

MSE Seminar
Modality: In-Person
Friday, Oct. 8, 2021
Goodwin Hall 155
10:10 AM – 11:30 AM

Prof. Michael D. Schulz

Department of Chemistry
Macromolecules Innovation Institute
Center for Drug Discover
Center for Emerging, Zoonotic, and Arthropod-borne Pathogens
Virginia Tech

“Polymer Sequestrants for Environmental and Biological Applications”

Certain polymeric materials—polymer sequestrants—are able to specifically bind to targeted compounds in complex environments. These complex environments can range from mining runoff or industrial waste streams to the gastrointestinal tract or the bloodstream in the human body. Often, this binding capability is based on the ability of multiple pendant groups on the polymer to simultaneously bind to a targeted moiety, a concept known as polyvalency. Our group studies how polymers interact with metals, viruses, toxins, drugs, and other targets, with the ultimate goal of using structure-property relationships to develop design principles for increasingly effective polymer sequestrants. In this talk, selected vignettes from these research projects will be presented.



Michael D. Schulz is an assistant professor in the Department of Chemistry at Virginia Tech, and a member of the Macromolecules Innovation Institute, the Center for Emerging, Zoonotic, and Arthropod-borne Pathogens, and the Virginia Tech Center for Drug Discovery. He received his Ph.D. in 2014 in organic and polymer chemistry and an M.S. in Pharmaceutical Science at the University of Florida under the supervision of Prof. Ken Wagener. After conducting research at the Max Planck Institute for Polymer Research as a Fulbright Scholar in the group of Prof. Klaus Müllen, he was a postdoctoral scholar in the group of Prof. Robert Grubbs at Caltech. He began his independent career at Virginia Tech in 2017. His diverse research interests span both fundamental and applied polymer chemistry including antiviral polymers, metal-chelating materials, and polymer sequestrants. More at:

<https://chem.vt.edu/people/faculty/teaching-and-research/mschulz.html>