Since the discovery of many modern-day antidepressants more than half a century ago, an increasing number of therapeutics are on the market today that are ineffective in a significant population of patients suffering from depression and mood disorders. These drugs often have a slow onset of efficacy, a low rate of response, and severe side effects. With an increasing number of people suffering from depression worldwide, there is a need to explore more diverse mechanisms of these diseases to better understand their cause and provide insight into their treatment. The Sames Lab is particularly interested in the use of small molecule probes to modulate brain chemistry and repair damage caused from diseases like depression. In particular we have found that certain small molecule modulators, like the atypical antidepressant and neurorestorative agent tianeptine, function through the mu-opioid receptor, which represents an undiscovered mechanism of action for depression. This talk will overview a biochemical approach to exploring the functional activity of three distinct molecular scaffolds at the opioid receptors, including tianeptine and natural products from both Tabernanthe iboga and Mitragyna speciosa. These novel targets for depression and the unique signaling properties of our small molecule probes represent a promising future for the discovery of new antidepressant therapeutics.

Monday, August 15, 2016 at 1:00pm
Room 209 Havemeyer