

***UNIVERSITY OF RHODE ISLAND***

*Department of Chemistry*

***SEMINAR***

3:00 P.M., Monday, November 6, 2023

Room 105 – Beupre Center

***Prof. Jerome Robinson***

**Brown University**

Enabling Catalytic Strategies to  
Stereo- and Sequence-controlled  
Oxygenated (Co)Polymers

***HOST***

***Dan Huh***

***Department of Chemistry***

***401-874-5942***

*Enabling Catalytic Strategies to Stereo- and Sequence-controlled  
Oxygenated (Co)Polymers*

**Jerome Robinson**  
**Manning Assistant Professor of Chemistry**

**Abstract:** Polymer waste has quickly become a global environmental concern, where an estimated 4.9 GTons of polymer waste currently exist in the environment. Central to addressing this challenge is the generation of polymers with robust materials properties that also embed or encode end-of-use. Oxygenated (co)polymers such as polyhydroxyalkanoates (PHAs) are naturally occurring and fully bioresorbable materials, but their use has been limited by selective and scalable catalytic methods to materials with desired properties. In this talk, I will share some of our group's recent advances in designing highly active and selective catalysts for the synthesis of oxygenated (co)polymers through ring-opening polymerization. We will also share initial developments of structure-function relationships of these polymers, where enhanced control of polymer stereochemistry, sequence, and molecular weight are enabling access to high-performance materials.