

INORGANIC SEMINAR

Professor Michael Pluth

University of Oregon

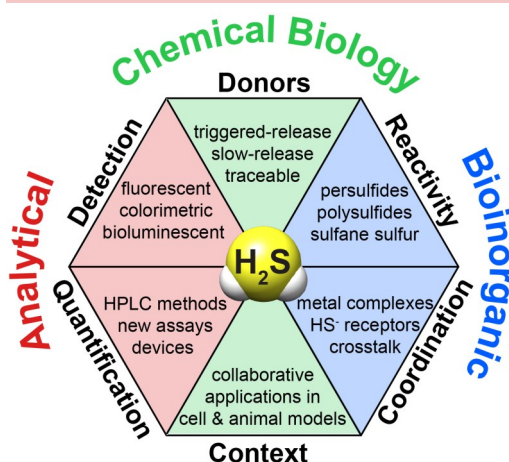
Department of Chemistry

Monday, April 15, 4:00 pm

473 Hutchison Hall

University of Rochester

Department of Chemistry



Title: “Chemical Tools for Investigating Reactive Sulfur Species”

Abstract: Reactive sulfur species, such as H₂S and sulfane-sulfur compounds, play key roles in different (patho)physiological processes. In addition, these small molecules are also key targets for new donor motifs that function both as important research tools and pharmacological agents. Aligned with this importance, our lab has recently developed a palette of new donor motifs, including H₂S- and persulfide-releasing molecules. In addition, we have also recently developed new donor strategies that release carbonyl sulfide (COS), which is quickly converted to H₂S by the ubiquitous enzyme carbonic anhydrase (CA). This donor design allows for responsive COS/H₂S donors to be developed, which are triggered by specific stimuli, such as reactive oxygen species, thiols, enzymes, light, click chemistry, and other triggers. This presentation will focus on recent donor constructs developed in our lab, cytoprotective effects of developed motifs, and new traceable donors that enable H₂S donation to be monitored directly. In addition, we will also highlight recent work suggesting that COS may exhibit biological properties distinct from those of H₂S, thus opening the door for future investigations into this emerging small molecule.

Host: Professor Kara Bren • email: bren@chem.rochester.edu