

New England Graduate Student Water Symposium
LIST OF TECHNICAL SESSIONS

Technical Session 1

Water Resources and International WQ Issues

SATURDAY 9:30 – 11:00

Confronting Decision Cliffs: Diagnostic Assessment of Multi-Objective Evolutionary Algorithms' Performance for Addressing Uncertain Environmental Thresholds

Victoria Ward, Cornell University

Identifying and Managing Impacts of Non-point Source Pollution on Surface Water Quality

Patrick Malone, Worcester Polytechnic Institute

Assessing water quality and public perception in Eleuthera, the Bahamas

Emily Kraemer, Harvard

Analyzing the Integrated Precipitation and Hydrology Experiment (IPHEX)

Lauren Weston, Smith College

Characterizing Hydrodynamic Conditions in the Upper Niagara River using Field Measurements

Shaurya Sood, University at Buffalo

Development of A REILP Approach for Long-Term Planning of WRM System in Saudi Arabia

Badir Alsaed, Dalhousie University

Trace Organic Compounds and Advanced Oxidation Processes

SATURDAY 9:30 – 11:00

Impact of AOPs on the Composition and Biodegradability of Soluble Organic Nutrients in Wastewater Effluents

Nick Tooker, Northeastern University

Occurrence and removal of pharmaceuticals and personal care products in drip disposal onsite septic system

Soonmi Kim, University of Massachusetts, Amherst

Plasma-based water treatment: investigating the effect of reactor design on degradation of Rhodamine B

Gunnar Stratton, Clarkson University

Heterogeneous Photocatalysis for the Degradation of Contaminants of Emerging Concern in Water

Jose R. Alvarez Corena, Worcester Polytechnic Institute

The effects of Fenton reaction on the degradation of bisphenol A in a high voltage plasma reactor with discharge through a turbulent liquid jet

Fei Dai, Clarkson University

The application of advanced oxidation processes for the removal of common pharmaceutical compounds

Sean MacIsaac, Dalhousie University

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Technical Session 2

Water Resources, Climate Change, and Hydrology
SATURDAY 11:15 – 1:00

The prediction of annual discharge due to oceanic indices variations in the northeastern United States

Rouzbeh Berton, Syracuse University

Optimizing Long-Term Flood Control Management in an Estuarine Community Facing Uncertain Climate Change

Jory Hecht, Tufts University

Macro-Economic Analysis Supporting a Water Security Index

Hassan Khan, University of Massachusetts, Amherst

A Decision-Oriented Approach for Detecting and Modeling Nonstationary Flood Frequency

Jory Hecht, Tufts University

Hydrodynamic modelling and fecal indicator dispersion in current and future climates

Isabelle Jalliffier-verne, École Polytechnique de Montréal

Potential impacts of changes in climate on turbidity in New York City's Ashokan reservoir

Leslie DeCristofaro, University of Massachusetts, Amherst

Nanotechnology
SATURDAY 11:15 – 1:00

Metallic Nanoparticles Characterization Using ICPMS

Pooya Paydary, Northeastern University

The impact of source material in nano-hematite synthesis on surface area and selenium adsorption

Amanda Lounsbury, Yale University

Reducing the production of brine from inland desalination plants using a Hybrid Ion Exchange-Reverse Osmosis (HIX-RO) process

Ryan Smith, Lehigh University

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Technical Session 3

Natural Organic Matter and DBPs

SATURDAY 2:00 – 3:30

Influence of dissolved organic matters on acid-base status and aluminum speciation of surface waters in the Northeastern, USA

Habibollah Fakhraei, Syracuse University

Characterization of NOM to Distinguish the Impact of Municipal Wastewater Effluent in a Source Water

Michael Brophy, Dalhousie University

Natural Organic Matter Hydrophobicity and its Relationship to DBP Formation

Ran Zhao, University of Massachusetts, Amherst

Removing Trihalomethanes from Pressurized Water Mains using Horizontal Diffused Aeration Systems

Meagan McCowan, University of New Hampshire

Halogen-specific analysis of disinfection by-products in drinking water by adsorption, pyrolysis and off-line ICP/MS.

Rassil El Sayess, University of Massachusetts, Amherst

A study on 2,6-dichloro 1,4-benzoquinone: Determining potential natural precursors and its fate in the distribution system

Aarthi Mohan, University of Massachusetts, Amherst

Bioelectric Systems

SATURDAY 2:00 – 3:30

Distributed Benthic Microbial Fuel Cells (DBMFCs) for Durable, Efficient, and Reliable Power Generation

Bingchuan Liu, University of Connecticut

Treating metals with single-chamber microbial fuel cells(SCMFCs)

Yan Li, University of Connecticut

Competition for electron donors in Anode-Respiring Biofilms

Varun Srinivasan, University of Massachusetts, Amherst

Modeling microbial fuel cells for power generation from wastewater treatment

Secil Tutar, University of Connecticut

A paper shaped microbial fuel cell for instant energy harvesting

Kuichang Zuo, Tsinghua University and Harvard University

All-in-one Microelectrode (AIO MECs) for Real-time Profiling at Water/sediment Interface for Aftermath Impacts of Environmental Shocks

Zhiheng Xu, University of Connecticut

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Technical Session 4

Co-Digestion

SUNDAY 9:00 – 9:30

Co-Digestion of Food Waste and Sewage Sludge or Algae-Sludge Granules

Camilla Kuo-Dahab, University of Massachusetts, Amherst

Anaerobic Co-digestion of New York City Food Waste

Allen Fok, Manhattan College

Ferrate and Water Treatment

SUNDAY 9:00 – 10:15

Effect of different solutes and natural organic matter on ferrate decomposition rate in aqueous solutions

Yanjun Jiang, University of Massachusetts, Amherst

Ferrate(VI) for treatment of municipal secondary effluent for water reuse

Nanzhu Li, Montclair State University

Use of Ferrate in Drinking Water Treatment

Joe Goodwill, University of Massachusetts, Amherst

Integrating Ozone into a Direct Filtration Plant: Developing Bench Scale Protocols

Dallys Serracin-Pitti, Dalhousie University

Development of the Stacked Rapid Sand Filter

William Pennock, Cornell University

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Technical Session 5

Water Quality in Natural and Contaminated Sources

SUNDAY 9:45 – 11:30

Characterization of Marcellus Shale Flowback Water

Noura Abualfaraj, Drexel University

Characterizing environmental transformations of selenium oxyanions: an isotopic approach

Alexandra Schellenger, Northeastern University

Using stable Ca isotopes as a tracer of streamwater Ca following harvesting of a New England watershed

Kenneth Takagi, Boston University

Dynamics of Phosphorus and Linkages with Organic Carbon in Soil Solutions from Hubbard Brook, NH

Gabrielle Ard, Syracuse University

Characterizing Turbulent Mixing Processes in Near-Shore Lake Environments: Application to Phosphorous Dynamics in Lake Erie

Fatima Bukhari, SUNY Buffalo

An interactive tool for estimating and communicating solute loads to a water supply reservoir

Mark Hagemann, University of Massachusetts, Amherst

Nutrient Control

SUNDAY 10:30 – 12:00

Development and Utilization of a Novel Assay for Monitoring Specific Activity During Sidestream Deammonification

Gregory Pace, Manhattan College

Nitrogen Removal in a Combined Sidestream/Mainstream Reactor by Partial Nitrification/Anammox

Zheqin Li, Columbia University

De-ammonification and Nitrogen Removal

Anthony Niemiec, Manhattan College

High-throughput sequencing analysis of nitrifiers in wastewaters: Changing the treatment process modeling paradigm

Mauhamad Jauffur, McGill University

Factors Affecting Bio-methanol Production Using Mixed Culture Nitrifying Bacteria

Yu-Chen Su, Columbia University

Hybrid particle and ammonia removal from effluent by coagulation – flocculation peroxidation rapid bio-filtration system

Liron Friedman, Tel Aviv University, Columbia University