WATEREUSE FOUNDATION

RESEARCH UPDATE

Advancing the Science of Water Reuse and Desalination through Research

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WateReuse Foundation

The mission of the WateReuse Foundation is to conduct and promote applied research on the reclamation, recycling, reuse, and desalination of water.

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Research Conference to Include Tour of Orange County Potable Reuse Project

The 13th Annual Water Reuse & Desalination Research Conference will be held May 18-19 at the Hilton Waterfront Beach Resort in Huntington Beach, CA. The conference will showcase results from "cutting edge" research related to water reuse and desalination and include a tour of the Orange County Water District's Groundwater Replenishment System.

The Foundation's Research Conference provides an opportunity for water managers to hear and see presentations on the latest results of ongoing research, network with colleagues, and discuss current and future research needs and trends. The focus of the conference is on research that is likely to generate future scientific breakthroughs in water reuse and desalination. More than 25 presentations in a “single track” program provide a focused and unique opportunity for water reuse and desalination professionals to learn about new developments and trends emerging from current and ongoing research.

For more information about the conference, click here.

New Research Reports Available

The Foundation recently released the following new research reports:

- *Honolulu Membrane Bioreactor Pilot Study* (WRF-04-004): This project consisted of a side-by-side pilot demonstration of six different membrane bioreactor (MBR) systems and the introduction and demonstration of MBR technology to engineers, operators, owners, and regulators in Hawaii. The Principal Investigator was Roger Babcock, Jr. of the University of Hawaii.

- *Decision Support System for Selection of Satellite vs. Regional Treatment* (WRF-04-014): This project develops a spreadsheet-based tool to assist utilities in comparing the advantages of constructing a satellite wastewater treatment plant for reclaimed water use and those of using a regional wastewater treatment plant, with inherent distance and elevation concerns of direct users. The report is a guidance manual and the spreadsheet tool is included on a CD-ROM. The Principal Investigator was Stephen Davis of Malcolm Pirnie.

- *A Reconnaissance-Level Quantitative Comparison of Reclaimed Water, Surface Water, and Groundwater* (WRF-02-008): The goals of this project were to investigate, document, and compare water quality differences and similarities of reclaimed water, surface water, and groundwater sources. The Principal Investigators were Tom Helgeson of CH2M HILL and Mark McNeal of ASRus.

- *Methods for the Detection of Residual Concentrations of Hydrogen Peroxide in Advanced Oxidation Processes* (WRF-04-019): The purpose of this project was to develop a laboratory method for reliable quantification of hydrogen peroxide in the 0.5- to 5-mg/L concentration range that is effective in a natural water matrix as well as in the presence of combined chlorine (chloramine). The Principal Investigators were Philip Brandhuber of HDR Engineering and Gregory Korshin of the University of Washington

There were also two Foundation supported reports that were recently released by other research organizations.

- *Toxicological Relevance of EDCs and Pharmaceuticals in Drinking Water* (WRF-04-003): This project investigated the toxicological relevance of endocrine disrupting chemicals and pharmaceutically active compounds in raw water and finished drinking water and provides data regarding the human health consequences of drinking water contaminated with trace levels of these emerging contaminants. This research was co-founded with the Water Research Foundation and California Urban Water Agencies.

- *Contributions of Household Chemicals to Sewage and their Relevance to Municipal Wastewater Systems and the Environment* (WRF-04-018): This study investigated the occurrence and fate of high production volume household chemicals in wastewater systems. This research was co-founded with the Water Environment Research Foundation.

Research Reports Available for Download

Foundation Subscribers, Board members, and Research Advisory Committee members can download copies of research reports from the Subscribers-only section of the website. Your username is your e-mail address. To reset your password, click here. The primary Subscriber representative has full access to all Subscriber-only sections of the website. The Subscriber organization may also designate up to two alternate contacts that can have access to the Subscriber areas of the website. Once resources are downloaded, they may be shared with anyone in the organization. To access the Subscriber-only section of the website, click here.

Foundation Releases New RFPs

The Foundation recently released three new Requests for Proposals (RFPs) under the Solicited Research Program.

Evaluation and Optimization of Emerging and Existing Energy Recovery Devices for Desalination and Wastewaer Membrane Treatment Plants (WRF-08-14)
This project aims to thoroughly research currently available and emerging energy recovery devices used with desalination and wastewater treatment membranes. It will document their applicability, the costs of integrating the technology and test their performance with waters of varying salinity levels. The project deliverables will be a guidance manual and a computer tool to aid facilities in deciding whether a recovery device is appropriate for their system. Proposals are due May 12, 2009.

Investigation of Social, Environmental, Natural and Other Informational Factors that Influence Judgments and Decisions about Water Reuse (WRF-08-03)
This project aims to advance understanding about what factors influence public opinion, judgments, and decisions about water reuse – either positively or negatively. The project will result in a comprehensive document that delineates the primary causes of public resistance to water reuse and successful case studies where public resistance or concerns have been overcome. Proposals are due May 15, 2009.

Use of Ozone in Water Reclamation for Contaminant Oxidation (WRF-08-05)
The scope of this project is to evaluate the potential of ozone for contaminant oxidation in a variety of reclaimed water qualities. A key component of this study will be the evaluation of ozonation in combination with a variety of treatment processes. Proposals are due May 22, 2009

For more information about these RFPs, click here.

New TC Projects Approved

The Foundation's Board of Directors approved three new Tailored Collaboration (TC) projects at its March 6 meeting. The TC program provides Foundation Subscribers with matching funding for research studies.

Pilot-Testing Pre-Formed Chloramines as a Means of Controlling Biofouling in Seawater Desalination. The objectives of this research are to: 1) Confirm by testing that pre-formed chloramines will not adversely affect seawater membranes; 2) Develop and confirm the proposed method for manufacturing chloramines onsite; and 3) Confirm by testing that pre-formed chloramines are successful in reducing biofouling in seawater RO. This project was submitted by Trussell Technologies.

Evaluation of Potential Nutrient Impacts Related to Florida's Water Reuse Program. The objective of this study is to provide a better understanding of the contribution of nutrient loading from stormwater runoff and reclaimed water irrigation by performing a set of bench and field experiments in conjunction with analysis of a suite of appropriate marker compounds to trace phosphorous and nitrogen loads back to their sources of origin. This project was submitted by MWH.

Risk Assessment Study of PPCPs in Recycled Water to Support Public Review. The objective of this research is to provide quantitative human health risk assessment results for pharmaceuticals and personal care products (PPCPs) in recycled water for a representative set of treatment and non-potable use cases. This project was submitted by Kennedy/Jenks Consultants.

For more information about the TC program, click here.

Board Approves New Solicited Research

The Foundation's Board of Directors approved six new projects for funding under the 2009 Solicited Research Program during its March 6 Board meeting in Las Vegas, NV.

- The Effect of Prior Knowledge of "Unplanned" Potable Reuse on Acceptance of "Planned" Potable Reuse
- Develop a Framework to Determine When to Use Indirect Potable Reuse Systems vs. Dual Pipe Systems with or without Point of Use Treatment
- Utilization of HACCP Approach for Evaluating Integrity of Treatment Barriers for Reuse
- The Value of Water Supply Reliability in the Commercial, Institutional, and Industrial Sector
- Case Studies of Seasonal Storage of Reclaimed Water for Discharge into Surface Waters
- Develop New Techniques for Real-Time Monitoring of Membrane Integrity

Requests for Proposals will be released for the new projects in the coming months.

Foundation Welcomes New Subscribers

The Foundation welcomes the following new Subscribers:

Alliance Environmental, LLC

Craddock Consulting

Infilco Degremont

Poseidon Resources Corporation

Seqwater

Foundation Subscribers are a group of forward-looking organizations and individuals who help shape the Foundation's research agenda. The support of Subscribers is an integral component of the Foundation's ability to attract top-notch researchers and leverage its intellectual and financial resources around the world.

WateReuse Launches Facebook Group

The WateReuse Association recently launched a Facebook group to provide an open forum for people interested in water reuse and desalination to network and communicate. Facebook is a social networking website, which allows individuals or organizations to set up a web page to network with friends or colleagues. The WateReuse Association Facebook group is open to Association members, Foundation Subscribers, and the general public. To join the WateReuse Facebook group, click here.