

**AMERICAN MEMBRANE TECHNOLOGY ASSOCIATION
NATIONAL WATER RESEARCH INSTITUTE**

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**Two Doctoral Students Studying Novel Membrane Technologies
Receive the 2016 AMTA-NWRI Fellowship Award**

STUART, Florida and Fountain Valley, California – The American Membrane Technology Association (AMTA) of Stuart, FL, and National Water Research Institute (NWRI) of Fountain Valley, CA, are pleased to announce the 2016 AMTA-NWRI Fellowship for Membrane Technology has been awarded to doctoral students Sarah Dischinger of the University of Colorado, Boulder, and Mark Summe of University of Notre Dame.

The fellowship provides \$10,000 a year for two years to support graduate student research that pertains to NWRI's objectives to improve water quality, protect public health and the environment, and create safe, new sources of water, as well as AMTA's mission to solve water supply and quality issues through the widespread application of membrane technology. Both recipients are conducting research on novel membrane technologies.

Dischinger is a third-year doctoral student at University of Colorado, Boulder, working under the supervision of Dr. Douglas L. Gin and Dr. Richard D. Noble, Professors of Chemical and Biological Engineering. She is evaluating the performance of a new liquid crystal polymer membrane to remove salts and organic compounds from hydraulic fracturing flowback water, which is the liquid produced during fracking (i.e., the process in which chemicals and water are injected into the ground to facilitate extraction of natural gas from underground reserves). This membrane differs from those currently in use in its ability to simultaneously remove both salts and organic compounds from flowback water while still retaining sufficient flow through the membrane. The research holds the potential to reduce the carbon footprint, capital costs, and energy required to treat flowback water.

Summe is a third-year doctoral student at University of Notre Dame working under the supervision of Dr. William A. Phillip, Assistant Professor of Chemical and Biomolecular Engineering. He is developing a chemically selective charge mosaic membrane that can remove dilute ionic species such as nitrate, perchlorate, and heavy metals from drinking water; these are constituents of concern due to their well-documented effects on human health. The mosaic structure enables both cations and anions to permeate the membrane, thereby allowing dissolved salts to be transported more rapidly than water. This is a novel process in which only the contaminants (0.1% by volume), rather than the water (99.9% by volume), need to flow through the membrane in order to achieve treatment goals. Summe is particularly interested in developing this technique to improve feed water streams for potable reuse projects.

Both fellows will attend the next AMTA-AWWA Membrane Technology Conference and Exposition in March 2017 in Long Beach, CA, to present their research and to receive recognition of their fellowship award.

For more information about the fellowship program, please visit <http://www.amtaorg.com/nwri-amta-fellowships-for-membrane-technology>.

The American Membrane Technology Association's mission is to promote, advocate and advance the understanding and application of membrane technology to create safe, affordable and reliable water supplies, and to treat municipal, industrial, agricultural and waste waters for beneficial use. AMTA provides broad opportunities for the exchange of technical, operational and financial information among individuals and organizations interested in membrane technologies. As the leading advocate of membrane processes in the United States, Canada, Mexico and Central America, AMTA is a strong voice for regulatory and legislative reforms essential to the understanding, acceptance and utilization of membrane technologies. Please visit www.amtaorg.com for more information.

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.