

**DEPARTMENT OF CHEMISTRY AND
ENVIRONMENTAL SCIENCE**

SPRING 2017 SEMINAR SERIES

**Sponsored by: Purdue Pharma L.P.
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**WEDNESDAY, MARCH 29, 2017
2:30 PM**

**TIERNAN HALL
ROOM 373**

GUEST SPEAKER

**Yang Deng, PhD, PE
Associate Professor of Environmental Engineering
Department of Earth and Environmental Studies
Montclair State University
Montclair, NJ**

TOPIC

**Toward Sustainable Urban and Agricultural Storm water Treatment
Technologies with Low-Cost Adsorbent Filter Media**

ABSTRACT

Polluted stormwater runoff represents a primary non-point pollution source to urban and agricultural water environment. Dr. Deng's group aims to synthesize and apply different low-cost adsorbent filter media for addressing a range of pollutants in urban and agricultural stormwater runoff, such as heavy metals, phosphorus, and organic compounds. One example is to transform a widely used landscaping practice, mulching, into an innovative *in-situ* stormwater treatment strategy with low-cost adsorbent coated wood mulches. Two solid waste-based adsorbents are being tested, including water treatment residuals (WTRs, an industry waste from drinking water treatment plants) and biochar. Results show that the active coating materials are capable of physicochemically and biologically functionalizing the new filter media for removal of multiple runoff pollutants. Dr. Deng's efforts are made to develop innovative, technically effective, low-cost and simple maintenance stormwater treatment technologies for supporting urban and agricultural water sustainability.

BIOGRAPHY

Dr. Yang Deng is an Associate Professor of Environmental Engineering at Montclair State University (Montclair, NJ). Prior to that, he was a faculty at University of Puerto Rico (Mayaguez, PR) and Georgia Southern University (Statesboro, GA). He earned his B.S. in Water and Wastewater Engineering from Tongji University (China) in 1998, M.S. in Civil Engineering at Tongji University in 2001, and his PhD in Civil Engineering (Environmental Discipline) from University of Miami (Coral Gables, FL) in 2006. Dr. Deng has been a licensed Professional Engineer (PE) in Environmental Engineering registered in Florida since 2010. Dr. Deng's research centers on *innovative treatment technologies for addressing traditional and emerging pollutants for improving water sustainability*. The technologies are applied for potable water treatment, wastewater reuse, and stormwater treatment. Of particular, he has been recently interested in water treatment and reuse with ferrate(VI) (a green water treatment agent) and stormwater treatment with low-cost adsorbents.

Over the past eleven years, he has published over 100 peer-reviewed journal articles, in addition to 5 book chapters. These publications have been cited more than 3,400 times (Google Scholar). Dr. Deng has been awarded over \$1.6 million external grants in the past eight years from different funding sources, such as NSF, EPA, US Dept. of Interior, US Dept. of Agriculture, Environmental Research and Education Foundation, NJ Sea Grants, NJ Water Resources Research Institute, and DuPont, Inc.

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