



College of Science and Liberal Arts
Distinguished Speaker Series

Organic Syntheses Seminar Speaker

Polymeric Materials for Lifecycle Control



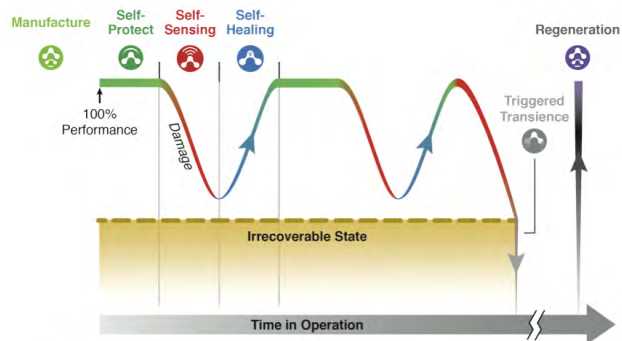
Dr. Jeffrey S. Moore
Stanley O. Ikenberry Endowed Chair,
Professor of Chemistry and
Howard Hughes Medical Institute Professor

Department of Chemistry
The Beckman Institute for Advanced
Science and Technology
University of Illinois at Urbana-Champaign

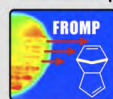
Friday, March 12, 2021
3:00 - 4:30 PM EDT

WebEx Event:

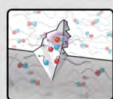
Register: <https://bit.ly/37Yy7C7>



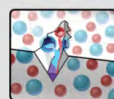
Toolbox of concepts



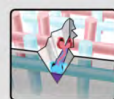
FROMP
manufacturing



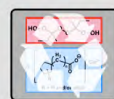
Mechanophore



μ-Capsule



μ-Vasculature



Multi-state
materials

In this talk I will discuss the molecular design of organic structural materials that mimic living systems' abilities to protect, report, heal and even regenerate themselves in response to damage, with the goal of increasing lifetime, safety and sustainability of many manufactured items. I will emphasize recent developments in frontal ring-opening metathesis polymerization (FROMP) to manufacture composites with minimal energy consumption.

The talk will conclude by introducing the idea of morphogenic manufacturing in which we aim to achieve symmetry breaking in neat polymerization reactions through a coupled reaction-diffuse process; the long-term vision is self-patterned form and function in synthetic materials.