

NATIONAL WATER RESEARCH INSTITUTE

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**RHODES TRUSSELL, GLOBAL LEADER IN WATER TREATMENT
TECHNOLOGIES, TO RECEIVE 2013 CLARKE PRIZE**

FOUNTAIN VALLEY, Calif. – The National Water Research Institute (NWRI) announced today that civil and environmental engineer R. Rhodes Trussell, Ph.D., P.E., BCEE, NAE, will be the twentieth recipient of the NWRI Athalie Richardson Irvine Clarke Prize for excellence in water research. Trussell is Chairman and Chief Executive Officer of Trussell Technologies, Inc., an environmental engineering consulting firm based in Pasadena, California.

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. 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.

“Rhodes Trussell is a true personification of the ideal Clarke Prize recipient,” said Chair of the Selection Committee, Roy Spalding, Ph.D., of the University of Nebraska, Lincoln. “He has led a distinguished career. The extent of his contributions is outstanding. His expertise in a broad range of treatment technologies is unparalleled. And, to top it off, he has been the undisputed leader in undertaking projects that have resulted in significant changes not only in how we treat water, but also in how we use and reuse that water.”

Trussell has worked for over 40 years as a consulting engineer. Unique within the industry is his unusual breadth of expertise, as he is considered an authority on a vast number of treatment technologies, ranging from conventional treatments such as filtration, disinfection, and biological processes, to advanced treatment such as membranes and advanced oxidation. He is the author of peer-reviewed articles and technical reports on all of these topics, including the textbooks *MWH's Water Treatment: Principles and Design* and *Principles of Water Treatment*. He has also 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. Because his focus is on implementing practical solutions to improve water quality and meet regulatory and public health needs, his efforts have resulted in better water policy and the widespread adoption and acceptance of many new treatment technologies.

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A notable example involves his extensive work with the Contra Costa Water District in Concord, California, in the early 1980s to develop disinfection alternatives to meet new regulations for trihalomethanes (THMs). Disinfectants like chlorine are used to control microbial contaminants in drinking water. However, these disinfectants can react with naturally-occurring organic matter or bromide in raw water to create disinfection byproducts, such as THMs (many of which are considered carcinogenic). The Contra Costa studies were among the first to demonstrate the cost-effectiveness of chloramination in controlling THM formation. Because of these efforts, the California Department of Public Health agreed to allow the use of chloramine to manage chlorine residual in treated water. Numerous other utilities throughout California followed this model, which was duplicated in nearly one-third of the water supplies in the U.S.

“Rhodes Trussell was a leader of a new generation of engineers that recognized contaminants in water had specific physicochemical properties and that treatment processes worked according to established scientific principles,” wrote his nominator, Kerry Howe, Ph.D., P.E., of the University of New Mexico. “His legacy is the application of scientific principles to water and wastewater treatment processes, a philosophy that he practiced, promoted, and encouraged repeatedly. He is one of the very best in our profession at understanding theory in depth and applying scientific principles to the understanding of existing processes, as well in the development and implementation of new technology.”

More recently, Trussell has been engaged in assisting water and wastewater utilities with managing complex water supply projects involving the use of advanced treatment technologies for applications such as desalination, groundwater replenishment, and potable reuse. He has also taken the lead on a groundbreaking project funded by the WateReuse Research Foundation to develop treatment process combinations necessary to employ the direct potable reuse of highly purified wastewater as a new and reliable method to meet future water needs. One of the outcomes of this project is a 2013 report by an NWRI expert panel on *Examining the Criteria for Direct Potable Reuse*.

Because of his considerable knowledge and expertise, Trussell has been invited to serve on numerous prominent boards and committees throughout the water industry. For instance, he served as Chair of the Water Science and Technology Board for the National Academies, Chair of the Research Advisory Committee for the WateReuse Research Foundation, and Chair of the Editorial Advisory Board for *Standard Methods for the Examination of Water and Wastewater*. He was also active with the U.S. Environmental Protection Agency’s Science Advisory Board for 17 years, including serving as Chair of the Committee on Drinking Water.

At present, Trussell serves on the NWRI expert panel to review the development and implementation of the Orange County Water District’s Groundwater Replenishment System, the largest indirect potable reuse project of its kind in the world. He is also Chair of the National Research Council Committee on Water Reuse, which published the report *Water Reuse: Potential for Expanding the Nation’s Water Supply through Reuse of Municipal Wastewater* (2012). A major finding in the report was the conclusion that available technology can reduce chemical and microbial contaminants in recycled water to levels comparable to or lower than those present in many current drinking water supplies. Trussell has led the effort to disseminate the findings of this report, which is helping to advance water reuse practices in the U.S.

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The Clarke Prize will be presented to Trussell on Friday, November 15, 2013, at the Twentieth Annual NWRI Clarke Prize Lecture and Award Ceremony, to be held in Newport Beach, California. The award ceremony is the highlight of the NWRI Clarke Prize Conference, a 1-day event that features a mix of innovative research by leading academics complimented with practical case studies by industry practitioners.

Trussell plans to donate the \$50,000 award to his alma mater, the University of California, Berkeley, to support the Trussell Fellowship in Environmental Engineering, which was established by his family in 1991. The fellowship provides annual financial support to one or more outstanding graduate students in the Environmental Engineering Division of the College of Engineering.

“I am truly honored to receive the Clarke Prize,” said Trussell, “and a bit humbled when I consider the previous recipients, who include most of my mentors. No man is an island, and I am no exception. There are many collaborators who deserve the credit that is being given to me, most notably the late Carol Tate, Mike Kavanaugh, Marco Aieta, and my collaborators on the textbooks, Kerry Howe, John Crittenden, David Hand, and George Tchobanoglous, but there are many more I have left unnamed.”

Established in 1993 in honor of NWRI’s co-founder, the late Athalie Richardson Irvine Clarke, the Clarke Prize 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.

Recent past recipients of the Clarke Prize include: environmental engineer Pedro J.J. Alvarez, Ph.D., P.E., DEE, of Rice University (2012); environmental engineer Mark R. Wiesner, Ph.D., P.E., of Duke University (2011); environmental engineer Jerald L. Schnoor, Ph.D., of the University of Iowa (2010); environmental biotechnologist Bruce E. Logan, Ph.D., of The Pennsylvania State University (2009); aquatic scientist Nancy N. Rabalais, Ph.D., of the Louisiana Universities Marine Consortium (2008); and environmental engineer James L. Barnard, Ph.D., P.E., of Black & Veatch Corporation (2007).

More information about the Clarke Prize Conference and Award Ceremony can be found at www.nwri-usa.org/upcomingClarkePrize.htm.

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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