



Speaker:

Megan Fieser,
Assistant Professor



When:

Friday, October 1st
1:00 pm

Where:

On Zoom
bit.ly/chicochem

*Department of Chemistry and
CSU, Chico Biochemistry*
400 West First Street
Chico, CA 95929-0210
(530) 898-5259
www.csuchico.edu/chem/seminars
chem@csuchico.edu

Chemistry and Biochemistry

Fall 2021 Zoom Seminar

Please join us for the following seminar!

Simple Rare Earth Metal Catalysts for the Perfectly Alternating Copolymerization of Epoxides and Cyclic Anhydrides

Replacement of today's non-degradable polymers with degradable alternatives is emerging as a critical need to address global plastic pollution. The perfectly alternating ring-opening copolymerization (ROCOP) of epoxides and cyclic anhydrides is a promising and emerging route to the synthesis of polyester materials that are likely biodegradable and biocompatible. The accessibility of many epoxide and cyclic anhydride monomers has led to the synthesis of polyesters having a wide range of properties. However, current catalyst design is not able to address all the needs for commercialization, including industrially relevant rates, selectivity, prevention of side reactions and versatility for numerous monomers. We have identified that commercially available rare earth metal salts and rare earth metal complexes are active and controlled catalysts for the target ROCOP of epoxides and cyclic anhydrides. The impacts of ligand, cocatalyst, metal ion, monomer choice and monomer concentrations on the polymerization rate, control and polymer molecular weight will be discussed.