

# The 2015 - 2016 Butler Lectureship in Polymer Chemistry

## *"Catalysis: The Enabling Science for Polymer Chemistry"*



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## Fall 2015 Seminar Schedule

**Monday, 8/31/15**

4:00pm

LEI 207

### **Catalysis for Sustainable Polymer Chemistry**

What are the challenges and opportunities for creating sustainable materials for the 21st Century? Can we keep doing what we have been doing? What are the scientific opportunities that could spawn the next generation of sustainable materials?

**Wednesday, 9/2/15**

12:00pm

LEI 309

### **Organocatalytic Ring-Opening Polymerization Reactions 1: Linear Polymers**

This lecture will describe developments of organic catalysts for polymer synthesis. Different classes of organic catalysts will be described and the opportunities provided by the rich diversity of their polymerization behavior.

**Thursday, 9/3/15**

4:00pm

LEI 207

### **Organocatalytic Ring-Opening Polymerization Reactions 2: Linear Polymers**

This lecture will describe the diversity of mechanisms exhibited by organic polymerization catalysts and how these insights are enabling for the generation of novel macromolecular architectures.

**Wednesday, 9/9/15**

4:00pm

LEI 309

### **Zwitterionic Ring-Opening Polymerization Reactions: Cyclic Polymers**

Cyclic polymers are simple topological isomers of linear polymers, but their properties remain poorly understood. This lecture will describe zwitterionic ring-opening polymerization, a synthetic strategy to generate high molecular weight cyclic polymers.

**Friday, 9/11/15**

12:00pm

LEI 309

### **Catalysis for Monomer and Polymer Synthesis**

Catalysis is an enabling science for generating new macromolecules, but is also critical for generating monomers from readily-available feed stocks. This lecture will describe a variety of catalytic approaches for integrating monomer and polymer synthesis to generate new macromolecules.

## Spring 2016 Seminar Schedule

**Monday, 2/15/16**

12:00pm

LEI 309

### **Organocatalytic Synthesis of Biodegradable and Biocompatible Polymers**

The high functional group tolerance of organic catalysts allows for the generation of highly functionalized biocompatible and biodegradable oligomers. This lecture will describe the synthesis and properties of functional polymers and some of their biological applications.

**Wednesday, 2/17/16**

12:00pm

LEI 309

### **Catalytic Polymerization: The Legacy of Ziegler, Natta, Hogan, and Banks**

Pioneering advances in olefin polymerization catalysis in the 1950's spawned a vast industry. This lecture will describe the relationship between the science, technology, and properties of olefin polymers and the challenges and opportunities for new catalyst developments.

**Thursday, 2/18/16**

4:00pm

LEI 207

### **Dynamic Catalysis: A Strategy for Control of Polymer Sequence**

This lecture will describe the concept of fluxional and dynamic catalyst systems which can change their behavior while enchainning monomers, providing kinetic strategies to manipulate polymer stereochemistry and composition.

**Tuesday, 2/23/16**

4:00pm

LEI 309

### **Kinetic Strategies to Control Sequence in Polymers**

This lecture will describe catalyst systems designed to adopt multiple kinetic states as a strategy for controlling the sequence of monomer enchainment.

**Thursday, 2/25/16**

4:00pm

LEI 207

### **Quo Vadis? And Now for Something Completely Different.**

This lecture will describe ideas and projects that didn't work, problems that lie beyond our current knowledge / capabilities, and unrealized opportunities. Failure is a good thing: If your hit rate is too high, you are not reaching high enough.

### **The George and Josephine Butler Polymer Research Laboratory**

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