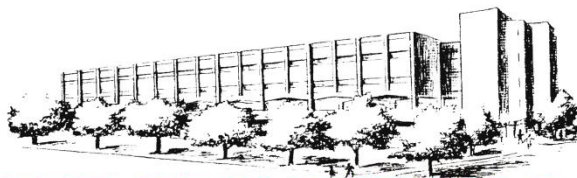


UNIVERSITY OF CONNECTICUT



INSTITUTE OF MATERIALS SCIENCE

POLYMER PROGRAM SEMINAR

“Nanofiber Membranes for Water Treatment and Reuse”

**Prof. Jeffrey R. McCutcheon
Chemical & Biomolecular Engineering Dept.
University of Connecticut**

**Friday, January 29, 2016
11:10 AM, IMS Room 20**

ABSTRACT

Water treatment and reuse is becoming an increasingly important issue for all regions of the world regardless of their level of water abundance or aridity. Membrane technology has provided a versatile platform for developing a host of water treatment technologies that enable us to tap sources for water that only decades ago would have never been considered as viable sources of water (seawater, produced water, wastewater). Continued innovation in the water treatment membrane field continues today as new materials are sought that leverage important structure-property relationships that push the barrier of membrane performance. One material in particular, nanofiber nonwovens, has recently achieved attention as a possible platform for improving membrane performance because of their intrinsically high permeability, low resistance to mass transfer, and high surface area. In our work, we make polymer nanofiber nonwovens through electrospinning for use in water treatment applications. In one application, we describe how electrospun nanofiber can be used to make high performance osmotic membranes for forward osmosis. In other work, electrospun fibers are carbonized and activated to yield high surface area sorbents for oil and dye removal.

**For further information, please contact YH Chudy at younghee.chudy@uconn.edu.*