

**UNIVERSITY OF RHODE ISLAND**  
**Department of Chemistry**  
**SEMINAR**

**Room 105 Beupre Center**  
**3:00 PM, Monday, May 2, 2022**

**Benjamin R. McDonald**  
**Assistant Professor,**  
**Department of Chemistry**  
**Affiliate Faculty,**  
**School of Engineering**  
**Brown University**

**“Designing Reactive and Responsive  
Organochemical Systems”**

**HOST**

**Jason Dwyer**  
**Department of Chemistry**  
**401-874-4648**

## **Designing Reactive and Responsive Organochemical Systems**

**Benjamin R. McDonald, PhD**

Assistant Professor, Department of Chemistry

Affiliate Faculty, School of Engineering

Brown University

Efforts to understand and dictate the reactions and interactions of organic molecules has a rich history in the chemical sciences and a broad technological impact spanning biomedical research to material science. In these endeavors, nature's organochemical systems have remained a steadfast confluence of inspiration, building blocks, and functional benchmarks. From this perspective, we will discuss new catalytic methods for carbon-carbon bond formation, as well as the preparation of functional polymers for chemical-warfare agent responsive surfaces and the dynamic soft-colloid sensors. Finally, the construction of nature's structural materials, namely collagenous tissues and wood, will be considered as inspiration towards new chemical strategies for the preparation and assembly of hierarchically structured soft materials.