

## **Department of Chemistry**

## Colloquium Speaker

## **Professor Hao Xu**

Georgia State University



"Iron-Catalyzed Stereoselective Olefin Aminohydroxylation and Aminofluorination with Functionalized Hydroxylamines"

**Abstract:** Numerous pharmaceuticals contain at least one nitrogen atom and many of those nitrogen atoms are directly attached to stereogenic centers. Therefore, synthetic methods that incorporate selective nitrogen atom transfer to readily available hydrocarbons are important tools for the synthesis of these valuable molecules. While methods for selective olefin aziridination and direct C-H amination are well-established, methods for direct difunctionalization of olefins with a nitrogen atom and a range of heteroatom-based functional groups are less explored yet critically important to organic synthesis and its applications to the biomedical sciences. The lecture is about the discovery and development of a series of iron-catalyzed nitrogen atom transfer reactions with an emphasis on stereoselective olefin aminohydroxylation and aminofluorination.

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