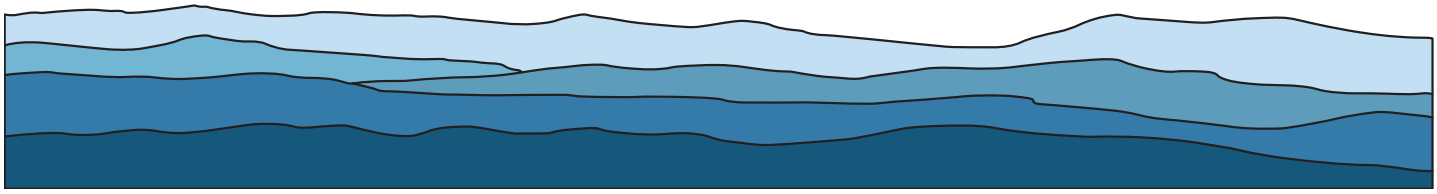
HIGHLANDS IN CHEMISTRY SEMINAR SERIES



WILL GUTEKUNST

GEORGIA INSTITUTE OF TECHNOLOGY

FEBRUARY 16, 2024

2:30PM ET

HAHN HALL NORTH 140

FACULTY HOST:
ADRIAN FIGG

"Development of New Sulfur-Containing Chemical Platforms for Polymer Synthesis"

Synthetic polymers have permeated nearly every facet of modern life. From the ubiquity of polyolefins to recent advancements in 3-D printing, organic materials continue to shape the world around us. While tremendous accomplishments have been made with relatively few polymer families, the future requires the development of materials with increased control over structure to produce systems that can respond to programmed inputs, as well as the exploration of entirely new polymer compositions. Our group takes a chemistry-focused approach to address these challenges through the strategic application of organic methodologies to design new monomer families and reagents for precision polymer synthesis. This presentation will specifically highlight (1) the utility of dynamic carbon–sulfur bonds for the creation of recyclable polymeric materials and (2) the development of thionolactone systems for radical ring-opening copolymerization and homopolymerization.

Will Gutekunst received a B.S. in Chemistry from the University of Oklahoma in 2008 and a Ph.D. in Organic Chemistry in 2013 from the Scripps Research Institute under Prof. Phil S. Baran. Following a postdoctoral experience learning about polymer science in the laboratory of Prof. Craig J. Hawker at the University of California, Santa Barbara, Will started his independent career at the Georgia Institute of Technology in 2016 where he is currently Associate Professor in the School of Chemistry and Biochemistry with a courtesy appointment in the School of Materials Science and Engineering. His lab is interested in the development of new methods for the synthesis of functional and renewable polymeric materials through the introduction of new concepts from organic chemistry.

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