HIGHLANDS IN CHEMISTRY SEMINAR SERIES



FEBRUARY 18, 2022

2:30PM

HAHN HALL NORTH 140

FACULTY HOST: GREG LIU

BARRY THOMPSON

"Reimagining Semiconducting Polymers for Alternative Energy Applications"

Conjugated polymers have been the cornerstone of organic electronics, with applications in areas such as photovoltaics, field effect transistors, electrochromics, and batteries. Specifically, polymer based solar cells have generated significant attention due to the promise of a lightweight, flexible, and inexpensive solar energy conversion platform. However, a number of challenges are still apparent, including, accessibility, scalability and efficiency. Our related efforts have focused on novel, simplified polymer and device architectures and synthetic methods. Specifically, we have spent significant effort focusing on scalability and sustainability of conjugated polymer synthesis, which is best embodied in our work on Direct Arylation Polymerization (DArP), which is a C-H activation route to the synthesis of conjugated polymers. Additionally, efforts toward the development of novel non-conjugated electroactive polymers will be introduced where we focus on elucidating structure-function relationships and synthetic pathways for this promising materials class.



