

## **Development of new reactions for the synthetic chemists toolbox.**

The goal of the project is to develop highly efficient synthetic transformations that allow one to synthesize molecules via pathways that were previously unknown. The participating REU student will gain experience in hands-on synthetic chemistry. He or she will (with the guidance of an advanced student) be expected to determine optimum conditions for running reactions, become proficient in isolating purified products, and utilize various techniques (NMR, IR, etc) to determine the structure of the products. These skills are invaluable to any practicing synthetic chemist. The successful development of any new reaction as part of the student's research is expected to lead to publication.

Publications with REU students:

Li, K.; Foresee, L. N.; Tunge, J. A., Trifluoroacetic Acid-Mediated Hydroarylation: Synthesis of Dihydrocoumarins and Dihydroquinolones. *J. Org. Chem.* **2005**, *70*, 2881-2883.

Foresee, L. N.; Tunge, J. A. "Mechanistic Studies of Fujiwara Hydroarylation. C-H Activation vs. Electrophilic Aromatic Substitution" *Organometallics* **2005**, *24*, 6440-6444.