

Wednesday, February 27, 2019 (Agenda)

Registration and Breakfast (8:00 am – 8:45 am)

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| 8:45 am - 9:00 am | Welcome Address | Dr. Ahmed Eldyasti, Conference chair, Dr. Dan Palermo, Chair, Department of Civil Engineering, York University Mr. Mike Lywood, CAWQ president |
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Keynote Speaker 1 “Hall 1-Breaking Room”

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| 9:00 am – 9:45 am | <p>Integrating Biomimicry Technology for Sustaining Utilities of the Future</p> <p>Prof. Art K. Umble</p> <p><i>Global Wastewater Practice Leader and Vice President, STANTEC</i></p> |
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Break (9:45 am – 10:00 am)

| Time | Feature Session (I): Trojan Technologies “Hall 1-Breaking Room” | Session (1): Stormwater and Watershed Management “Hall 4” | Session (2): Drinking Water Treatment “Hall 5” |
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| 10:00 - 10:30 am | <p>Removing Roadblocks between Scientific Discoveries and Commercial Implementation in Wastewater Innovation</p> <p>Ted Mao and Domenico Santoro</p> | <p><i>Invited speaker</i></p> <p>Chemical leaching behaviour of a full-scale green roof in Calgary, Alberta</p> <p>Musa Akther, <u>Jianxun He</u>, Angus Chu, Mr. Bert Van Duin</p> | <p><i>Invited speaker</i></p> <p>Wetlands Hydrogeochemical Processes Under Changing Winter Conditions</p> <p>L. Taylor-Edmonds</p> |
| | | <p>10:00 - 10:20 am</p> | |

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| 10:30 - 11:00 am | <p style="text-align: center;">Measuring and modelling particle transport in urban wastewater systems</p> <p style="text-align: center;">Peter Vanrolleghem</p> | 10:20 - 10:40 am | <p>A physical- based geospatial approach for strategic allocation of Low Impact Development (LID) based on flooding, environmental and socio-economical benefits of LID</p> <p style="text-align: center;"><u>Sahereh Kaykhosravi</u>, Usman T Khan</p> | <p>Chemical and bioanalytical toxicity assessment of the UV/chlorine advanced oxidation process</p> <p style="text-align: center;"><u>Nathan Moore</u>, Katherine Bell, Nicole McLellan, Hui Peng, Liz Taylor-Edmonds, Susan Andrews, Ron Hofmann</p> |
| 11:00 - 11:30 am | <p style="text-align: center;">Tackle sewer sulfide problems from all angles: importance of fundamental studies and integrated management for developing full-scale optimal control strategies</p> <p style="text-align: center;">Oriol Gutierrez</p> | 10:40 - 11:00 am | <p>Exploring the arguments for and against a mandated wastewater and stormwater management system standard for Ontario municipalities</p> <p style="text-align: center;"><u>Edgar Tovilla</u> and Kernaghan Webb</p> | <p>Identifying risks to groundwater-based drinking water supplies after severe wildfire</p> <p style="text-align: center;"><u>Xiaohui Sun</u>, Monica Emelko</p> |
| | | 11:00 - 11:20 am | <p>Guiding principles for preventing cyanobacteria blooms in a changing climate: Integrating nutrient limitation and sediment redox science into watershed management</p> <p style="text-align: center;"><u>Lewis Molot</u>, Sherry Schiff, Jason Venkiteswaran, Helen Baulch, Scott Higgins, Arthur Zastepa, Mark Verschoor, Dan Walters</p> | <p>The Effect of Water Temperature on the Adsorption of Taste and Odour Compounds (Geosmin and 2-Methylisoborneol) by Granular Activated Carbon</p> <p style="text-align: center;"><u>Jie Yuan</u>, Yifeng Huang, Ron Hofmann</p> |
| 11:30 – 12:00 pm | <p style="text-align: center;">Impact of Sewer Microbial Communities on</p> | 11:20 | <p>Impacts of Contemporary Forest Harvesting on Source Water Quality and Water Treatability:</p> | <p>Occurrence and Fate of Microplastics Through Drinking Water Treatment</p> |

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| | Downstream Wastewater Treatment: Linking Ecology and Process Modeling | | Preliminary Analysis | |
| | Dominic Frigon, Nouha Klai, Bing Guo, Shameem Jauffur | 11:40 - 12:00 pm | <u>Soosan Bahramian</u> , Monica B. Emelko, Uldis Silins, Mike Stone, Shoeleh Shams, Chris Williams | Sam Cherniak, Shelir Ebrahimi, Michael McKie, Chelsea M. Rochman, Robert C. Andrews |
| | | | Drivers of water quality changes in North American lakes over the past 40 years | |
| | | | <u>Octavia Mahdiyan</u> , Sapna Sharma, Lewis Molot, Derek Gray | |

Wednesday, February 27, 2019 (Agenda)

Lunch (12:00 pm – 1:00 pm)

| Time | Feature Session (II): Trojan Technologies “Hall 1-Breaking Room” | Session 3: Emerging contaminants “Hall 2” | Session 4: Biological Nutrient Removal (BNR) “Hall 3” | Session 5: Wastewater Technology “Hall 4” | Session 6: Photocatalysis for water treatment “Hall 5” |
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| 1:00 - 1:25 pm | <p>Sewers as Extensions to WRRFs: How Much Treatment Can We Do in the Collection System?</p> <p>John Walton and Domenico Santoro</p> | <p style="text-align: center;"><i>Invited speaker</i></p> <p>Emerging Contaminants: Does Treatment Breed Complexity?</p> <p>Prof. Satinder K. Brar</p> | <p style="text-align: center;"><i>Invited speaker</i></p> <p>Microbial communities in inverse fluidized beds treating municipal wastewater</p> <p>Prof. George Nakhla</p> | <p style="text-align: center;"><i>Invited speaker</i></p> <p>Effects of Feast and Famine Condition on Nitrite Accumulation During Denitrification</p> <p>Dr. Mehran Andalib</p> | <p>Photocatalytic degradation using Ag-TiO₂ Nanoparticles under UV-LED controlled periodic illumination</p> <p><u>Azar Fattahi</u>, Avneet Kaur, Robert Liang, Norman Zhou</p> |
| 1:25 - 1:40 pm | <p>Microbial Community Characterization for Effective Nitrate Dosing in microbial Sewer Networks</p> <p>Nouha Klai, Domenico Santoro, Elsayed Elbeshbishy, Dominic Frigon</p> | <p>Removal of Pharmaceuticals from Wastewater Effluent Using Advanced Oxidation</p> <p><u>Ivana Jaciw-Zurakowsky</u></p> | <p>Fast Development of the Anammox Consortium from Waste Activated Sludge</p> <p><u>Parin Izadi</u>, Ahmed Eldyasti</p> | <p>Challenges in model development and verification for biological reactions in membrane aerated biofilm reactors</p> <p><u>Ahmed Elsayed</u>, Younggy Kim</p> | <p>Effects of Substituting Activated Carbon from Conventional Aquarium Filters with Titanium Dioxide Cenospheres</p> <p><u>Avneet Kaur</u>, Robert Liang, Erika Burton, Mark Servos, Norman Zhou</p> |

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| 1:40 - 1:55 pm | <p>Include sewer as a bioreactor of wastewater treatment system</p> <p>Lisha Guo, Domenico Santoro, John Walton, Elsayed Elbeshbishy, Peter A. Vanrolleghem</p> | <p>Preparation of Superhydrophobic Dolomite Sorbent Powder for Oil Spill Clean-ups: Kinetic Modeling and Isotherm Study, Batch and Fixed Bed Studies</p> <p><u>Seyyed Davoodi</u>, Mehrdad Taheran, Satinder K. Brar, Rosa Galvez-Cloutier, Richard Martel</p> | <p>Bioflocculation in EBPR Process Operated at Short Sludge Retention Times</p> <p><u>Bei Wang</u>, Hongde Zhou, Yu Hou</p> | <p>Wipes and Wastewater Collection Systems — A Recipe for Disaster?</p> <p><u>Anum Khan</u>, Darko Joksimovic, Barry Orr</p> | <p>The Comparison of Enhanced Photocatalytic Activity of Titanium Dioxide Assisted by Metal Doping, Non-Metal Doping and Combining of Two Photocatalysts for Degradation of Organics</p> <p><u>Mohsen Nasirian</u></p> |
| 1:55 - 2:10 pm | <p>Achieving Enhanced Sludge Dewatering & Phosphorus Removal by Manipulating Fe-P Chemistry</p> <p>Vahid Ghodsi, John Walton, Ian Watson, Elsayed Elbeshbishy, Domenico Santoro, Siva Sarathy</p> | <p>Landfill leachate treatment for removal of heavy metals, ammoniacal nitrogen, COD content, and orthophosphate using crude microbial exopolysaccharides</p> <p>Bharti, R. D. Tyagi</p> | <p>Enhancement of Enhanced Biological Phosphorus Removal EBPR Using Intermittent Aeration</p> <p><u>Parnian Izadi</u>, Parin Izadi, Ahmed Eldyasti</p> | <p>CFD modeling of hydraulic distribution in a full-scale membrane bioreactor (MBR) with a ducting approach</p> <p>Danmei Chen, Adriana Gaona Gomez, Yuri Lawryshyn</p> | <p>Understanding Reverse Osmosis Membrane Fouling for Continuous and Intermittent Operation through Real-time Visualization</p> <p><u>Nitish Ranjan Sarkeri</u>, Amy M. Bilton</p> |
| <p>Break (2:10 pm – 2:25 pm)</p> | | | | | |

Wednesday, February 27, 2019 (Agenda)

| Time | Session 7: Resource recovery “Hall 1” | Session 8: Advancements in Dark fermentation “Hall 2” | Session 9: Enhancement of Anaerobic Digestion “Hall 3” | Session 10: Volatile fatty acids (VFA) Recovery “Hall 4” | Session 11: Biological Drinking Water Treatment “Hall 5” |
|----------------|---|---|---|---|--|
| 2:25 - 2:40 pm | <p>Development of short SRT activated sludge process for recover energy and nutrients from municipal wastewater</p> <p><u>Yu Hou, Hongde Zhou, Bei Wang</u></p> | <p>Experience with Fermentation and Anaerobic Digestion of Source-Separated Organics (SSO) from the City of Toronto</p> <p><u>Amir Abbas Bazayr Lakeh, Armineh Azizi, Ehssan Hosseini Koupaie, Valeriy Bekmuradov, Hisham Hafez, Elsayed Elbeshbishy</u></p> | <p>Magnetite doped GAC for improving syntrophic propionate degradation in Anaerobic Digestion</p> <p><u>Sajib Barua, Basem S. Zakaria, Long Lin, Bipro Ranjan Dhar</u></p> | <p>Carbon and Volatile Fatty Acids Recovery in a Reactive Primary Clarifier: A Pilot Case Study</p> <p><u>Michele Ponzelli, Riccardo Boiocchi, Peter A. Vanrolleghem, Elsayed Elbeshbishy, Domenico Santoro</u></p> | <p>Production and immobilization of Bacillus sp. lipase to remove BTEX from contaminated water</p> <p><u>Saba Miri, Preetika Rajeev Kuknur, Tarek Rouissi, Satinder Kaur Brar</u></p> |
| 2:40 - 2:55 pm | <p>Impact of anode potential changes on anodic microbiome in a microbial electrolysis cell operated with sewage sludge</p> <p><u>Basem S. Zakaria, Bipro Ranjan Dhar</u></p> | <p>Thermal hydrolysis of raw and fermented thin stillage for enhanced solubilization and anaerobic digestion</p> <p><u>Ehssan Hosseini koupaie, Armineh Azizi, Ahmad Shabir Razavi, Raman Sharma, Hisham Hafez, Elsayed Elbeshbishy</u></p> | <p>Synergism of Food Waste Co-digestion</p> <p><u>Mariam Abdulazeez, Mingu Kim, Basem M. Haroun, Masuduz Zaman, Xiaoguang Liu, George Nakhla, Michael Keleman</u></p> | <p>Effect of pH and hydraulic retention time on the production of volatile fatty acids from primary sludge in dark fermentation process</p> <p><u>Umme Sharmeen Hyder, Dominico Santoro, Elsayed Elbeshbishy</u></p> | <p>Impact of Biofilter Stagnation and Backwash on Nitrogenous DBP Formation</p> <p><u>Frank Fei Feng, Lizbeth Taylor-Edmonds, Robert Andrews, Laura Meterer</u></p> |

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| 2:55– 3:10 pm | <p>Development of a novel process of bioplastics production using pulp and paper mill activated sludge (PPMAS) with pure culture (microbial strain)</p> <p><u>Rajwinder Kaur</u>, R. D. Tyagi</p> | <p>Solubilization and Biomethane Production Improvement by Hydrothermal Pre-treatment of Waste Activated Sludge</p> <p><u>A.S. Razavi</u>, Farokh Laqa Kakar, Ehssan Hosseini Koupaie, Hisham Hafez, Elsayed Elbeshbishy</p> | <p>Comparison of one- and two-stage anaerobic digestion of source separated organics: Application of hydrothermal pretreatment</p> <p><u>Armineh Azizi</u>, Ehssan Hosseini Koupaie, Hisham Hafez, Elsayed Elbeshbishy</p> | <p>Acidification performance of source separated organics, primary and secondary sludge after hydrothermal pretreatment</p> <p><u>Farokh Laqa Kakar</u>, Ehssan Hosseini Koupaie, Hisham Hafez, Elsayed Elbeshbishy</p> | <p>Co-culturing of Native Bacteria from Drinking Water Treatment Plant with Known Degraders to Accelerate Microcystin Removal</p> <p><u>Pratik Kumar</u>, Satinder Kaur Brar</p> |
| 3:10 - 3:25 pm | <p>Methane as carbon source for nitrification-denitrification using methanotrophic mixed culture in a sequential batch reactor</p> <p><u>D. Bishoff</u>, A. Fergala, A. AlSayed, A. ElDyasti</p> | <p>Evaluation of Biohydrogen Production from Co-fermentation of Carbohydrates and Proteins</p> <p><u>Emmanuel Tepari</u>, Basem Mikhaeil Haroun, George Nakhla</p> | <p>Co-digestion of Source Separated Organic Waste with Thickened Waste Activated Sludge for Improving Biomethane Production</p> <p><u>Anahita Rabii</u>, Devarshi Nitinbhai Sevak, Saad Aldin, Yaser Dahman, Elsayed Elbeshbishy</p> | <p>Cost and life cycle assessment of microbial biodiesel production through valorization of wastes</p> <p><u>Lalit R Kumar</u> and R.D.Tyagi</p> | |
| Break (3:25 pm – 3:40 pm) | | | | | |
| Keynote Speaker 2 “Hall 1-Breaking Room” | | | | | |
| 3:40– 4:20 pm | <p>Challenges with Providing Drinking Water to Remote and Indigenous Communities</p> <p>Dr. Indra Prashad <i>Director of the Indigenous Drinking Water Projects Office, Ontario Ministry of the Environment, Conservation and Parks</i></p> | | | | |
| Poster Exhibition (4:20 - 4:50 pm) “Hall 1-Breaking Room” | | | | | |

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Closing Remarks and Student Awards (4:50 - 5:00 pm) “Hall 1-Breaking Room”

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| Poster Exhibition (4:20 - 4:50 pm) "Hall 1-Breaking Room" | |
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| 1) A comparative study on evaluation of carbonaceous and metallic cathode electrodes for electro-methanogenesis | Basem S. Zakaria, Tae Chung, Rochelle De Omania, Bipro Ranjan Dhar |
| 2) Chemical pretreatment of thickened waste activated sludge (TWAS) using free nitrous acid and hydrogen peroxide | S. Chegini, F. Okoye, E. Elbeshbishy |
| 3) Presence of Venlafaxine, a psychiatric drug, in the vicinity of a wastewater treatment plant outfall | P. Pourya Zojaji, H. Alhachami, E. Kariminezhad, S. Jauffur, Z. Bakhshi, M. Vaudreuil, S. Sauvé, M. Elektorowicz |
| 4) Vacuum Application During Fermentation for Volatile Fatty Acid Recovery | Frances Okoye, Amir Abbas Bazayar Lakeh, Domenico Santoro, Elsayed Elbeshbishy |
| 5) Removal of pharmaceutical residuals in sequencing batch reactor | Y. Mat Zaini, N. Abdullah, M. Muhammad Yuzir, A. Zamyadi |
| 6) Treatment of Malaysian Domestic Wastewater Utilizing Aerobic Granular Bioflocs | L. Purba, N. Abdullah, A. Zamyadi, M. Muhammad Yuzir |
| 7) Evaluation of Hydrolysis Phase in Anaerobic Co-digestion of Source Separated Organic Waste with Thickened Waste Activated Sludge | Anahita Rabii, Ahmed Elsayed, Saad Aldin, Yaser Dahman, Elsayed Elbeshbishy |
| 8) Synthesis of Modified Spent Tea for Aspirin Adsorption in Aqueous Solution | N. Rosli, N. Ngadi |
| 9) Automated Detection of Anomalies in High-Frequency Water Quality Sensor Data using Machine Learning | X. Wang, E. Sekerinski, J. Copp |
| 10) Changes of the Water Quality Parameters in Artificial Lakes: Case Study, Chitgar Lake in Tehran City | J. Bayat, S. Hashemi, M. Zolfagharian, N. Rashidi, M. Rouhi Kerigh, A. Efatmanesh, S. Hejazi, S. Hasan Nejad |
| 11) Influence of C/N Ratios on Nitrification Performance in Membrane Aerated Biofilm Reactors | N. QIN |
| 12) Landfill leachate treatment for removal of heavy metals, ammonical nitrogen, COD content, and orthophosphate using crude microbial exopolysaccharides | Bharti, R. D. Tyagi |
| 13) Biopolymers Recovery from Methane: Developing PHB-Accumulating Mixed Cultures In a Sequential Batch Reactor | Ahmed Fergala, Ahmed AlSayed, Ahmed Eldyasti |
| 14) Development of Integrated Nitrogen Removal and Methane utilization processes using methanotrophic bacteria under different COD:N ratio. | Safayat Hosen Suhad, Ahmed Alsayed, Ahmed Eldyasti |
| 15) Water Quality and Hydraulic Performance of a Mature Cold Climate Bioretention Cell | S. Spraakman, W. Hooi, A. Gnanaraj, J. Drake, E. Passeport |
| 16) Modelling the impact of atmospheric deposition on water quality in Lake Ontario | Amir Khajezadeh Nokhandan, Usman T Khan, Ahmed Eldyasti |
| 17) Development of Hydrogenotrophic Denitrification Process for Municipal Wastewater | Basma Sobhi, Ahmed Eldyasti |
| Closing Remarks and Student Awards (4:45 - 5:00 pm) | |

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