

WateReuse Foundation's RESEARCH UPDATE

Advancing the science of water reuse and desalination through research

Volume 2, Number 2

www.WateReuse.org/Foundation

September 2005

Foundation to Release Groundbreaking Research Reports

The Foundation will release two new groundbreaking research reports in November as part of its ongoing commitment to advance the science of water reuse and desalination while protecting public health and the environment.

The first report is titled *Alternative Methods for the Analysis of NDMA and Other Nitrosamines in Water and Wastewater* (WRF-01-001). The EPA has identified NDMA as a probable human carcinogen, but because there are no approved testing methods to detect the chemical, relatively few laboratories are currently performing analysis. To address this issue, the Foundation funded a study to evaluate, refine, and develop multiple methods for NDMA analysis.

The funding partners for the NDMA project were the U.S. Bureau of Reclamation (USBR) and the California State Water Resources Control Board. The Principal Investigator for the study was Robert C. Cheng, Ph.D., P.E. of the Long Beach Water Department. Cheng and his team distilled and compiled the results into a set of standard operating procedures to be used for the analyses of NDMA and other nitrosamines.

A second research report will examine the rejection of trace organics during membrane processes such as reverse osmosis and nanofil-

tration. The report is titled *Rejection of Wastewater-Derived Micropollutants in High-Pressure Membrane Applications leading to Indirect Potable Reuse: Effects of Membrane and Micropollutant Properties* (WRF-02-001). The Foundation funded this project to increase the understanding of how trace organics are rejected by high-pressure membranes.

The *High-Pressure Membrane* study develops a mechanistic understanding of the rejection of emerging organic micropollutants by high-pressure membranes based upon conditions and various feed water compositions.

The Foundation's funding partners for this research were USBR, the California State Water Resources Control Board, the West Basin Municipal Water District, the Metropolitan Water District, and the Santa Clara Valley Water District. The research team leader was Dr. Jörg E. Drewes of the Colorado School of Mines.

These reports, when published, will be offered to Foundation Subscribers and Association members at discounted rates. Once the reports are released, ordering information will be posted on the Foundation website at www.watereuse.org/Foundation/researchreport.htm.

New Research Program Manager Joins Foundation

Joshua M. Dickinson, P.E. joined the staff of the Foundation on August 22 as Program Manager.

In his new role, Dickinson is responsible for managing the majority of the Foundation's active research projects. He is also Director of Technical Services for the WateReuse Association.

Dickinson joins the Foundation after seven years as a Senior Environmental Engineer at PCCI,

Inc., Marine and Environmental Engineering where he managed a \$7.9 million contract, which primarily focused on Clean Water Act Compliance.

Dickinson is a Registered Professional Engineer in Virginia, Maryland, and California. He has a B.S. in Environmental Engineering from the University of Notre Dame and an M.S. in Environmental Science and Policy from John Hopkins University. He can be reached by phone at (703) 684-2481 or by e-mail at jdickinson@watereuse.org.



Foundation Secures \$1 Million Desalination Research Grant from California DWR

In response to a Foundation proposal, the California Department of Water Resources (DWR) recently awarded a \$1 million grant to the Joint Water Reuse & Desalination Task Force (JWR&DTF) to help fund the \$2 million *Joint DWR-JWR&DTF Seawater and Brackish Water Research and Development Program*.

"The research and development program will engage experts in the field of desalination



to plan multiple research projects to advance the science and technology of desalinating water," said Wade Miller, executive director of the WateReuse Foundation. "The projects

selected for funding by the Task Force will be those that have the greatest potential for scientific breakthroughs."

The JWR&DTF is a coalition of national research organizations and federal government partners dedicated to sharing the results of research, engaging in organized planning, and collaborating on research projects focused on water reclamation, reuse, recycling, salinity management, and desalination issues. The members of the task force that partnered on this project include the WateReuse Foundation, Awwa Research Foundation, U.S. Bureau of Reclamation (USBR), and Sandia National Laboratories.

This research and development program allows DWR to benefit from the previous efforts of the JWR&DTF in identifying, prioritizing, and implementing desalination research

and development projects that would have the greatest impact on addressing the research needs of California's desalination community.

In 2003, USBR and Sandia National Laboratories developed the *Desalination and Water Purification Technology Roadmap* to serve as a strategic research pathway for desalination and water purification technologies. After a review of the Roadmap by the National Academy of Science's National Research Council, the USBR partnered with other members of the task force in 2004 to sponsor a project titled *Implementation of the Desalination and Water Purification Technology Roadmap*.

The *Joint DWR-JWR&DTF Seawater and Brackish Water Research and Development Program* will fund projects identified under the Roadmap Implementation Project, which was specifically designed to create technological solutions that are believed to hold the most promise in creating new sources of water supply within the next two decades.

In all, the California DWR awarded \$25 million in grants to 25 water desalination projects. The funds will be used by local agencies, water districts, and academic and research institutions for construction, pilot and demonstration projects, research and development, and feasibility studies to increase the development of new water supplies using water desalination technologies.

Funding for the projects was made available through Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act passed in 2002.

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

tion's research advances the science of water reuse and supports communities across the United States and abroad in their efforts to create new sources of high quality water through reclamation,

recycling, reuse, and desalination while protecting public health and the environment.



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GWRC Explores Water Reuse Research Issues

The Global Water Research Coalition (GWRC), an alliance of water research organizations, will consider six new water reuse research concepts for funding at its meeting to be held November 3-4 in Washington, DC.

The research topics were identified during a workshop on Water Reuse Research Needs held in the Netherlands in April 2005. The goal of the workshop was to develop a research agenda for water reuse research. The Foundation was selected as GWRC's lead organization for this effort. The research concepts are as follows:



- Developing and demonstrating a protocol for valuing water reuse and other water supply alternatives;
- Water reuse in 2030;
- Natural and engineered treatment synergies;
- Issues in brackish groundwater desalination;
- Synthesis of experiences in global water reuse; and
- Risk assessment for supporting water recycling applications with initial focus on exposure (scoping study).

Research Conference to be Held May 15-16, 2006 in Phoenix

The Foundation's 10th Annual Research Conference will be held May 15-16, 2006 at the Hyatt Regency in Phoenix, AZ. Paul Kinshella, treatment plant engineering superintendent for the Phoenix Water Services Department, will serve as chair of the Program Planning Committee. A "Call for Papers" will be issued in December to solicit interest from researchers who want a forum to showcase their research efforts.

"This conference is the best opportunity to find out about the cutting edge issues in water reuse and in the water industry," Kinshella said. "Historically, this conference has identified the issues that have emerged years before

they have come to the attention of the water industry."

The planning for the 2006 Research Conference follows a highly successful conference this past Spring in Orlando, FL. The 2005 conference focused on the need for research to generate scientific breakthroughs in water reuse and desalination to meet the water supply needs of the 21st century. The conference, which included desalination as a topic for the first time, examined such diverse issues as reuse applications, energy efficiency, public perception, and much more. The event was planned around the theme *Research: Reaching for Tomorrow's Solutions*.

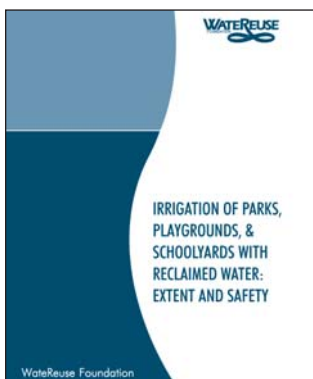
Report on Urban Irrigation with Reclaimed Water Becomes Foundation Bestseller

A new Foundation report evaluating the use of reclaimed water on parks, playgrounds, schoolyards, and similar areas has become a bestseller. The use of reclaimed water for landscape irrigation of urban areas with public access is increasing in the United States and some members of the public have questioned the safety of this practice.

The report, titled *Irrigation of Parks, Playgrounds, and Schoolyards with Reclaimed Water: Extent and Safety* (Product

Number 04-006-01), addresses safety aspects of using reclaimed water in public access areas, reviews current state criteria, and provides a summary of the number and location of parks, playgrounds, and schoolyards in the United States that are irrigated with reclaimed water.

Recently, proposed urban irrigation projects have been delayed or modified due to health concerns from the public. In response to this issue, the Foundation commissioned this report. For ordering information, visit the Foundation's Research Reports webpage at www.watereuse.org/Foundation/researchreport.htm.



Six New Research Projects Awarded

The Foundation has awarded six new projects under its Solicited Research program. Under this program, contractors are selected through a competitive process initiated with the release

of requests for proposals (RFPs). Solicited Research projects are primarily identified based on the Foundation's research priorities. The new projects are listed below.

Project	Principal Investigator
WRF-02-009 Study of Innovative Treatment for Reclaimed Water	Karl G. Linden, Ph.D. Duke University
WRF-04-008 Understanding the New Urban Water Customer	Brent M. Haddad, MBA, Ph.D.
WRF-04-009 Reclaimed On-Site Water Inspection and Cross Connection Control Guidebook	Jack Bryck, M Sc, P.E. Malcolm Pirnie, Inc
WRF-04-010 Extending the Integrated Resource Planning Process to Include Water Reuse and Other Non-Traditional Water Sources	Robert S. Raucher, Ph.D. Stratus Consulting Inc
WRF-04-012 Development of a Guidance Document for Applying Sound Statistics for Exploring, Interpreting, and Presenting Microbiological Data Associated with Reclaimed Water Systems	Dr. Audrey D. Levine, P.E. University of South Florida
WRF-04-013 Development and Evaluation of Ultrafiltration Methods to Concentrate Pathogens from Reclaimed Water	Christine L. Moe, Ph.D. Emory University

New Tailored Collaboration Project Approved

The Foundation recently approved a new project under its Tailored Collaboration Research Program. The project, titled *Development of Regulatory Protocol for Incidental Environmental Reuse of Titled 22 Recycled Water* (WRF-04-016), is a tailored collaboration (TC) with the East Bay Municipal Utility District (EBMUD).

The project is intended to develop a framework to evaluate environmental impacts of recycled water use by assessing scientific information as part of permitting processes. EBMUD will manage the project team, which

includes RMC Water and Environment and Merritt-Smith Consulting.

The Foundation's Tailored Collaboration Research Program is one of the major benefits for Subscribers to the Foundation. Under this program, the Foundation and Subscribers jointly fund research projects on a 50/50 cost basis. For more information on the Foundation's Subscriber program, visit WateReuse's website at www.watereuse.org/Foundation/subscribe.htm.

Three Organizations Become Foundation Subscribers

The Foundation welcomes the following new Subscribers:

- CABA Associates, Inc.
- The Cadmus Group, Inc.
- St. Johns River Water Management District

Subscribers provide input on research priorities and partners with the Foundation on

research projects. Subscribers also receive complimentary research reports, papers and other research products. For more information on becoming a Foundation Subscriber, visit the Foundation website at www.watereuse.org/Foundation/subscribe.htm or contact Wade Miller at (703) 684-2409 or wmiller@watereuse.org.