering 4R Nutrient Stewardship for Future Farming
16:45-17:00	Discussion	

Session 4 - Soil Taxonomy and Pedology. Room: Aurora Convenors: Daniel Saurette, Angela Bedard-Haughn		
10:30 – 11:00	TBD	TBD
11:00-11:15	Daniel Saurette	A Proposed Framework for Assigning Soil Drainage Classes to Non-Redoximorphic Soils in the Canadian System of Soil Classification
11:15-11:30	Miles Dyck	Gray Luvisols are Polygenetic
11:30-11:45	Jim Warren	Proposed Leptosolic Order for The Canadian System of Soil Classification
11:45-12:00	Discussion	
12:00-13:00	Lunch (Pedology Committee AGM, Aurora Room)	

Session 1 - General Soil Science. Room: Aurora Convenors: Tariq Siddique, Scott Chang		
13:00-13:15	Wenjie Chi	Verify and Characterize the Effects of New N ₂ -fixing inoculant for Use with Wheat, Canola, and Soybean
13:15-13:30	Xinli Chen	Plant diversity differentially affects soil phosphorus in bulk and rhizosphere soils
13:30-13:45	Maria Luna	Characterization of soil geochemical and colour properties across two contrasting land uses
13:45-14:00	Emmanuel Mapfumo	Impacts of management change on organic carbon under perennial and annual grass-legume mixtures on a Black Chernozemic soil
14:00-14:15	Erika H. Young	The impacts of rock pulverization on functional properties of boreal lands converted from forest to agricultural use
14:15-14:30	Discussion	
14:30-15:00	Coffee break (sponsored by Canadian Natural Resources Limited (CNRL))	

Session 1 - General Soil Science. Room: Aurora Convenors: Tariq Siddique, Scott Chang		
15:00-15:15	Emmanuel Mapfumo	Pre-1980 versus post-1980 climate trends at Breton Plots, Alberta: is there any evidence of local climate change?
15:15-15:30	Jawaria Johar	Phyto-microbial Remediation of PAHs and HMs Contaminated Soils using Biochar and Bacterial strains and metagenomic studies for PAH degrading genes
15:30-15:45	Alsu Kuznetsova	Soils as environmental reservoir of chronic wasting disease prions
15:45-16:00	Jingyu Zhang	Quantification and visualization of soil health under long-term fertilizer and rotation treatments in Alberta
16:00-16:15	Joseph G. Crudo	The Long-Term Effects of Compaction and Organic Matter Removal on Forest Soil

16:15-16:30	Hannah Keenes	Survey of Cow-calf Operations to Characterize Manure Management, Nutrient Composition, and Greenhouse Gas Emissions
16:30-16:45	Discussion	

Session 19 - Soil and Water Conservation in the Face of Climate Change. Room: Prairie Convenors: Henry Wai Chau, Asim Biswas, Bing Cheng Si		
10:30 – 10:45	Mengfan Cai	The Effect of Conservation Measures and Climate Change on Water and Soil Erosion on the Hilly Loess Plateau
10:45 – 11:00	Charles Frenette-Vallières	Electrostatic charging of organic dust emission in south Quebec cultivated histosols
11:00-11:15	Bryan Driscoll	The effects of terraces and tile drainage as best management practices on labile soil carbon fractions and greenhouse gas emissions
11:15-11:30	Pouya Khalili	Evaluation of crop production in response to changes in blue and green water resources in Canadian Prairies
11:30-11:45	Anne Paquette	Root Water Uptake of Spring Wheat in the Dark Brown and Black Soil Zones of Saskatchewan
11:45-12:00	Discussion	
12:00-13:00	Lunch (Pedology Committee AGM, Aurora Room)	

Session 16 - Greenhouse Gas Emissions from Agricultural Soils. Room: Prairie Convenors: David Pelster, Aaron Glenn, Joann Whalen		
13:00-13:15	Bobbi Helgason	Higher than expected N ₂ O emissions from canola residues: stable isotope tracing reveals soil organic matter as the dominant source of N ₂ O-N
13:15-13:30	Kathryn Webb	Effect of fall rye cover crop on CO ₂ and N ₂ O fluxes in the Red River Valley, Manitoba, Canada
13:30-13:45	Erin Daly	Soil nitrous oxide emissions from novel perennial grain systems and their relationship to soil physical and hydraulic properties
13:45-14:00	Kira Borden	Optimizing the benefits of cover crops to reduce nitrous oxide emissions: the impact of freeze-thaw
14:00-14:15	Nicole Menheere	Mitigating nitrous oxide emission from corn using nitrification and urease inhibitors following cover crop use
14:15-14:30	Discussion	

14:30-15:00	Coffee break (sponsored by Canadian Natural Resources Limited (CNRL))	
Session 16 - Greenhouse Gas Emissions from Agricultural Soils. Room: Prairie Convenors: David Pelster, Aaron Glenn, Joann Whalen		
15:00-15:15	Kody Oleson	4R Options to Reduce N2O Emissions from Corn in Sandy Soils
15:15-15:30	Siyuan Wang	Biochar mitigates N2O emissions from sandy soil by improving soil pore structure and increasing nosZ gene abundance
15:30-15:45	Waqar Ashiq	Understanding the complex interconnections between topography and soil physical, chemical, and biological controls of N2O emissions
15:45-16:00	Badewa E. A.	Effects of biobased residues on greenhouse gas emissions during growing and non-growing seasons
16:00-16:15	Jiancan Liu	Greenhouse gas emissions from beef cattle urine and dung patch as affected by the non-bloat legumes
16:15-16:30	Jayamini Rathnayake	Greenhouse gas emission during composting of different mixing combinations of natural resource by-products: Incubation study
16:30-16:45	Discussion	

Session 2 - Data Science, Modelling and AI in Soil Science. Room: Gracier Convenors: Symon Mezbahuddin		
10:30 – 10:45	Roland Kröbel	Holos V4 release – updates and open source development
10:45 – 11:00	Jamin Achtymichuk	Modelling soil organic matter dynamics at the University of Alberta’s Breton Plots using CQESTR
11:00-11:15	Camile Sothe	Mapping Canada’s soil organic carbon from space
11:15-11:30	Gleb Kravchinsky	Assessing the risk of deep percolation at a phosphogypsum reclamation site that has been phyto-capped
11:30-11:45	Chih-Yu Hung	Modelling shadow and cover effects on manure temperature
11:45-12:00	Discussion	
12:00-13:00	Lunch (Pedology Committee AGM, Aurora Room)	
Session 2 - Data Science, Modelling and AI in Soil Science. Room: Gracier Convenors: Symon Mezbahuddin		
13:00-13:15	Adrienne Arbor	Improving the performance of equation based pedotransfer functions from literature using a non-linear least squares approach
13:15-13:30	Vanessa Caron	Using Artificial Intelligence and Earth Observation Technology to Identify Mineral Soil Pads in Peatlands

13:30-13:45	Symon Mezbahuddin	Alberta Farm Fertilizer Information and Recommendation Manager (AFFIRM) Version 3.0
13:45-14:00	Timm F. Döbert	Scenario-based modelling of soil organic carbon under avoided grassland conversion
14:00-14:15	Kate Kuntu-Blankson	Process-based modelling of N2O emissions from cattle urine patches using ecosys
14:15-14:30	Discussion	
14:30-15:00	Coffee break (sponsored by Canadian Natural Resources Limited (CNRL))	
Session 2 - Data Science, Modelling and AI in Soil Science. Room: Gracier Convenors: Symon Mezbahuddin		
15:00-15:15	Nikisha Muhandiram	Modelling soil health indicators under an Intermediate Wheatgrass perennial forage grain system
15:15-15:30	Junye Wang	Machine learning applications to water quality analysis
15:30-15:45	Natalie Shelby-James	The Alberta Background Soil Quality System Project
15:45-16:00	Asim Biswas	A machine learning based approach for downscaling soil water index (SWI) derived from satellite imagery
16:00-16:15	Paul Fuellbrandt	Soil and Groundwater Remediation Guideline Calculator
16:15-16:30	Tegbaru B. Gobezie	Harmonized Ontario Soil Data: the Basis for Ontario Soil Information System (OSIS)
16:30-16:45	Discussion	

Tuesday, May 24, 2022

17:00-19:00	CSSS AGM
19:00-21:00	Student activities

Wednesday, May 25, 2022

Session I – Plenary. Room: Maple Leaf Chairs: Asim Biswas, Len Kryzanowski		
08:30 - 09:20	Merritt Turetsky	The future of northern organic soils: threats and opportunities
9:20 - 10:10	Melissa Arcand	Reciprocity in soil science: knowledge sharing and co-creation for soil management on First Nations agricultural lands
10:10-10:30	Coffee break	

Session 9 - General Land Reclamation Session. Room: Maple Leaf Convenors: Sebastian Dietrich, Deo Heeraman, Gregory Hook, Mark Bateman		
10:30 – 10:45	Clemence Muitire	Temporal changes in soil hydraulic properties of cropland soils following restoration of pipeline corridors on cropland
10:45 – 11:00	Maryam Firoozbakht	Biodegradation of polycyclic aromatic hydrocarbons under different redox conditions
11:00-11:15	Takudzwa Nawu	Revegetation of oil wellsites reclaimed with suboptimal topsoil replacement depth and organic amendments in northeastern Alberta
11:15-11:30	Theresa Adesanya	Phosphorus release from municipal biosolids under simulated flooding during terrestrial phytoremediation
11:30-11:45	Iram Afzal	Effect of Iron-oxide minerals on the biodegradation of mono-aromatic hydrocarbons
11:45-12:00	Discussion	
12:00-13:00	Lunch (Soil Education Committee AGM)	
13:00-14:30	Poster session	
14:30-14:45	Coffee break/Poster session	

Session 13 - Soil Fertility and Nutrient Management to Mitigate the Impact on Water Quality. Room: Maple Leaf Convenors: Don Flaten		
14:45-15:00	Sepideh Kheirkhah	Effects of Ecological Farming on Soil and Water Quality of Agricultural Lands in Canadian Prairies
15:00-15:15	Madelynn Perry	Long-term benefits of soil amendments in reducing phosphorus losses from soils during simulated snowmelt flooding
15:15-15:30	Haven Soto	Quantifying the transport potential of antibiotics and their degradation products in spring-thaw snowmelt runoff from manure-amended cropland
15:30-15:45	Viranga Weerasinghe	Phosphorus release from manured soils under simulated snowmelt conditions

15:45-16:00	Blake Weiseth	Impact of fertilizer P source, rate, and placement strategy on wheat yield and P uptake across variable topographies in Saskatchewan
16:00-16:15	Jian Liu	Targeting Soil Phosphorus Management for Improving Water Quality
16:15-16:30	Vivekananthan Kokulan	Optimizing crop production while minimizing environmental phosphorus losses using struvite: A case study
16:30-16:45	Discussion	

Session 18 - Fostering Soil Carbon Sequestration and Protection: Advances in Our Understanding and the Practical Implications. Room: Aurora
Convenors: Cole D. Gross, Adam Gillespie

10:30 – 10:45	Brian Wallace	Elevation Gradient Drives Distribution of Soil Carbon and Plant Communities in a Semiarid Grassland in British Columbia
10:45 – 11:00	Inderjot Chahal	Long-term effects of tillage and crop rotation on soil C and N storage in a temperate humid climate
11:00-11:15	Chantel Chizen	Looking Deeper at Soil Organic Carbon Storage in Prairie Potholes
11:15-11:30	Jeewan Gamage	Molecular characterization of soil organic matter (SOM) under different land uses by DRIFT and ¹³ C DP-MAS NMR spectroscopy
11:30-11:45	Gazali Issah	Forage quality improvement and soil carbon and nitrogen dynamics in grazed pastures: the role of non-bloat legumes
11:45-12:00	Discussion	
12:00-13:00	Lunch (Soil Education Committee AGM)	
13:00-14:30	Poster session	
14:30-14:45	Coffee break/poster session	

Session 18 - Fostering Soil Carbon Sequestration and Protection: Advances in Our Understanding and the Practical Implications. Room: Aurora
Convenors: Cole D. Gross, Adam Gillespie

14:45-15:00	Cole D. Gross	Agroforestry Perennials Reduce Nitrous Oxide Emissions and Their Live and Dead Trees Increase Ecosystem Carbon Storage
15:00-15:15	Reza Khalidy	Field demonstrations in Southern Ontario of silicate mineral amendment effect on soil carbon sequestration (inorganic and organic)
15:15-15:30	Thea Whitman	Tracing pyrogenic organic matter stocks and fluxes using CO ₂ flux tracing, three-part partitioning, and nanoSIMS
15:30-15:45	Zhengfeng An	Quantifying past, current, and future forest carbon stocks within agroforestry systems in central Alberta, Canada

15:45-16:00	Discussion
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Session 9 - General Land Reclamation Session. Room: Aurora Convenors: Sebastian Dietrich, Deo Heeraman, Gregory Hook, Mark Bateman		
16:00-16:15	Chrissie Smith	Reclamation Certification Achieved using Remote Sensing Technology
16:15-16:30	Henian Guo	Methanogenic Degradation of PAHs in Oil Sands Tailings
16:30-16:45	Laura Manchola-Rojas	Buried wood effects on nutrient supply and microbial activity in oil sands reclamation soils in northern Alberta
16:45-17:00	Akshit Puri	Investigating the role of tree microbiome in sustaining the growth of pioneering pines in an unreclaimed aggregate mining ecosystem
17:00-17:15	Discussion	

Session 20 - Soil and Plant Microbiomes. Room: Prairie Convenors: Monika Gorzelak, Luke Bainard, Francois Teste		
10:30 – 10:45	Angelica M. Aguirre	Drivers of soil bacterial community composition and co-currence in agricultural systems of Alberta
10:45 – 11:00	Kris Guenette	Optimizing Nitrogen use-efficiency and Arbuscular Mycorrhizae Inoculation Potential in Canadian Cereal Crops
11:00-11:15	Jean-Thomas Cornelis	Soil controls on root exudate functions
11:15-11:30	Jacynthe Masse	No-till and variable P- and N-fertilization levels led to contrasting soil bacterial, fungal and nematodes communities in a 29-years long-term experimental site
11:30-11:45	Claudia Goyer	Influence of Chemical Fumigation on Soil N and C Cycling, and the Soil Microbial Diversity
11:45-12:00	Discussion	
12:00-13:00	Lunch (Soil Education Committee AGM)	
13:00-14:30	Poster session	
14:30-14:45	Coffee break/Poster session	
Session 20 - Soil and Plant Microbiomes. Room: Prairie Convenors: Monika Gorzelak, Luke Bainard, Francois Teste		
14:45-15:00	Patrick Neuberger	Assessing soil storage strategies for microbial community characterization of long-term agricultural plots
15:00-15:15	Alan Lee	Arbuscular mycorrhizal fungi in oat-pea intercropping
15:15-15:30	Nadir Erbilgin	Legacy effects of disturbances on above ground pine metabolites

15:30-15:45	Discussion
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Session 22 - Special Graduate Student Session. Room: Prairie Convenors: Xinli Chen, Ali El-Naggar		
15:45-16:00	Abhijeet Pathy	Activation Methods Increase Biochar's Potential for Heavy-Metal Adsorption: A Global Meta-Analysis
16:00-16:15	Keshav Parameshwaran	Physical-based hydrological modelling to predict soil moisture in the vadose zone in a mesoscale catchment
16:15-16:30	Nageshwari Krishnamoorthy	Electro-coagulation modified microalgal biochar for enhancing struvite crystallization
16:30-16:45	Deborah Cristina Crominski da Silva Medeiros	Reclamation materials from an oil and gas industry as adsorbents of naphthenic acids from oil sands process water: preliminary experiments
16:45-17:00	Discussion	

Session 5 - Advances in Predictive Digital Soil Mapping. Room: Glacier		
Convenors: Brandon Heung, Asim Biswas, Angela Bedard-Haughn, Daniel Saurette		
10:30 – 10:45	Daniel Saurette	Divergence metrics for Optimizing Sample Design in Digital Soil Mapping
10:45 – 11:00	William Bethel	Use of LiDAR and machine-learning to predict soil attributes of managed forests in Eastern Nova Scotia
11:00-11:15	Raphaël Deragon	Mapping maximum peat thickness of cultivated Organic soils in the southwest plain of Montreal
11:15-11:30	Christopher Blackford	A comparison of predictive soil map uncertainty metrics and their methodologies
11:30-11:45	Jim Warren	Application of Radiometric Data to Predictive Digital Soil Mapping in Ontario
11:45-12:00	Discussion	
12:00-13:00	Lunch (Soil Education Committee AGM)	
13:00-14:00	Poster session	
14:00-14:30	Coffee break/Poster session	
Session 5 - Advances in Predictive Digital Soil Mapping. Room: Glacier		
Convenors: Brandon Heung, Asim Biswas, Angela Bedard-Haughn, Daniel Saurette		
14:45-15:00	Babak Kasraei	Predictive Digital Soil Mapping with Uncertainty Estimation for British Columbia
15:00-15:15	Preston Sorenson	Improved Parent Material Map Disaggregation Methods in the Saskatchewan

		Prairies Using Historical Bare Soil Composite Imagery
15:15-15:30	Tahmid Huq Easher	Disaggregating Organic Matter Map of Agricultural Soils, Québec, Canada
15:30-15:45	Discussion	

Session 6 - Digital Agriculture. Room: Glacier Convenors: Asim Biswas, Reem Zeitoun, Mervin St-Luce, Viacheslav Adamchuk, Len Kryzanowski		
15:45-16:00	Mervin St. Luce	Introducing GLOBAL-LOCAL: A new approach to predict soil organic carbon at the local field scale from large soil spectral libraries
16:00-16:15	Farzad Shirzaditabar	Evaluation of topsoil Magnetic Susceptibility as a criteria for distinguishing soils in Ontario
16:15-16:30	Claudia Quilesfogel-Esparza	Standardizing Optical Sensor Canopy Reflectance to Improve Grain Corn Yield Predictions
16:30-16:45	Clinton Mensah	Multi-Frequency Electromagnetic Induction Soil Moisture Characterization Under Different Land Uses in Western Newfoundland
16:45-17:00	Louis-Étienne Lessard	Deficit irrigation effect on almond yield and water consumption
17:00-17:15	Discussion	

Wednesday, May 25, 2022

Banquet	
18:00-20:30	Banquet and CSSS awards

Thursday, May 26, 2022

Mid-conference field tour

Friday, May 27, 2022

Session 12 - Soil Fertility and Nutrient Management for Sustainable Crop Production. Room: Maple Leaf Convenors: Len Kryzanowski		
8:30-8:45	Tom Jensen	Assessing Acidification of Cultivated Soils in the Southern Prairies
8:45-9:00	Adebusoye O. Onanuga	Carbon emission, soil properties, intercropping of cucumber-tomato and carrot-cabbage crops performance affected by application of biochar, urea, and rock phosphate
9:00-9:15	Thierry Fonville	Nutrient availability of management practices to advance farm profitability and sustainability
9:15-9:30	Lina Du	Size fractionation of trace elements in soil solutions recovered from soils under contrasting long-term agricultural management
9:30-9:45	Judith Nyiraneza	Soil nitrate, soil properties and potato yield responses to different preceding forage crops
9:45-10:00	Ahmed Lasisi	Types and Diversity of Pulses for Wheat Nitrogen Utilization in Two 4-Year Pulse-Wheat Rotation Cycles
10:00-10:15	Discussion	
10:15-10:45	Coffee break	

Session 10 - The Good, the Bad, and the Ugly: Integrating Technology in the Field, Lab and/or Classroom. Room: Maple Leaf Convenors: Thomas Yates, Maja Krzic, Amanda Diochon		
10:45 – 11:00	Tom Yates	Introducing mobile technology in a field-based course – student and instructor perceptions
11:00-11:15	Maja Krzic	Question banks in teaching and learning basic soil science concepts
11:15-11:30	Sandra Brown	What students want versus what is effective: lessons learned for the post-COVID classroom
11:30-12:00	Tom Yates, Maja Krzic, Amanda Diochon	Using apps to support teaching of soils skills and knowledge – round table discussion
12:00-	Lunch (ASSW AGM)	

Session 17 - Canada's National Inventory Reporting of Greenhouse Gases: Meeting Target Reductions Rests on Sound Emission Estimates. Room: Aurora Convenors: Mario Tenuta, Rich Farrell		
8:30-8:45	Doug MacDonald	TBD

	(by Zoom)	
8:45-9:00	Steve Del Grosso (by Zoom)	TBD
9:00-9:15	Annette Freibauer (by Zoom)	TBD
9:15-9:30	David Pelster	CongrUpdating non-growing season:annual N2O emission ratio from Canadian croplands
9:30-9:45	J. Y. Yang	Changes in Reactive Nitrogen Losses from Canadian Agricultural Land over 36 years
9:45-10:00	Sisi Lin	Changes in pulse type and frequency in rotations affect CO2 and N2O emissions on the semi-arid Canadian prairies
10:00-10:15	Discussion	
10:15-10:45	Coffee break	

Session 11 - Soil Properties in Nutrient and Water Transport in the Vadose Zone. Room: Aurora Convenors: Hida R Manns, Yefang Jiang		
10:45 – 11:15	Bing Cheng Si	The Ecohydrology of deep soil water
11:15-11:45	Y. Jiang	Seasonal release of historical nitrate from vadose zone delays underlying groundwater quality response to BMPs
11:45-12:00	Hida Manns	The contentious size range terminology of soil pores
12:00-	Lunch (ASSW AGM)	

Session 3 - Soil Data Curation. Room: Prairie Convenors: Asim Biswas, Tegbaru B. Gobezie, Brandon Heung, Daniel Saurette, Kara Webster		
8:30-8:45	Brandon Heung	Introducing the Canadian Soil Data Portal: The path towards renewing our digital soil information system
8:45-9:00	Daniel Saurette	Legacy Soil Survey Data Recovery in Ontario: cards to computers
9:00-9:15	Chuck Bulmer	Evaluating the reliability of soil pit locations within the BC Soil Information System
9:15-9:30	J. Zhang	Building an enhanced soil information database for British Columbia
9:30-9:45	Deepa Filatow	BC Soil Survey Data Curation – Challenges and Successes
9:45-10:15	Discussion	

10:15-10:45	Coffee break
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Session 8 - Advances in Material Synthesis for Soil Remediation. Room: Prairie Convenors: Christopher Nzediegwu, Deborah Cristina Crominski da Silva Medeiros		
10:45 – 11:00	Christopher Nzediegwu	Hydrothermal carbonization produces more recalcitrant soil conditioners from a given feedstock than pyrolysis
11:00-11:15	Mano Krishnapillai	Effect of Combining Biostimulation using Compost and Rhizoremediation using Grass and Dandelion for Bioremediating an Oil-contaminated Soil
11:15-11:30	Ali El-Naggar	Biochar effectively remediates Cd contamination in acidic or coarse- and medium-textured soils: A global meta-analysis
11:30-11:45	Michael D. Preston	The feasibility of using municipal compost cover over Cu-Ni tailings as a growth medium for biofuel crops
11:45-12:00	Discussion	
12:00-	Lunch (ASSW AGM)	

Friday, May 27, and Saturday, May 28, 2022

Workshops			
Workshop #	Organizers	Workshop title	Location/time
1	Daniel Saurette and Brandon Heung	Canadian Digital Soil Mapping Workshop	Aurora Room, May 27, 1:30-5:30 pm and May 28, 8:00 am-12:00 pm MDT
2	David Spiess	Alberta Soil Information Viewer Presentation and Workshop	Prairie Room, May 27, 1:30 - 3:30 pm MDT
3	Valerie Miller and various members of LRIGS (Land Reclamation International Graduate School)	Land Reclamation And Community Outreach - Educating Through Dungeons and Dragons	Maple Leaf Room, May 27, 3:00 - 5:00 pm MDT
4	Fiorella Barraza and William Shotyk	Trace elements analyses of soil, water, and plants: challenges and strategies	SAB 150 (South Academic Building Room 150, U of A campus), May 27, 1:30 - 5:00 pm MDT
5	Roland Kroebel, Aaron McPherson and Sarah J. Pogue	HOLOS V4 training	Glacier Room, May 27, 1:30 - 4:30 pm MDT

Poster session

The poster session will be held in the Wild Rose Room

Posters will be on display on May 24 and 25. Poster size: 4 x 6 ft.

Poster presenters to be present between 13:00 and 14:30 on Wednesday, May 25.