

NATIONAL WATER RESEARCH INSTITUTE

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For more information, please contact:

Gina Vartanian, NWRI (714) 378-3278

Jeff Mosher, NWRI (714) 378-3278

www.nwri-usa.org

**Ensuring Sustainable Water Resources
the Focus of 2013 Clarke Prize Conference on Nov. 15**

FOUNTAIN VALLEY, Calif. – An impressive roster of leading-edge academic researchers and utility managers will be presenting on innovations and challenges in planning, developing, and managing sustainable water supplies at the 2013 Clarke Prize Conference, to be held November 15, 2013, in Newport Beach, Calif.

The conference is being organized by the National Water Research Institute (NWRI), a nonprofit focused on enhancing water supplies and water quality through scientific research and policy development.

Sustainability within the water sector means being able to meet the water resource needs of the community served, now and in the future. It is a critical strategy in maintaining the long-term health of the population, economy, and environment. For instance, investing in a recycled water project goes above and beyond its intended purpose of reusing wastewater for beneficial purposes such as landscape irrigation or refilling groundwater aquifers – it also preserves the local water supply for drinking-water purposes, helps drought-proof the community, better protects the quality of receiving waters like rivers and oceans, and can produce renewable energy and other resources as valuable byproducts of the treatment process.

Ensuring a reliable supply of high-quality water is one of the most important goals in increasing water sustainability. It is also one of the most challenging, as communities all throughout the world lack safe or available sources of water due to contamination, drought, insufficient or outdated infrastructure, water rights conflicts, and other issues.

The Clarke Prize Conference will feature national experts in areas like global water quality, water treatment technologies, and water resource economics to discuss research and technology developments happening today in the area of urban water sustainability. These talks will be complimented by practical case studies of programs undertaken by water industry practitioners to increase sustainability within their particular communities.

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Highlights from the conference program include:

- **Pedro Alvarez**, Professor of Engineering at Rice University in Texas, is a global leader in enhancing water resource sustainability through water pollution control. His presentation will focus on lessons learned from nanotechnology, an emerging field that involves the use of technology at the molecular level. One area of water treatment that has significant potential to be improved by nanotechnology is microbial control. Microorganisms such as viruses, bacteria, and protozoa are the leading cause of waterborne disease worldwide. Research applying microbiology and nanotechnology has the potential to develop greener disinfection and microbial control technologies for safer, broadly accessible, and more affordable water supplies.
- **James McDaniel**, Senior Assistant General Manager of Water at the Los Angeles Department of Water and Power (LADWP), will speak on the utility's significant efforts to increase local water resources and ensure a sustainable water supply for Los Angeles, Calif. LADWP is the nation's largest municipality, serving more than 4 million people, and is currently involved with initiatives to increase water conservation, expand recycled water use for non-drinking purposes, increase the capture of stormwater, clean-up contaminated groundwater supplies, and expand groundwater storage, among others.
- **James Herberg**, General Manager of the Orange County Sanitation District (OCSD) in California will talk about innovative projects in the wastewater sector that promote sustainability. At OCSD, for example, 275,000 tons a year of biosolids (nutrient-rich organics captured during the treatment process) are recycled for land applications like soil amendment, and the methane gas created from the treatment process is recycled to generate electricity, producing enough to power a city of 45,000 people. OCSD also recycles over 70 million gallons of wastewater a day through the Groundwater Replenishment System (GWRS), which produces purified water to refill the local groundwater basin. GWRS is considered the world's largest water reuse project of its kind.

What distinguishes this conference from others in the industry is not just the caliber of speakers, but also the broad range of topics in water sustainability that will be discussed. Jerry Schnoor of the University of Iowa will speak on the effects of climate change and energy development on water supplies, while J.R. DeShazo of the University of California Los Angeles will focus on the economic value of water reliability. Both Mark Wiesner of Duke University and Amy Childress of the University of Southern California will give presentations on different aspects of membrane-based water treatment processes, and Alexandria Boehm of Stanford University will address infrastructure design and the treatment of stormwater to enhance water supplies and protect recreational waters. In addition, Vernon Snoeyink of the University of Illinois at Urbana-Champaign will provide insights on recent advances and drivers for change in municipal water treatment.

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As a special feature of the conference, civil and environmental engineer R. Rhodes Trussell of Trussell Technologies will receive the 2013 NWRI Athalie Richardson Irvine Clarke Prize for excellence in water research. Consisting of a medallion and \$50,000 award, the NWRI Clarke Prize is given out each year to recognize research accomplishments that solve real-world water problems and to highlight the importance and need to continue funding this type of research. It is one of only a dozen water prizes awarded worldwide and has been distinguished by the International Congress of Distinguished Awards as one of the most prestigious awards in the world.

Trussell was selected as the 2013 recipient because of his extraordinary accomplishments in using fundamental scientific principles and current research findings to solve the most challenging water quality problems and improve the designs of new water treatment plants and technologies. He has worked on hundreds of water and wastewater engineering projects across the globe, and has developed the process design for treatment plants ranging in size from 1 to 900 million gallons per day in capacity.

During the Conference Award Ceremony, Trussell will present the Clarke Lecture on “How Safe Is Safe in the Treatment of Drinking Water for the Public?” The lecture will specifically address the increasing presence of manmade chemicals, such as pharmaceuticals, in drinking water supplies. In the past, the water industry focused on seeking water sources that had not been contaminated. However, as the human population has grown, the level of commerce has grown with it, along with the level of human waste and garbage – all of which affect the environment. We have now entered a new age where analytical chemistry has advanced to such a degree that a variety of compounds can be found at very low levels in all municipal wastewaters and most surface waters. As a result, it will be nearly impossible to find sources of water that have not been impacted by manmade chemicals. Important questions need to be addressed, including what does the presence of these chemicals mean and how do we define the risks? Trussell’s lecture will offer insights on addressing these questions.

More information about the Clarke Prize Conference, including the complete program and registration information, can be found at www.clarkeprize.com.

The National Water Research Institute (NWRI) was founded in 1991 by a group of Southern California water agencies in partnership with the Joan Irvine Smith and Athalie R. Clarke Foundation to promote the protection, maintenance, and restoration of water supplies and to protect the freshwater and marine environments through the development of cooperative research work. NWRI’s member agencies include Inland Empire Utilities Agency, Irvine Ranch Water District, Los Angeles Department of Water and Power, Orange County Sanitation District, Orange County Water District, and West Basin Municipal Water District. Please visit www.nwri-usa.org for more information.

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