



International
Water Association



Groundwater
Resources Association
of California

MICROPOL & ECOHAZARD 2009

6th IWA/GRA Specialized Conference on Assessment and Control of Micropollutants/Hazardous Substances in Water

June 8-10, 2009

San Francisco, California

Conference Co-Chairs

Dr. Rula Deeb, Malcolm Pirnie, Inc. (rdeeb@pirnie.com)

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Draft Program (as of April 24, 2009)

Day 1: June 8, 2009

8:00 - 8:20	Opening and Welcome Remarks	
8:20 - 9:05	Keynote: Dr. Martin Jekel, Technical University of Berlin (Germany) <i>"Removal of Bulk and Trace Organics in Underground Treatment Systems"</i>	
	Micropollutants in Wastewater: Effects and Occurrence	Watershed - Soil & Groundwater
	Session Co-Chairs (1) Dr. Stuart Khan , University of New South Wales (Australia) (2)	Session Co-Chairs (1) Dr. Mike Focazio , US Geological Survey (USA) (2)
9:05 - 9:30	(103) Occurrence and Fate of Estrogenic Compounds in Australian Municipal Wastewater Treatment Plants and Riverine Environments Dr. Rai Kookana , CSIRO Land and Water (Australia)	(167) Mass Fluxes of Urban Micropollutants and Integrated Modelling of the River - Groundwater - Interaction in the City of Halle/Germany Dr. Frido Reinstorf , University of Applied Sciences Magdeburg-Stendal (Germany)
9:30 - 9:55	(11) Quantification of Antibiotic Resistance Gene Transfers in Activated Sludge Reactors Using Quantitative PCR Mr. Sebastien Bonot , Nancy University (France)	(91) Anthropogenic Gadolinium and Pharmaceuticals as Tracers of Groundwater Contamination in Tokyo Mr. Keiske Kuroda , University of Tokyo (Japan)
9:55 - 10:20	(111) Fate of Disinfection By-Products in Secondary and Tertiary Treated Wastewater Dr. Kathryn Linge , Curtin University (Australia)	(263) A Novel Approach for a Priori Predictions of Charged Organic Molecule Sorption to Soils and Sediments Dr. Christopher Higgins , Colorado School of Mines (USA)
10:20 - 11:05	Break & Poster Session (Group A Posters)	
	Micropollutants in Wastewater: Removal Strategies	Watershed - Biosolids
	Session Co-Chairs (1) Dr. Dan Woltering , Water Environment Research Foundation (USA) (2) Dr. Maria Fürhacker , University of Natural Resources and Applied Life Sciences (Austria)	Session Co-Chairs (1) Ms. Lola Olabode , Water Environment Research Foundation (USA) (2) Dr. Rolf Halden , Arizona State University (USA)
11:05 - 11:30	(151) A Novel Approach to Reduce the Emission of Pharmaceutical and X-Ray Diagnostic Agents into the Aquatic Environment Dr. Anke Putschew , TU Berlin (Germany)	(184) Risk Assessment of Biosolids-Borne Triclocarban (TCC) Elizabeth Hodges Snyder , University of Florida at Gainesville (USA)
11:30 - 11:55	(122) Evaluation of the Removal of Organic Priority and Emerging Substances in the Activated Sludge Process Through 7 On-Site Campaigns Dr. Samuel Martin Ruel , CIRSEE, Suez Environment (France)	(240) Nationwide Assessment of Pharmaceuticals and Personal Care Products in U.S. Biosolids Kristin McClellan , Arizona State University (USA)
11:55 - 12:20	(152) Dynamic Modelling of Deconjugation, Sorption and Biodegradation Processes for Hormones and Antibiotics in Activated Sludge Systems Dr. Benedek Plosz , Norwegian Institute for Water Research, (Norway)	(172) Presence, Fate and Treatability of Estro- and Androgenic Contaminants in Wastewater and Biosolids Dr. Karl Linden , University of Colorado at Boulder (USA)
12:20 - 12:45	(38) Applying Surrogates and Indicators to Assess Removal Efficiency of Trace Organic Chemicals in Indirect Potable Reuse Systems: Oxidation Processes Dr. Eric Dickenson , Colorado School of Mines (USA)	(255) Fate of Polybrominated Diphenyl Ethers in Wastewater: From Treatment of Land of Biosolids Cary Leung , University of Arizona at Tucson (USA)

12:45 - 1:45	Lunch	
1:45 - 2:30	Keynote: Dr. Damia Barcelo, Chemical & Environmental Research Institute of Barcelona (IIQAB-CSIC), Spain <i>"Fate and Behavior of Pharmaceuticals in Treated Wastewaters, Sludge and River Waters Followed by an Environmental Risk Assessment Using Hazard Indexes"</i>	
	Environmental Chemistry	Micropollutants in Wastewater: Removal and What are we Missing?
	Session Co-Chairs (1) Dr. Mehran Alaei , Environment Canada (Canada) (2)	Session Co-Chairs (1) Dr. Jorg Drewes , Colorado School of Mines (USA) (2) Dr. Bo Jacobsen , European Environment Agency
2:30 - 2:55	(50) Eliminating Solid Phase Extraction with Large-Volume Injection LC-MS/MS Dr. Jennifer Field , Department of Environmental and Molecular Oregon State University (USA)	(71) Elimination of Organic Micropollutants in a Municipal Nutrient Removal Plant Upgraded with a Full Scale Post-Ozonation Followed by Sand Filtration Dr. Juliane Hollender , EAWAG (Switzerland)
2:55 - 3:20	(76) Conjugated Estrogens: Still Unknown Threat to the Aquatic Environment Vimal Kumar Hatwal , Kyoto University (Japan)	(188) Powdered Activated Carbon Dosage to Flocculation Filtration to Reduce Micropollutant Removal Dr. Hansruedi Siegrist , EAWAG (Switzerland)
3:20 - 3:45	Break	
3:45 - 4:10	(209) The Formation and Occurrence of Biological Transformation Products and Ozonation Products of Iodinated Contrast Media and Betablockers in the Urban Water Cycle Dr. Thomas Ternes , Federal Institute of Hydrology (Germany)	(165) Removal of Micropollutants and Reduction of Biological Adverse Effects from Treated Wastewater by Slow Biological Activated Carbon Filtration Dr. Julien Reungoat , University of Queensland (Australia)
4:10 - 4:35	(9) New Pesticide Metabolites - A Threat to Drinking Water? Dr. Heinz Juergen Brauch , TZW (Germany)	(243) Batch Tests on the Biodegradation of Emerging Organic Micropollutants Ms. Manuela Barbieri , Technical University of Catalonia, Spain
4:35 - 5:00	(115) Occurrence of Old and Emergent Polyfluorinated Chemicals in Ambient Waters and in Drinking Water Resources Dr. Frank Lange , TZW (Germany)	(14) Removal of Pharmaceuticals from Municipal Wastewaters: A Comparison of Treatment Technologies Berndt Bjorlenius , Stockholm Water Co. (Sweden)
5:00 - 5:25	(7) Quaternary Ammonium Compounds: An Important Class of Sediment Contaminants too Long Under the Radar Dr. Bruce Brownawell , Stony Brook University (USA)	(210) Performance Assessment of Onsite Wastewater Treatment Units in Trace Organic Contaminant Removal Jennifer Teerlink , Colorado School of Mines (USA)
5:25 - 6:30	Poster Session (Group A Posters) and Networking Mixer	

Day 2: June 9, 2009

8:00 - 8:05	Overview of the Day	
8:05 - 8:50	Keynote: Dr. John Coates, University of California at Berkeley (USA) "Microbial Perchlorate Reduction - A Rocket Fueled Metabolism"	
	Oxidation Technologies: Emerging Disinfection Byproducts - 1	Biological Degradation of Micropollutants
	<i>Session Co-Chairs</i> (1) Dr. Jurg Keller , University of Queensland (Australia) (2) Dr. Michael Kavanaugh , Malcolm Pirnie, Inc.	<i>Session Co-Chairs</i> (1) Dr. Andrew Schuler , University of New Mexico (USA) (2) Dr. Nancy Love , University of Michigan at Ann Arbor (USA)
8:50 - 9:15	(223) Macro vs. Micropollutants in Impaired Waters: What Really Matters? Dr. William Mitch , Yale University (USA)	(218) Fate of Psycho-Active Drugs in Biological Wastewater Treatment: Examining Removal Processes and Formation of Transformation Products Arne Wick , Federal Institute of Hydrology (Germany)
9:15 - 9:40	(36) Iodo-DBP Formation from the Reaction of Chlorinated Oxidants with X-Ray Contrast Media in the Presence of Natural Organic Matter Dr. Stephen Duirk , U.S. Environmental Protection Agency (USA)	(280) Molecular Approaches for Understanding the Biodegradation of Emerging Contaminants with a Focus on NDMA and 1,4-Dioxane Dr. Lisa Alvarez-Cohen , University of California at Berkeley (USA)
9:40 - 10:05	(5) Formation and Occurrence of Chlorinated Triclosan Derivatives (CTDs) and their Dioxin Photoproducts Jeffrey Buth , University of Minnesota (USA)	(282) Perfluorocarbons and the Limits of Biodegradation Dr. Craig Criddle , Stanford University (USA)
10:05 - 10:50	Break & Poster Session (Group B Posters)	
	Drinking Water: Emerging Disinfection Byproducts - 2	Nanomaterials: What Are the Concerns?
	<i>Session Co-Chairs</i> (1) Dr. Marc Deshusses , Duke University (USA) (2) Ms. Alice Fulmer , Water Research Foundation (USA)	<i>Session Co-Chairs</i> (1) Mr. Jeff Mosher , National Water Research Institute (USA) (2) Dr. Patricia Holden , University of California at Santa Barbara (USA)
10:50 - 11:20	(164) Integrated Disinfection By-Products Mixtures Research: Results from the Four Lab Study Dr. Susan Richardson , US Environmental Protection Agency (USA)	(281) Fate and Transport of Nanomaterials in Environmental Media Dr. Arturo Keller , University of California at Santa Barbara (USA)
11:20 - 11:45	(154) Kinetics of Perchlorate Ion Formation in Bleach Solutions: Reaction Pathways and Co-Contaminant Effects Mr. Aleks Pisarenko , Miami University (USA)	(264) Nanomaterials as Emerging Contaminants: Ecotoxicological Implications Dr. Shaily Mahendra , Rice University (USA)
11:45 - 12:10	(214) N-Nitrosodimethylamin Formation During Ozonation of Water Containing N,N-Dimethylsulfamide: Role of Bromide Dr. Urs von Gunten , EAWAG (Switzerland)	(279) Regulating Nanomaterials: New Challenges, New Strategies Dr. Jeff Wong , California Department of Toxic Substances Control (USA)
12:10 - 1:10	Lunch	

1:10 - 1:55	Keynote: Dr. Shane Snyder, Southern Nevada Water Authority (USA) <i>"Endocrine Disruptors and Pharmaceuticals in US Drinking Water"</i>	
	Oxidation Strategies: How Effective are they for Removing Micropollutants?	Membrane Technologies: How Well Do They Work?
	Session Co-Chairs (1) (2)	Session Co-Chairs (1) Dr. Makram Suidan , University of Cincinnati (USA) (2) Dr. Martin Reinhard , Stanford University (USA)
1:55 - 2:20	(94) Transformation Ratios of Organophosphorous Pesticides to Oxons in Chlorination Dr. Koji Kosaka , National Institute of Public Health (Japan)	(85) Water Reuse: Coupling the Biological Wastewater Treatment and the Dense Membrane Polishing Achieves >90% Water Yield Dr. Adriano Joss , EAWAG (Switzerland)
2:20 - 2:45	(254) Insights to Free Radical Treatment of Pharmaceuticals in Water Dr. William Cooper , University of California at Irvine (USA)	(201) Rejection of PFOS/PFOA by Membrane in Water Reclamation System Dr. Jianguo Hu , National University of Singapore (Singapore)
2:45 - 3:10	(198) Oxidative Treatment of Trace Organic Contaminants Diclofenac, Iopamidol, Tributyltin Chloride, TCPP and TnBP in Wastewater Effluents with O ₃ and O ₃ /H ₂ O ₂ Dr. Myint Myint Sein , University of Duisburg-Essen (Germany)	(183) Modeling Trace-Organic Micropollutant Rejection in NF/RO Membranes for Reuse Applications: Developmental Methods Matthew Sonnenberg , Colorado School of Mines (USA)
3:10 - 3:35	Break & Poster Session (Group B Posters)	
3:35 - 4:00	(153) Hydroxyl Radical-Mediated Indirect Photolysis of N-Ethyl Perfluorooctane Sulfonamido Acetate (N-EtFOSAA) and Other Perfluoroalkanesulfonamides Dr. Megan Plumlee , Stanford University (USA)	(204) Rejection of Trace Organic Contaminants by NF membranes: Effects of Sorption Dr. Eva Steinle-Darling , Eler & Kalinowski, Inc. (USA)
4:00 - 4:25	(231) Assessment and Modeling of a Full Scale Ozonation Step of Municipal Secondary Wastewater Effluent Saskia Zimmermann , EAWAG (Switzerland)	(30) A Novel Dual-Barrier Hybrid Forward Osmosis - Reverse Osmosis Process for Water Purification and Reuse Dr. Tzahi Cath , Colorado School of Mines (USA)
4:25 - 4:50	(68) Oxidative Treatment of Phenolic Micropollutants with Permanganate and Ferrate Salts Lanhau Hu , University of Illinois at Urbana-Champaign (USA)	(24) Fate and Removal of Micropollutants in a Membrane Bioreactor Le-Minh Nhat , University of New South Wales (Australia)
4:50 - 6:00	Micropollutants: Regulation, Management and Risk Communication - A Panel Discussion	
	Moderators Frans Schulting, Global Water Research Coalition Thomas Mohr, Santa Clara Valley Water District (USA) Panelists (28) Dr. Heather Chapman, Griffith University (Australia) Dr. Mong Hoo Lim, Singapore PUB (Singapore) Mr. Ed Means, Malcolm Pirnie, Inc. (USA) (180) Dr. Peter Stoks, RIWA/IAWR (The Netherlands) Dr. Rhodes Trussell, Trussell Technologies (USA)	
6:00 - 10:00	Dinner Cruise in the San Francisco Bay	

Day 3: June 10, 2009

8:00 - 8:10	<i>Overview of the Day</i>	
8:10 - 8:55	Keynote: Dr. Michael Plewa, University of Illinois at Urbana-Champaign, USA <i>"Water Micropollutants: In Vitro Mammalian Cell Toxicology to Human Toxicogenomics"</i>	
	Ecotoxicology	Watershed - Occurrence
	<i>Session Co-Chairs</i> (1) (2)	<i>Session Co-Chairs</i> (1) (2)
8:55 - 9:20	(244) Measuring the Effect of Pharmaceuticals on Microbial Antibiotic Resistance in Wastewater with Nonparticle-DNA Probes Dr. Krassimira Hristova , University of California at Davis (USA)	(127) The Distribution of Antidepressants and their Metabolites in an Urban Watershed Dr. Chris Metcalfe , Trent University (Canada)
9:20 - 9:45	(113) Combining Chemical Analysis, An In-Vitro Ecotox Toolbox and In-Vivo Monitoring to Evaluate Water Quality for Recycling Dr. Frederic Leusch , Griffith University (Australia)	(118) Quantification of Magnetic Resonance Imaging Contrast Agents Using Inductively Coupled Plasma Mass Spectrometry - A Geochemical Perspective of Micropollutant Occurrence Dr. Michael Lawrence , University of Queensland (Australia)
9:45 - 10:10	(105) Toxicity Identification Evaluations for Fish Feminization in the Central Valley of California Dr. Daniel Schlenk , University of California at Riverside (USA)	(147) Identifying Persistent Tracers of Wastewater - Pharmaceuticals in Switzerland Dr. Christoph Ort , University of Queensland (Australia)
10:10 - 10:35	(146) Activity-Directed Analytical Tools Based on Hormone Receptor-Affinity Extraction for Isolating Dissolved EDCs from Complex Mixtures Dr. Lee Ferguson , University of South Carolina at Columbia (USA)	(247) Pollution of Urban Runoff by Additives Used in Construction Materials Dr. Michael Burkhardt , EAWAG (Switzerland)
10:35 - 11:00	Break & Poster Session (Group B Posters)	
	Toxicology: Human Health	Brominated Flame Retardants: New Issues
	<i>Session Co-Chairs</i> (1) (2)	<i>Session Co-Chairs</i> (1) (2)
11:00- 11:25	(41) Continued Development of Normal Human Colonocyte Cultures to Identify the Carcinogenic Potential of Priority Disinfection By-Products Dr. Anthony DeAngelo , U.S. Environmental Protection Agency (USA)	(277) Alternative Brominated Flame Retardants in San Francisco Bay Wildlife and Sediments Dr. Susan Klosterhaus , San Francisco Estuary Institute (USA)
11:25 - 11:50	(144) Effect of Perfluorooctane Sulfonate (PFOS) on Genotoxicity of Micropollutants in Micronucleus Assay Dr. Hiroaki Ozaki , Osaka Sangyo University (Japan)	(250) Biotransformation of Polybrominated Diphenyl Ethers by Aerobic Bacteria Dr. Kristin Robrock , Exponent, Inc. (USA)
11:50 - 12:15	(57) Risk Assessment of Perfluorinated Tensides - A Multidisciplinary Approach Dr. Tamara Grummt , Federal Environment Agency (Germany)	(203) Photolysis of Hydroxylated Polybrominated Diphenyl Ethers Dr. William Arnold , University of Minnesota (USA)
12:15 - 12:45	Student Competition Awards and Closing Comments	