

CSSS Annual Conference Program

Poster Presentations

Session 1 (Monday): Advances in Digital Soil Data Management & Predictive Modelling

Presenter	Abstract
Ehsan Chatraei	Insights into Precision Agriculture for Potato Crop Yield Monitoring using UAV Imagery and Soil Parameter Analysis
Noman Ahmad	Evaluation of Soybean Cultivation Zones in Jaranwala Subtropical Desert Climate Using Remote Sensing and GIS-Based Decision-Making Techniques

Session 7 (Monday): Hydrogeophysics to Support Precision Agriculture

Presenter	Abstract
Golam Rabbani	Correlation Between Total Iron Concentration and Apparent Magnetic Susceptibility (Msa) for the Spatial Variability of Soil Organic Matter (SOM) in Agricultural Land
Juwonlo Emmanuel Dahunsi	Comparing Hydraulic Conductivities of Podzolic Soil Under Different Land Use Conditions for Geophysical Studies
Madhiyazhaki Nallusamy	Supervised Image Classification for Accurate Soil Compaction Mapping Using Electromagnetic Induction Data
Sashini Pathirana	Influence of Tillage and Soil Compaction on The Proxies of Ground-Penetrating Radar and Electromagnetic Induction

Session 9 (Monday): Measuring and Predicting Soil Nitrogen Mineralization

Presenter	Abstract
Sevendeeep Kaur	Cracking the Code: Predicting Soil Organic Nitrogen with Pyrolysis
Naomi Mengistu-Zelleke	Modelling Nitrogen Mineralization under Multi-Species Cover Cropping in Atlantic Canada Soils

Session 10 (Monday): Mechanized Approaches to Support Precision Soil Management

Presenter	Abstract
Nauman Yaqoob	Simulation of Soil Water Dynamics in Boreal Podzolic Soil Planted with Rainfed Silage Corn Using HYDRUS

Session 11 (Monday): Mitigation of Soil Nitrous Oxide Emissions from Canadian Agriculture

Presenter	Abstract
Daphné Ferland	Greenhouse Gas Emission Measurements from A Canola-Wheat Cropping System in Saskatchewan
Indeewari Ashirwadini Bandara	Effects of Paper Sludge Vermicompost on Greenhouse Gas Emissions in Newfoundland Podzolic Soils: An Incubation Study
Leah MacIntyre	Short Term Effects of Rotation Length and Plant Diversity in Potato Production Systems On Nitrogen Cycling Communities
Jose Almodovar-Gomez	Soil-building Practices and N2O Emissions at the NCLE Long-term Research Site in Southern Manitoba.
Sakshi	Meta-analysis of 4R Nitrogen Management on Direct Nitrous Oxide Emissions from Croplands in Cold Climates
Rachelle McCannell	Towards Improved Nitrogen Use Efficiency by Tracing Soil- and Fertilizer-Derived Nitrogen Sources Used by Different Canola Genotypes

Session 13 (Monday): Roles of Cover Crops in Enhancing Soil Health and Nutrient Cycling

Presenter	Abstract
Anastase Harelimana	Coffee Trees Intercropped with Common Beans (<i>Phaseolus Vulgaris</i> , L.): An Opportunity to Regulate Aphids in Coffee Agroecosystems
Jacynthe Masse	Using Intercrop with Brassicaceae Vegetable Crops as A Way to Maintain Arbuscular Mycorrhizal Fungi in Soils
Judith Nyiraneza	Winter Cover Cropping Before Potato Planting Is Associated with Environmental Benefits
Luke Bainard	Inclusion of Diverse forage Mixtures in Integrated Crop-Livestock Systems Are Linked to Greater Soil Microbial Abundance and Activity Compared to A Conventional Annual Crop Rotation System
Michael Briere	Impact of Cover Crop Termination Methods On Soil Health and Yield in Organic Vegetable Production Systems
Neem Lal Pandey	Identifying Potential Cover Crops for Organic (Muck) Soil in The Holland Marsh After Late Carrot Harvest
Yajun Peng	Prioritizing Factors Affecting Soil Organic Carbon Stocks Under Cover Cropping Using Boruta Analysis and Structural Equation Modeling

Session 14 (Monday): Soil Amendments in Agricultural Environments

Presenter	Abstract
Busayo Kodaolu	Phosphorus Availability and Corn (<i>Zea Mays</i> L.) Response to Application of P-Based Commercial Organic Fertilizers to A Calcareous Soil
Dasinaa Subramaniam	Could Feeding Paper Pulp Mill Sludge Enhance the Population Dynamics of <i>Eisenia Fetida</i> ?
Keerthana Ketheeswaran	Impact of Cellulosic Hydrogel Derived from Paper Mill Sludge on Water Retention Properties of Sandy Loam Soil
Kokulan Vivekananthan	Application of Struvite as An Environmentally Friendly, Alternative Phosphorus Fertilizer
Landon Orenchuk	Landscape Variations in Surface Soil Phosphorus Forms Across a Field in Southern Saskatchewan
Morga Hamilton	Low Soil Biochar Application Rates in Coarse Texted Agricultural Soil: Investigating The Effect On Crop and Soil Nutrient Dynamics
Noura Ziadi	Paper Mill Biosolids as Soil Amendments and Plant Nutrient Sources: Long-Term and Residual Effect
Priscillar Wenyika	Exploring The Soil Health Benefits of Liming in The Canadian Prairies
Qianhan Le	Conversion of Sewage Solids to Biosolids: Effect of Distinct Treatment Processes on Biosolid Properties
Quinn Hlus	Phosphorus and Nitrogen Loss and Retention in Rainfall Run-off from Manured Landscapes Affected by Soil Amendments
Sanuja Kalirasa	Carbon Budgets of Composting and Land Application
Shreemi Prabhakaran	Generate Suitable Soil for Agriculture with Wood Residues Co-Applied with Manure as Amendment
Theresa Adesanya	Phosphorus Mobilization from Biosolids Pore Water Under Simulated Flooding During Terrestrial Phytoremediation Using Cattail
Ryan Hangs	Rebuilding the Fertility and Productivity of Eroded Knoll Soils in South-Central Saskatchewan: Third-Year Results
Mano Krishnapillai	Determining The Potential of Using Fungal Inoculum and <i>Eisenia Fetida</i> On Paper Mill Biosolids to Produce Compost

Session 18 (Tuesday): Soil Spectroscopy

Presenter	Abstract
Andrew Hector	Estimating Soil Health Indicators Using Near Infrared and Mid Infrared Spectroscopy from Four Long-Term Research Sites in Ontario, Canada
Gbenga Adejumo	The Influence of Moisture and Texture on FT-NIR Spectral Analysis of SOC and TN
Mervin St. Luce	The Canadian Prairie Soil Spectral Library (CPSSL): Towards Long-Term Sustainable Soil Management

Session 15 (Tuesday): Soil Health: Measurement and Management

Presenter	Abstract
Amana Jemal Kedir	Understanding Soil Fertility Status in Newfoundland and Labrador from Standard Farm Soil Tests and Published Studies
Mohammad Khodaei	Can we use Microbial Community Structure to Indicate Differences in Soil Health between Conventional and Regenerative Agricultural Practices?
Barbara Cade-Menun	Ammonium-Based Fertilizers Alter Soil Ph and Cations in Neutral-Ph Soils of SK and QC
Cory Fatteicher	Effect of Constant and Variable Rate Cattle Manure Application on Barley Silage and Soil Calcium, Magnesium and Potassium
Ikechukwu Agomoh	Corn Stover Removal Rate and Tillage Impacts On Soil Health Indicators
Randy Kolka	Most Descriptive Soil Health Indicators Across a Conversion Gradient from forests to Agriculture in The Boreal Region
Alexis de Laronde	Soil Health and Multi-Trophic Soil Systems Vary Across Depth in Response to Tillage and Multi-Species Cover Crops in Corn Based Agricultural System
Maxwell Locke	The Conversion of Boreal Forest to Agricultural Fields in Labrador: an Exploratory Study on Soil Carbon
Thidarat Rupngam	Enzyme Activity Response to Dairy Slurry Application in Agricultural Soils Under Waterlogging Conditions
Nafsa Khazaei	Fungal Communities are Suitable Soil Health Indicators in Agricultural Lands in Alberta
Sarah Fox	An Assessment of Grazing Management Strategies on Soil Health and The Microbiome

Session 17 (Tuesday): Soil Organic Matter Characterization, Cycling, and Stability

Presenter	Abstract
Cristina Chinchilla Soto	Soil Carbon and Nitrogen Stocks Show a Strong Link to Iron and Texture in Pineapple Ultisols in Northern Costa Rica
Elias Andraos	Residue Decomposition Rates Influenced by Cropping Systems and Long-Term Tillage in Quebec
Puja Lamichhane	Effect of Land Use History and Soil Organic Matter on Crop Response to Phosphorus: A Controlled Environment Study
Rami Kaba	The Effect of Conservation Agriculture Technology on The Sustainability of Soil Content of Organic Matter of The Soil of Modern Developed Inceptisols
Felix L'Heureux Bilodeau	Effect of the Soil Degradation Degree on CO ₂ Emissions in Cultivated Peatland
Erick Rodrigo da Silva Santos	Long-Term Soil C Stock in an 8-Yr forage-Crop Rotation Within A Gray Luvisol
Xinli Chen	Soil Carbon Sequestration Potential in Agroforestry Systems in Central Alberta
Jessica Mehre	Soil Organic Carbon Stocks Between Land Use and Pasture Management in Southern Ontario

Session 6 (Tuesday): General Soil Science

Presenter	Abstract
Harini Aiyer	Using Shotgun Metagenomic Sequencing to Understand Grazing Effects On The Composition and Functional Capacity of The Soil Microbiome in A Semi-Arid Grassland Ecosystem
Waqar Ali	Influences of An Electric Gradient on The Physical Characteristics of Peat Soil in North Karelia and Central Lapland Finland
Charlie Parent	Adsorption of Lead (Pb) in Water Using Biochar & Biochar-Alginate Composites and Their Disposal in Soil
Katelyn Laura Stokes	The Impact of Environmental Quality on Ecosystem Services Provided By The Introduced Dung Beetle <i>Onthophagus Nuchicornis</i>
Madison Silver	Investigating The Impacts of Road Salt Dispersal on Soil Mineral Content in Halifax Wetlands
Michael Paulauskas	Assessing Land-Use Legacy Effects on Earthworm Biodiversity in Urban Parks
Priyanthini Sathiyaseelan	The Opportunities and Challenges of Using Phytoremediation in Canada
Radhika Sharma	Advances in Soil Solution for Improving Soil Health
Saba Daeichin	Assessing The Influence of Windbreak Distance on Organic Soil Erosion
Samantha Bennett	Effects of Jumping Worms on European Earthworm Species and Soil Properties
Tristan Chambers	Effect of KCl, MAP and CuSO ₄ Fertilization on Plant Biomass and Disease Incidence in Durum, Mustard, and Chickpea Grown Under Controlled Environment Conditions
Jerentulina Vijayarasa	Could Co-Digestion be an Option to Recover Biogas Energy and Nutrient from Spoiled Beer in the Circular Economy
Kamal Ziaul Islam	Simulation of Soil Water Dynamics in Boreal Podzolic Soil Planted with Rainfed Silage Corn Using HYDRUS-1D
Zisheng Xing	Tillage Impacts on Growing Season Soil Moisture and Crop Yield Under Different Crops in Portage La Prairie, MB