

Seminar Series:

Produced Water Treatment and Reuse

Did you know?

The largest volume by-product of oil and gas production is produced water. The average oil well in the U.S. produces over 9 barrels of water per barrel of oil.

Due to the high levels of salts and other contaminants contained by produced water, much of it is currently disposed. With treatment, this water could provide for future needs in the state, but current technologies are either too expensive or ineffective. To address these issues, university researchers across Oklahoma have been working to develop new technologies and treatment methods.

Updates on this research will be the focus of a new seminar series coordinated by the Oklahoma Water Resources Center at OSU, Oklahoma Water Survey at OU, OWRB Produced Water Working Group, and OK NSF EPSCoR program. Beginning in May, researchers from OSU, OU, OSU-Tulsa, and elsewhere will provide overviews of ongoing research and key findings on produced water treatment and reuse.

May 14, 2021, 10:00-11:30 a.m.

Hamidreza Shabgard, University of Oklahoma
An Innovative Freeze-Desalination Technology for Beneficial Reuse of Oil and Gas Produced Water
Jhouly Osorio, University of Oklahoma
Produced Water Demulsification Using Maghemite Nanoparticles
Babu Fathepure, Oklahoma State University
Bioremediation of Produced Water by Halophilic Microorganisms

June 11, 2021, 10:00-11:30 a.m.

Kyle Murray, University of Oklahoma
A Pathway to Recovering Critical Minerals and Industrial Elements from Oklahoma's Produced Water
Mark Nanny, University of Oklahoma
Surface Enhanced Raman Scattering Spectroscopy as a Real-Time Sensor for Polyatomic Anions and Organic Compounds in Produced Water
David Leavitt, Oklahoma State University
Membrane Distillation Crystallization of Highly Concentrated Brines – Resource Recovery from Produced Water and Fertilizer Solutions

July 9, 2021, 10:00-11:30 a.m.

Prem Bikina, Oklahoma State University
Produced Water Treatment and Reuse: Solar Thermal Desalination with Combined Heat & Power Cycle, and High Salinity Carbonated Water Flooding
Christine Watson, Oklahoma State University-Tulsa
Low-Cost Ceramic Composite Membranes for Ultrafiltration of Produced Water
Seokhin Kim, Oklahoma State University
Hydrophilicity-Controlled Inorganic Membranes for Oil/water Separation

August 13, 2021, 10:00-11:30 a.m.

Tracy Quan, Oklahoma State University
Chemical Characterization of Produced Water Using NMR Analysis
Javier Vilcaez, Oklahoma State University
A new methanogenic biodegradation method to remove oil from petroleum produced water
Stephen Polkowski, Oklahoma State University-Tulsa
Design of novel electromagnet electrodes for water treatment



OKLAHOMA WATER RESOURCES CENTER

OKLAHOMA WATER SURVEY



OKLAHOMA
Water Resources Board

Register in advance at https://dasnr.zoom.us/meeting/register/tJ0kde-gpzMvHd1Gi_EvRHDuHBqWA9PeRM-_

After registering, you will receive a confirmation email containing information about joining.