

Agenda - Thursday February 20, 2020

8:00 -9:00am	Registration and Breakfast				
9:00 - 9:15 am	Welcome Address				
9:15 - 9:30 am	Launching of IWA-YWPs Canadian Chapter				
9:30 – 10:15 am	Keynote Speaker Finding the value in resource recovery Prof. Damien Batstone <i>Deputy Director (Education) of the Advanced Water Management Centre, University of Queensland, Australia</i>				
10:15-10:30 am	Morning Break				
	Water Session (Moderator: H. Almuhtaram) [Room ENG 101]	Groundwater Session (Moderator: Dr. Gerhard) [Room ENG 102]	Wastewater Session Volatile fatty acids recovery (Moderator: Dr. Dhar) [Room ENG 105]	Wastewater Session BioElectrochemical Technology (Moderator: Prof. Kim) [Room ENG 106]	Wastewater Session Membrane and Biofilm (Moderator: Dr. Aldin) [Room LG 14]
10:30 - 10:45 am	Electrochemical Treatment of Synthetic Natural Organic Matter with Boron-Doped Diamond (BDD) Electrodes; TOC, peCOD, and UV254 scope of measurement parameters <u>S. Rathod</u>	Modeling the fate and transport of antibiotic resistance genes in agricultural soils: from manure to groundwater <u>R. Barrios</u> , S. Bartelt-Hunt, X. Li, Y. Li	Vacuum application during fermentation for volatile fatty acid recovery <u>F. Okoye</u> , E. Jang, A. Lakeh, D. Santoro, E. Elbeshbishy	The application of bipolar membrane electro dialysis in ammonia sulfate production from dewatering centrate <u>H. Guo</u> , P. Yuan, J. Barber, V., Pavlovic, Y. Kim	Application of Algal Biofilms for the Recovery of Rare Earth Elements from Dilute Aqueous Solution <u>M. Zak</u> , V. Papangelakis, D. Allen
10:45 - 11:00 am	Hydrologic Performance of Mature Bioretention <u>S. Spraakman</u> , J. Drake	The role of the reactive groundwater-lake interface on distribution and delivery of pollutants to nearshore waters of the Great Lakes <u>S. Rakhimbekova</u> , D. O'Carroll, C. Robinson	Maximising volatile fatty acid and soluble COD production by changing pH and hydraulic retention time while fermentation of primary sludge <u>U. Hyder</u> , D. Santoro, E. Elbeshbishy	Silver nanoparticles disrupt the syntrophic association between electroactive and fermentative bacteria in a biofilm anode <u>B.S. Zakaria</u> , B. Dhar	The microbiome analysis of submerged membrane bioreactor treating hospital wastewater at varying temperature <u>B. Tiwari</u> , R. Tyagi, P. Drogui

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11:00 - 11:15 am	<p>Evaluating Microcystin-LR and other water quality parameters removal: A mass balance approach using laboratory-made Drinking Water Treatment Plant micro-model (SAP-1[®])</p> <p>P. Kumar, <u>B. Tiwari</u>, S. Brar</p>	<p><i><u>Invited speaker</u></i> TBA</p> <p>Dr. Magdalena Krol, York University</p>	<p>Comprehensive Analysis and Comparison of Volatile Fatty Acids (VFAs) Production and Distribution Using Anaerobic Fermentation of Industrial Organic Wastes</p> <p><u>A. El Sayed</u>, E. Elbeshbishy, R. Hamza</p>	<p>Energy-positive Food Waste Treatment with High Effluent Quality</p> <p><u>S. Saha</u>, R.Chandra, H.S. Lee</p>	<p>Fabricating Novel Electrospun Nanofiber Membranes for the Recovery of Phosphorous from Domestic Wastewater</p> <p><u>S. Abu-Obaid</u>, R. Farnood, S. Tabe</p>
11:15 - 11:30 am	<p>Robust optimization for water quality management under uncertainty: A case study of the central Grand River region in Ontario, Canada</p> <p><u>Q. Zhang</u>, Z. Li</p>		<p>Volatile Fatty Acids recovery from hydrothermally pretreated TWAS</p> <p><u>N. Purohit</u>, F. Kakar, E. Elbeshbishy</p>	<p>Phosphorus recovery from wastewater as vivianite using electrocoagulation</p> <p><u>R. Souidi</u>, P. Drogui, C. Vaneekhaute, P.A. Vanrolleghem</p>	<p>Multifunctional nanofibrous membrane for membrane bioreactors</p> <p><u>E. Jahan</u>, A. Eldyasti, S.N. Leung</p>
11:30 - 12:15 pm	<p>Keynote Speaker</p> <p>Challenges with Providing Drinking Water to Remote and Indigenous Communities</p> <p>Ms. Indra Prashad, P.Eng.</p> <p><i>Director of the Indigenous Drinking Water Projects Office, Ontario Ministry of the Environment, Conservation and Parks</i></p>				
12:15 - 1:00 pm	<p>Lunch</p>				

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	Water Session (Moderator: Prof. Hofmann) [Room ENG 101]	Groundwater Session (Moderator Dr. Robinson) [Room ENG 102]	Wastewater Session (Moderator: Dr. Eldyasti) [Room ENG 105]	Wastewater Session (Moderator: Dr. Santoro) [Room ENG 106]
1:00 -1:30 pm	<p><u>Invited Speaker</u></p> <p>Lead (Pb) in drinking water: Phosphate corrosion inhibitors and their influence on biofilm</p> <p>Sarah Jane Payne Queen's University</p>	<p><u>Invited speaker</u></p> <p>Performance of engineered cover systems for acid mine drainage control at mine waste rock piles</p> <p>Dr. Chris Power Western University</p>	<p><u>Invited speaker</u></p> <p>New model for serial hydrolysis reactions in anaerobic digestion with readily measurable model components</p> <p>Dr. Youngy Kim McMaster University</p>	<p><u>Invited speaker</u></p> <p>Simultaneous Nitrification- Denitrification Phosphorus Removal for Treating Low COD/N Ratio Municipal Wastewater</p> <p>Dr. George Nakhla Western University</p>
1:30 -2:00 pm	<p><u>Invited Speaker</u></p> <p>Does your water glow? Operational Application of ATP</p> <p>Laura Meteer Region of York</p>	<p><u>Invited Speaker</u></p> <p>Hold the (road) salt! Understanding and mitigating chloride pollution in Ontario watersheds</p> <p>Claire Oswald Ryerson University</p>	<p><u>Invited Speaker</u></p> <p>Powering the future of anaerobic digestion with engineered DIET: prospects and challenges</p> <p>Dr. Bipro Dhar University of Alberta</p>	<p><u>Invited Speaker</u></p> <p>Is technology ready for de- centralized food-energy-water (FEW) nexus?</p> <p>Dr. Ted Meo Trojan Technology</p>

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	Water Session (Moderator: Chengjin Wang) [Room ENG 101]	Groundwater Session (Moderator Dr. Robinson) [Room ENG 102]	Wastewater Session Enhancement of Anaerobic Digestion (Moderator: Dr. Dahar) [Room ENG 105]	Wastewater Session Biological Nutrient Removal (BNR) (Moderator: M. Soliman) [Room ENG 106]	Wastewater Session Resource Recovery (Moderator: A. Alsayed) [Room LG 14]
2:00 - 2:15 pm	<p>Selenium occurrence in mine effluents in Canada</p> <p><u>S. Etteieb</u>, P. Kumkrong, S. Magdouli, S. Kaur Brar</p>	<p>Irradiation-Based Degradation of Per-and-polyfluorylalkyl substances (PFAS): Insights Into Mechanism, Isomer-Dependence, pH, and Transformation</p> <p><u>D. Patch</u>, I. Koch, T. Cresswell, C. Hughes, J. Bryan, D. O'Carroll, K. Weber</p>	<p>Effect of hydrothermal pre-treatment on solubilization and anaerobic digestion of pulp & paper biosludge</p> <p><u>E. Hosseini Koupaie</u>, E. Elbeshbishy, G. Allen</p>	<p>Lessons Learned to Redirect Methane and Promote Nitrification/Denitrification Capacity Using Methanotrophic Mixed Culture in Sequential Batch Reactor System</p> <p><u>D. Bishoff</u>, A. Alsayed, A. Eldyasti</p>	<p>Smouldering Sewage Sludge</p> <p><u>T. Rashwan</u>, T. Fournie, J. Gerhard, G. Grant, C. Murray</p>
2:15 - 2:30 pm	<p>A silver lining: Examining the removal, impacts and fate of both pristine and weathered silver nanomaterials in constructed wetland mesocosms</p> <p><u>A. Farooq</u>, K. Weber, D. Patch, D. O'Carroll, V. Gagnon</p>	<p>Smouldering (STAR) Remediation of PFAS-Contaminated Soil</p> <p><u>A. Duchesne</u>, J. Gerhard, D. Reynolds, J. Brown, G. Grant, D. Major</p>	<p>Evaluation of Anaerobic Co-digestion of Source Separated Organic Waste with Thickened Waste Activated Sludge and Manure</p> <p><u>A. Rabii</u>, S. Aldin, Y. Dahman, E. Elbeshbishy</p>	<p>Understanding the effect of aeration pattern on phosphorus profile along with nutrient removal in Enhanced Biological Phosphorus Removal (EBPR)</p> <p><u>P. Izadi</u>, A. Eldyasti, P. Izadi</p>	<p>From plant oils to plastics - "Enrich or Exploit"</p> <p><u>A. Kumari</u>, R. Tyagi</p>
2:30 - 2:45 pm	<p>Assessment of a UV/Peracetic Acid AOP for Cyanotoxin Removal</p> <p><u>H. Almuhtaram</u>, R. Hofmann</p>	<p>Resource Recovery and Reuse from Smouldering Treatment of Sewage Sludge</p> <p><u>T. Fournie</u>, T. Rashwan, C. Switzer, J. Gerhard, G. Grant</p>	<p>Advanced Anaerobic Digestion Using Vacuum-Driven Technologies</p> <p><u>Eunkyung Jang</u></p>	<p>Microbial Population Dynamics in a Sustainable and Accelerated Micro-Granular Anammox Process</p> <p><u>P. Izadi</u>, P. Izadi, A. Eldyasti</p>	<p>Extracellular polymeric substances production and characterisation using wastewater sludge with crude glycerol from different biodiesel companies: In relation to circular bioeconomy</p> <p><u>B. Yadav</u>, S. Yellapu, R. Tyagi</p>

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2:45 - 3:00 pm	<p>Re-evaluating Chlorination Practices for Mussel Control and Exploration of Alternatives to Prechlorination: Peracetic Acid and EarthTec QZ</p> <p><u>A. Hurtado</u>, C. Alonzo, R. Hofmann</p>	<p>Chitosan-Based Biogels: A Potential Approach to Trap and Bioremediate Naphthalene</p> <p><u>K. Estepa</u>, K. Lamont, S. Malicevic1, A. Paschos, L. Colaruotolo, M. Corradini, A.G. Marangoni, L.T. Lim, E. Pensini</p>	<p>Incorporating activated carbon as an additive for enhanced high-solids anaerobic digestion</p> <p><u>H.N.J. Ting</u>, B.S. Zakaria, I. Karidio, H. Zaman, B.R. Dhar</p>	<p>Comparison between Nitrogen-based selection of PHB accumulators and design-based selection</p> <p><u>R. Salem</u>, A. Fergala, G. Audette, A. Eldyasti</p>	<p>Horizontal Gene Transfer: The key to unlock the mystery of mixed microbiome involved in Bioplastics synthesis</p> <p><u>A. Pandey</u>, R. Tyagi</p>
3:00 - 3:15 pm	<p><i>Afternoon Break</i></p>				
	<p>Water Session</p> <p>(Moderator: Prof. Hofmann) [Room ENG 101]</p>	<p>Groundwater Session</p> <p>(Moderator: Dr. Power) [Room ENG 102]</p>	<p>Wastewater Session Wastewater Technology</p> <p>(Moderator: Dr. Hamza) [Room ENG 105]</p>	<p>Wastewater Session Modeling for Wastewater Technology</p> <p>(Moderator: Dr. Eldyasti) [Room ENG 106]</p>	<p>Wastewater Session BioEnergy</p> <p>(Moderator: Dr. Dhar) [Room LG 14]</p>
3:15 - 3:30 pm	<p><u>Invited Speaker</u> Treatment of emerging pharmaceutical contaminants in water by UV-based advanced oxidation processes</p> <p>Wen-jun Sun, Tsinghua University, China</p>	<p>Emerging contaminants in leachate of old closed landfills</p> <p><u>V.R. Propp</u>, A.O. De Silva, C. Spencer, S. Brown, S. Catingan, J.E. Smith, J.W. Roy</p>	<p>Replacement of gates at M&T Building/ Ashbridges Bay Plant</p> <p>Atul Marathe</p>	<p>Modelling and simulation of bench-scale filter to check scale-up modulation and feasibility using ANSYS-CFX: A computational Fluid Dynamics approach</p> <p><u>P. Kumar</u>, S. Brar</p>	<p>Improving Biogas production from thickened waste activated sludge using Chemical Pretreatment</p> <p><u>S. Chegini</u>, F. Okoye, E. Elbeshbishy</p>

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3:30 - 3:45 pm	<p>Measuring the hydroxyl radical scavenging capacity of water samples using an external calibration method</p> <p><u>C. Wang</u>, E. Rosenfeldt, Y. Li, R. Hofmann</p>	<p>Quantification of septic system contribution to nutrient loads in surface waters</p> <p><u>A. Tamang</u>, J. Roy, C. Robinson</p>	<p>Impacts and Removal of Microplastics From Wastewater</p> <p><u>O.O. Victoria</u>, R. Hamza</p>	<p>Understanding Sewer Bioprocesses Using Computational Fluid Dynamics</p> <p><u>Ahmed Khalin</u></p>	<p>Biomethane production improvement by hydrothermal pretreatment of thickened waste activated sludge</p> <p><u>A.S. Razavi</u>, F.L. Kakar, E.H. Koupaie, H. Hafez, E. Elbeshbishy</p>
3:45 - 4:00 pm	<p>How to collect a representative GAC sample for the minicolumn test: the effect of harvesting from different filter depths</p> <p><u>J. Yuan</u>, A. Safari, P. Lugo, L. Alvarez, R. Hofmann</p>	<p>Field assessment of bioretention performance in reducing nutrient loading from urban stormwater</p> <p><u>J. Goor</u>, C. Robinson</p>	<p>Using Animal Blood as a Source for Flocculants to Treat Biosludge</p> <p><u>H. Ghazisaidi</u>, R. Garcia, H. Tran, T. Mayer, G. Allen</p>	<p>Detailed Modeling of Peracetic Acid Disinfection Processes in Municipal Wastewater Using Computational Fluid Dynamics</p> <p><u>M. Elhalwagy</u>, P. Chowdhury, S. Sarathy, B. Wisdom, et al.</p>	<p>Evaluation of different configuration of fermentation, anaerobic digestion and hydrothermal pretreatment of thickened waste activated sludge</p> <p><u>F. Kakar</u>, N. Purohit, S. Liss, E. Elbeshbishy</p>
4:00 - 4:15 pm	<p>Impact of Aeration on Toxicity from Trihalomethanes and other Disinfection By-Products</p> <p>L. Taylor-Edmonds, <u>Y. Huang</u>, N. Moore, C. Wang, R. Hofmann</p>	<p>Biogeochemical processes in bioretention systems that affect phosphorus removal from storm water</p> <p><u>Y. Liu</u>, J. Goor, C. Robinson</p>	<p>Effect of non-target constituents present in wastewater effluent (EfOM) and natural organic matter (NOM) on water quality treatment: Effect on parent target contaminants and by-products evolution</p> <p>S. Fazeli, M. Elektorowicz, <u>S. Abedini</u></p>	<p>Development and Validation of a Novel Iron-Based Coagulant for Sulfide Control in Sewers</p> <p><u>Nouha Klai</u></p>	<p>An Analysis of Increased Ammonia Concentrations with High Solids Sludge</p> <p><u>S. Fernandes</u>, Y. Kim</p>
4:20 – 4:50 pm	Poster Exhibition				
4:50 - 5:30 pm	Closing Remarks and Student Awards				

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Poster Exhibition	
1. Effect of sludge thickening and hydrothermal pre-treatment on biogas production	F. Kakar, N. Purohit, S. Liss, E. Elbeshbishy
2. Re-evaluating Chlorination Practices for Mussel Control and Exploration of Alternatives to Prechlorination: Peracetic Acid and EarthTec QZ	A. Hurtado, C. Alonzo, R. Hofmann
3. A cycling on-off power supply scheme for electrochemically enhanced anaerobic digestion	B.S. Zakaria, B.R. Dhar
4. Microbial community succession during high-solids anaerobic digestion of OFMSW	H.N. J. Ting, R.B. Cruz, L. Lin, B. Chowdhury, I. Karidio, H. Zaman, B.R. Dhar
5. Impact of microplastics on biofilm anode	T.H. Chung, B.S. Zakaria, M.N.A. Meshref, B.R. Dhar
6. Visualization and Characterization of Water Movement through Biosludge Floccs	<u>S.K. Kalhour, A. Ramchandran, G. Allen</u>
7. Physical and Biological Removal of Unconventional Oils in fixed bed bioreactor	<u>S. Davoodi, S. Miri, S. K Brar, R. Galvez, R. Martel</u>
8. Anaerobic digestion of the sludge generated from methanotrophic based process.	<u>A. AlSayed, P. Menon, A. ElDyasti</u>
9. Evaluation and Optimization of Mine Water Treatment in the Sydney Coalfield, Nova Scotia, Canada	<u>P. Merritt, C. Power</u>
10. Investigation of the Groundwater Phosphorus Dynamics in an Agricultural Riparian Buffer Zone	<u>S. Wang, J. Roy, U. Schneidewind, C. Robinson</u>
11. Role of groundwater-surface water interactions in delivering phosphorus to agriculture streams	<u>K. Robinson, M. Vissers, C. Power, J.W. Roy, C. Robinson</u>
12. Nitrogen and Se removal in gold mine effluent by a three staged lab-scale MBBR pilot	R. Tanabene, S. Komtchou, S. Magdouli, M. Zolfaghari, I. Calugaru, J. Orain
13. Management of Oily Effluent from Bitumen Processing Plant by Combination of Physical and Chemical Oxidation Processes	M. Zolfaghari, S. Magdouli, S. Komtchou, R. Tanabene, I. Calugaru, T. Saffar, M. Bernard
14. Mapping Toxicity Changes Across Advanced Oxidation Processes for Water Treatment	N. Moore, K. Bell, N. McLellan, J. Sun, H. Peng, L. Taylor-Edmonds, S. Andrews, R. Hofmann
15. Enzymatic Biodegradation of central intermediates produced from biodegradation of xylene isomers spill in groundwater	S. Miri, T. Rouissi, S.K. Brar, R. Martel
16. Peracetic acid disinfection synergy with alum	D. Cevallos, R. Hofmann
17. Land conversion impacts on water dynamics in the Highway 11 Corridor, Northern Ontario	Z. Li, E. Arnaud, J. Levison, A. Biswas
18. Discharge of landfill leachate-affected groundwater into a pond	T. Hua, J.E. Smith, J.W. Roy