



An interactive seminar on

Bioanalytical Tools in Water Quality Assessment

Dr. Beate Escher, University of Queensland, Australia

Dr. Frederic Leusch, Griffith University, Australia

November 10, 2011 9 am -12 noon
Southern California Coastal Water Research Project (SCCWRP)
3535 Harbor Blvd. Costa Mesa, CA 92626

Targeted for a diverse audience of practitioners and regulators, this seminar will provide an overview on the current state of bioanalytical tools and their potential applications in water quality monitoring.

The last decades have seen an increase in research on organic chemicals that may pollute the aquatic environment and drinking waters. While the majority of this research has focused on identification and quantification of individual chemicals, effects-based methods have emerged in recent years to complement exposure-based chemical measurements obtained by targeted analysis. Newer effects-based methods include an ever-increasing number of in vitro bioassays that hold great promise for application to water quality assessment. The objective of this seminar is to summarize the scientific background underlying the application of bioanalytical tools in water quality assessment and to review the state-of-the-science. Water quality assessment of organic micropollutants will be discussed in a risk framework. Background information on modes of toxic action and dose-response assessment will be presented and illustrated. Recent case studies on benchmarking water quality in the urban water cycle and assessment of efficacy for various water treatment options will also be reviewed. The meeting will conclude with an interactive session to discuss knowledge gaps and possible applications, strengths, and weaknesses of current bioanalytical approaches.

Dr. Beate Escher is a professor at the University of Queensland and Deputy Director of the National Research Centre for Environmental Toxicology (Entox) in Brisbane, Australia. She received her Ph.D. in Environmental Chemistry from the Swiss Federal Institute of Technology Zürich. Her research interests include mode-of-action based environmental risk assessment, methods for initial hazard screening of various classes of organic chemicals and mixtures, passive sampling, and effects-based methods for water quality assessment.

Dr. Frederic Leusch is a senior research fellow at Griffith University and Program Leader for Water Quality and Diagnostics at the Smart Water Research Centre in Southport (Gold Coast), Australia. Fred received his Ph.D. in Environmental Toxicology from Lincoln University in New Zealand. His current research focuses on development of alternative methods for water quality assessment, endocrine disruption, and assessment of recycled water for a variety of end-uses.

Drs. Escher and Leusch are lead investigators for the project titled “*Development of Bioanalytical Techniques to Assess the Potential Human Health Impacts of Recycled Water*” (WaterReuse 10-07).

Seminar will be webcast; lunch will be available for \$10 immediately following the seminar