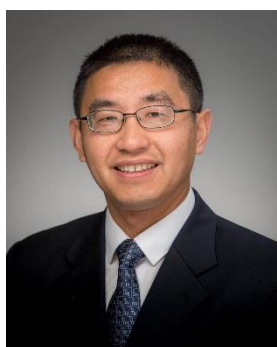


Abstract: This presentation discusses our recent progress on synthesis and application of nanostructured hyperbranched polymers as unimolecular containers. The hyperbranched polymers are constructed based on chain-growth CuAAC polymerization of AB₂ monomers with defined molecular weights, low dispersity and accurate placement of reactive groups. These polymers with segmented nanostructures achieve orthogonal functionalization in different domains via cascade reactions. These polymers are successfully applied as unimolecular containers for dyes, metallic nanoclusters and biomocromolecules.



Prof. Haifeng Gao is an Associate Professor at the Department of Chemistry & Biochemistry, University of Notre Dame. After receiving his Ph.D. degree in 2008 from Matyjaszewski group at Carnegie Mellon University and his postdoc training in Frechet group at UC Berkeley, he in 2011 joined the University of Notre Dame as an assistant professor. In May 2017, Haifeng was promoted to Associate Professor with tenure. His current research focuses on the design and synthesis of functional polymers with controlled nanostructures by determining their fundamental structure-property relationships. Haifeng has co-authored more than 70 peer-reviewed papers and 6 book chapters. His publications so far have been cited for more than 4000 times. Haifeng was the recent recipient of 2010 AkzoNobel Award for Outstanding Graduate Research in Polymer Chemistry from ACS, 2014 Army Young Investigator Program (YIP) award, 2016 NSF CAREER award.