

# POSTER PRESENTATIONS

## **Addressing Critical Issues Associated with USEPA Method 1623 through the Development of a Real Time RT-PCR Assay for *Giardia* Viability**

*Mr. Robert Baque, Orange County Utilities*

This poster will discuss some of USEPA Method 1623's shortcomings and present opportunities to address them through Real-Time RT-PCR technology. The assay being developed has been a work in progress for almost three years and an overview of progress and recent results will be shared.

## **An Innovative Approach to PPCP Testing-Getting More for Less**

*Dr. Andrew Eaton, MWH Laboratories*

Using online preconcentration, we screen for over 80 PPCPs using a small sample. The method can be used on RO water or brine concentrate and produce results with good spike recoveries. By looking for a large number of analytes rather than a small subset, site-specific indicator compounds can be determined.

## **Applications of the WaterReuse Decision Support System to Evaluate Satellite Treatment Costs**

*Ms. Katie Porter, Malcolm Pirnie*

This poster will present case studies where the WaterReuse Decision Support System (DSS) tool was applied and how this was used to aid in the recommendation for satellite treatment. A compilation of important lessons learned will be presented. These suggestions will provide a basis for future tool enhancement and updates.

## **Comparison of Extraction and Derivatization Methods for use in GC/MS Analysis of Bisphenol-A and 17 $\beta$ -Estradiol in Water**

*Mr. Won-Seok Kim, University of South Florida*

Methods of analyzing endocrine-disrupting compounds in water are compared. Specifically, the poster considers two methods (SPE and SPME) for extracting target contaminants from water, and two methods (MSTFA and BSTFA) for derivatizing the target contaminants prior to analysis by GC/MS. Recommendations are made for water reuse applications.

## **Evaluation of Recycled Water for a Ground-Source Heat-Pump Demonstration Project**

*Ms. Abigail Holmquist, Denver Water*

This poster will summarize the findings of a feasibility study to investigate the use of municipal recycled water as the source for thermal heating and cooling in a proposed open-loop, ground-source heat-pump system.

## **Progress in Use of Constructed Brackish Wetlands for Beneficial Reuse of Membrane Concentrate**

*Mr. James Bays, CH2M HILL*

Recent pilot studies in California, Australia, Arizona and Florida provide data supporting the use of brackish wetlands to remove contaminants from membrane concentrate while reducing water volume. This process creates a supply of brackish water that may be feasible to reuse beneficially for habitat creation and irrigation.

## **Removal and Toxicity of Nano Silver, Zinc Oxide and Copper Oxide during Biological Wastewater Treatment**

*Dr. Ganesh Rajagopalan, Kennedy/Jenks Consultants*

Manufactured nanomaterials are an emerging group of contaminants that may affect water reclamation in the near future. These materials are extremely small, highly reactive and known to behave differently than ionic pollutants in the wastewater. This bench-scale study evaluated removal and toxicity of three nanomaterials, that are used in cosmetics, personal care and other everyday products (Nano silver, zinc oxide and copper oxide), during biological wastewater treatment.

## **The Value of Water Supply Reliability for Desal and Reuse Investments**

*Dr. Robert Raucher, Stratus Consulting*

The poster will provide: (1) a description of what "reliability" means, (2) an overview of ways in which reliability might be measured empirically, (3) a review of past studies on reliability values, focusing on how the values might be and how they can be used in evaluating water supply options, and (4) an update on the on-going WaterReuse Foundation project that is directly estimating the value of water supply reliability. 14th Annual Water Reuse & Desalination Research Conference