

**Dr. James Girard Summer Undergraduate Research Program  
Faculty Mentor – Project Application**

**Due Date: *January 17, 2020 by 5pm***

**Faculty Name: Kari L. Stone**

**Department: Chemistry**

**Research Project Title: Engineering Metalloenzymes (Part 1 of 2)**

**Research Project Abstract (Please provide an overview of your project -- this will be shared with students as a project description; maximum 250 words):**

Engineering metalloenzymes to improve functionalities of natural proteins by controlling and directing their reactivity has gained attention as an innovative approach to preparing biocatalysts for industrial applications. Enzymes are naturally a green alternative for industrial processes since they function in water environments at ambient temperatures and pressures. The Stone lab seeks to explore the relationship between structure and function of functional enzymes by introducing synthetic cofactors into the protein scaffold of a structurally robust heme-containing protein.