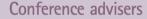


6th International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water

October 22-23, 2007 Hilton Orange County/Costa Mesa / Costa Mesa, California



Final Program

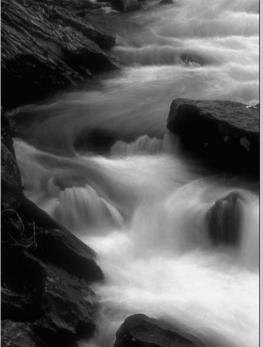


- Thomas Heberer, Ph.D., Federal Institute for Risk Assessment (BfR), Germany
- Dana Kolpin, Ph.D., USGS
- Robert Masters, NGWA
- Sebastian Zuehlke, Ph.D., Institute of Environmental Research, University of Dortmund, Germany

Conference cosponsors

Federal Institute for Risk Assessment (BfR), Germany Technical University of Berlin U.S. EPA National Risk Management Research Laboratory USGS Toxic Substances Hydrology Program









Monday, (October	22,	2007
-----------	---------	-----	------

7:30 a.m.-5:00 p.m. Registration KEYNOTE DAY ONE 8:30-9:30 a.m. Moderator: Dana Kolpin, Ph.D., USGS, and Robert Masters, NGWA Potential Risks Associated with the Proposed Widespread Use of the Bird Flu Vaccine, Tamiflu 8:30-9:00 a.m. Andrew Singer, Ph.D., Miles Nunn, Ernest Gould, and Andrew Johnson, Centre for Ecology and Hydrology, Oxford Relative Risk Assessment of Estrogenic Compounds in Water 9:00-9:30 a.m. Shane A. Snyder and Dawn Lei, Ph.D., Southern Nevada Water Authority; Jocelyn Hemming, Ph.D., Wisconsin State Laboratory of Hygiene HUMAN AND VETERINARY SOURCES OF PHARMACEUTICALS AND EDCs TO THE ENVIRONMENT 9:30-11:10 a.m. Moderator: Thomas Heberer, Ph.D., Federal Institute for Risk Assessment Assessment of Antibiotic Residues in Extracted Biosolids, Manure, Soils, and Streambed Sediment in 9:30-9:55 a.m. the United States: A Source Reconnaissance Keith A. Loftin, Michael T. Meyer, and Dana W. Kolpin, USGS 9:55-10:20 a.m. Community Burdens of Methamphetamine and Other Illicit Drugs Aurea C. Chiaia, Laura Power, Daniel L. Sudakin, Ph.D., M.D., and Jennifer A. Field, Ph.D., Oregon State University; Caleb Banta-Green, University of Washington Break 10:20-10:45 a.m. 10:45-11:10 a.m. Endocrine Disrupting Compounds from Combined Sewer Overflows Jason R. Vogel, Ph.D., David L. Rus, Jill D. Frankforter, and Christopher M. Hobza, USGS; James E. Theiler, City of Omaha Public Works Department 11:10 a.m.-12:00 p.m. **ANALYTICAL METHODS** Moderator: Sebastian Zuehlke, University of Dortmund Thyroid Hormone Disrupting Activity in the Rhine River 11:10-11:35 a.m. Peter G.M. Stoks, RIWA, Association of River Water Works; Leo M. Puijker, Kiwa Water Research Enantioselective Determination of Single Nonylphenol Isomers in WWTPs 11:35 a.m.-12:00 p.m. Haifeng Zhang, Sebastian Zuehlke, and M. Spiteller, University of Dortmund; Klaus Guenther, Research Centre Juelich 12:00-1:00 p.m. Lunch (on your own) 1:00-1:50 p.m. ANALYTICAL METHODS (continued) Moderator: Sebastian Zuehlke, University of Dortmund Bioluminescent Yeast-Reporter Systems for Screening Chemicals 1:00-1:25 p.m. John Sanseverino, Ph.D., Melanie Eldridge, Alice Layton, Jason Yarbrough, T. Wayne Schultz, and Gary Sayler, University of Tennessee 1:25-1:50 p.m. Development of a Magnetic Particle Enzyme Immunoassay and Its Application to the Measurement of Triclosan and Methyl Triclosan in Water, Waste Water, Soils, and Sediment Fernando Rubio, Lisa Kamp, Jennifer Church, and Richard Slawecki, Abraxis LLC; Weilin Shelver, USDA-ARS 1:50-3:30 p.m. UPTAKE OF PHARMACEUTICALS AND EDCs BY TERRESTRIAL AND AQUATIC ORGANISMS Moderator: Dana Kolpin, Ph.D., USGS Occurrence, Fate, and Risk Assessment of Malachite Green Residues in Fish for Human Consumption 1:50-2:15 p.m. Thomas Heberer, Ph.D., Andrea Wiersdorf, and Nicole Wordel, Federal Institute for Risk Assessment Earthworms: Bioaccumulation of Anthropogenic Wastewater Indicator Compounds in Terrestrial 2:15-2:40 p.m. **Environments** Chad A. Kinney, Ph.D., Colorado State University-Pueblo; Edward T. Furlong, Dana W. Kolpin, Ph.D., and Mark R. Burkhardt, USGS; Steven D. Zaugg, Ph.D., and Stephen L. Werner, B.S., USGS-NWQL; Ellen Z. Harrison and Anthony G. Hay, Ph.D., Cornell University; Regina C. Thompson, Eastern Washington University 2:40-3:05 p.m. Assessment of EDCs Exhibiting Estrogen Mimicry Using a Multitiered Approach for Predicting Ligand Structural Requirements James L. Wittliff, Sarah A. Andres, D. Alan Kerr II, and Irina A. Smolenkova, Department of Biochemistry and Molecular Biology, University of Louisville; Stefanie B. Bumpus and Huy T. Le, Department of Chemistry, Institute for Molecular Diversity and Drug Design, University of Louisville 3:05-3:20 p.m. Break

STEROIDAL HORMONES: SOURCES, FATE, TRANSPORT, AND TREATMENT 3:20-5:00 p.m. Moderator: Dana Kolpin, Ph.D., USGS Interaction of Estrogens with Wastewater Solids 3:20-3:45 p.m. Ruth Marfil-Vega and Makram T. Suidan, University of Cincinnati Fate of 17b-Estradiol and Total Estrogenic Activity at Six Municipal Wastewater Treatment Facilities 3:45-4:10 p.m. in Arizona Sondra S. Teske. Robert G. Arnold. Ph.D. David Quanrud. Ph.D., and Wendell Ela, University of Arizona: Catherine Propper, Ph.D., and Silke Buschmann, Northern Arizona University Concentrations of Androstenedione and Testosterone in Manure, Effluent, Soil, and Surface Water 4:10-4:35 p.m. Laurence Shore, Kimron Veterinary Institute Estrogenic Mycotoxins: Overlooked Endocrine Disruptors in the Environment? 4:35-5:00 p.m. Niccolo Hartmann (1,2), Thomas D. Bucheli (1), Marianne Erbs (1), Felix E. Wettstein (1), Susanne Vogelgsang (1), Hans-Rudolf Forrer (1), Rene P. Schwarzenbach (2) (1 Agroscope Reckenholz-Taenikon Research Station ART; 2 Swiss Federal Institute of Technology Zurich) 5:00-6:30 p.m. Ice-Breaker Reception

Tuesday, October 23, 2007

Tuesday, Oct	tober 23, 2007	
7:30 a.m1:00 p.m.	Registration	
8:00-9:00 a.m.	KEYNOTE DAY TWO Moderator: Robert W. Masters, NGWA	
8:00-8:30 a.m.	Strategies for Micropollutant Reduction in Large River Networks Christopher Ort, Swiss Federal Institute of Aquatic Science and Technology (Eawag)	
8:30-9:00 a.m.	Tracking Antibiotic Resistance Genes (ARG) as Emerging Environmental Contaminants in the Cache La-Poudre River Watershed Amy Pruden, Ph.D., Colorado State University	
9:00–11:50 a.m.	OCCURRENCE OF PHARMACEUTICALS AND EDCs IN THE ENVIRONMENT Moderator: Robert Masters, NGWA	
9:00–9:25 a.m.	Pharmaceuticals and Personal Care Products Detected in Sediments of the Lower Columbia Riv Basin Elena B. Nilsen, Robert R. Rosenbauer, Edward T. Furlong, Mark R. Burkhardt, Stephen Werner, Lisa Greaser, and Mary Noriega, USGS	
9:25-9:50 a.m.	Group Discussion	
9:50–10:15 a.m.	Occurence of Potential Hormonally Active Compounds in Public Water Supplies and Domestic Wells of the United States, 1991–2005 Gregory C. Deltzer and Kimberlee K. Barnes, USGS	
10:15–10:35 a.m.	Break	
10:35–11:00 a.m.	Occurrence of Pharmaceutical and Personal Care Products in Source and Finished Waters in Ontario, Canada Sonya Kleywegt, Ontario Ministry of the Environment	
11:00–11:25 a.m.	Xenobiotics in Urban Ground Water Systems Mario Schirmer, Kristin Schirmer, Gerhard Strauch, and Frido Reinstorf, UFZ Helmholtz Centre for Environmental Research	

er

11:25–11:50 a.m.

Pharmaceuticals and Chloroxylenol in Wastewater Effluent Samples from Across
the United States, 2003–2006
Patrick J. Phillips, Steven G. Smith, Dana W. Kolpin, Ph.D., and Edward T. Furlong, USGS; Steven D. Zaugg, Ph.D., USGS-NWQL; Kathleen Esposito and Beverley Stinson, Ph.D., Metcalf and Eddy

11:50 a.m.–1:15 p.m.

Lunch (provided)

1:15–3:40 p.m. TRANSPORT AND FATE OF PHARMACEUTICALS AND EDCs IN THE ENVIRONMENT Moderator: Alva Daniels, U.S. EPA National Risk Management Research Laboratory

1:15–1:40 p.m.	Potential for 4-Nonylphenol Biodegradation in Stream Sediments Paul M. Bradley, Ph.D., Larry B. Barber, Ph.D., Dana W. Kolpin, Ph.D., Peter B. McMahon, Ph.D., and Francis H. Chapelle, Ph.D., USGS
1:40-2:05 p.m.	Fate of Pharmaceutical Residues During Ground Water Recharge: Final Results from the Nasri Project (2002–2005) Thomas Heberer, Ph.D., Federal Institute for Risk Assessment; Andy Mechlinski and Britta Fanck, Technical University of Berlin
2:05–2:30 p.m.	Sulfadiazine and Its Biotransformation Products: Occurrence and Metabolism in Manure and Amended Soil Marc Lamshoeft, Premasis Sukul, M. Spiteller, and Sebastian Zuehlke, University of Dortmund
2:30-2:55 p.m.	Influence of Redox Conditions on Pharmaceutical Transport in Ground Water Carol J. Ptacek, Ph.D., Cherilyn Carrara, David W. Blowes, William D. Robertson, Michael Moncur, and Laura G. Groza, University of Waterloo; Edward Sverko, JoAnn Schachtschneider, and Helena Steer, Environment Canada NWRI; Traugott Scheytt and Simone Seibert, Technical University Berlin
2:55-3:05 p.m.	Break
3:05-3:30 p.m.	The Fate of Polybrominated Diphenyl Ethers in Land-Applied Biosolids Cary Leung, Robert G. Arnold, Ph.D., Wendell P. Ela, Ph.D., Eduardo A. Sáez, Ph.D., and David Quanrud, Ph.D., University of Arizona
3:30–5:10 p.m.	INNOVATIVE AND COST-EFFECTIVE REMEDIATION AND TREATMENT TECHNOLOGIES Moderator: Robert Masters, NGWA
3:30-3:55 p.m.	The Removability of Pharmaceuticals and Other Emerging Organic Micropollutants During Drinking Water Production Based on Conventional Treatment Steps Carsten K. Schmidt, Ph.D., and Heinz-Jürgen Brauch, DVGW-Water Technology Center (TZW)
3:55-4:20 p.m.	Fate of Selected Endocrine Disruptors During Soil Aquifer Treatment D.M. Quanrud, J. Zhang, M. Thomanek, H. Dong, R.G. Arnold, W.P. Ela, and Eduardo Sáez, University of Arizona
4:20-4:45 p.m.	Modeling Removal of Hormones and Xenoestrogens During Conventional Wastewater Treatment Sondra S. Teske and Robert G. Arnold, Ph.D., University of Arizona
4:45–5:10 p.m.	Phytoestrogens in Drainage and Surface Waters Corinne C. Hoerger (1,2), Thomas D. Bucheli (1), Marianne Erbs (1), Niccolo Hartmann (1), Felix E. Wettstein (1), Konrad Hungerbuehler (2) (1 Agroscope Reckenholz-Taenikon Research Station ART; 2 Swiss Federal Institute of Technology Zurich)

