QCB EVENING

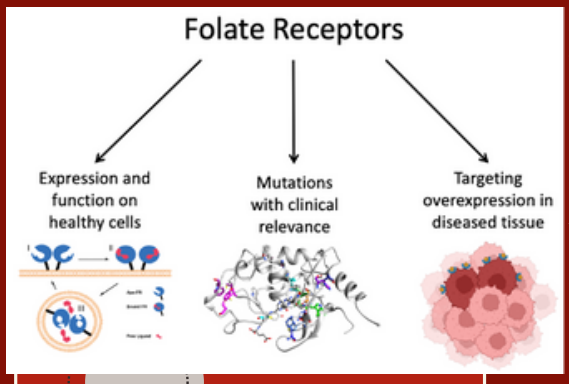
NOVEMBER 12TH @ 5:45PM IN SI001

Andrew Bach | Snaddon Lab

Asymmetric energy transfer catalysis is an underdeveloped field due to the inherent problem of having favored racemic background reaction between substrate and achiral photosensitizer without influence of a chiral catalyst. Select examples of chiral photosensitizers are known to catalyze asymmetric cycloadditions, radical cyclizations, and desymmetrization reactions with moderate success, but nearly all examples use either a Lewis acid or a hydrogen bonding recognition motif in regard to substrate binding. Our lab has extensive expertise in asymmetric catalysis using a Lewis base for substrate binding. The design of novel isothiourea catalysts bearing pendant photoactive motifs would be valuable for overcoming the inherent challenges of having separate catalysts for substrate binding and photosensitization. This would also provide more variety in terms of tolerable substrates due to the alternative binding mechanism.

Taylor Hausman | Dann Lab

Folic acid (vitamin B9) is the one carbon donor and acceptor in nucleotide biosynthesis and methylation events, important for cell replication and growth. Receptors and enzymes in 1C metabolism are often upregulated or overexpressed to keep up with the demands of rapidly dividing cells, making them attractive targets for anticancer agents. Folates and antifolates are transported into cells via three primary systems: the reduced folate carrier (RFC), folate receptors (FRs), and proton coupled folate transporter (PCFT). RFC is ubiquitously expressed in all healthy tissue whereas FRs and PCFT have varying expression in diseased tissue. There are three isoforms of FR with differing expression on healthy tissue. FRa is of primary interest as it is expressed on the basolateral membrane of choroid plexus epithelium and delivers folates to the brain. In recent years, FRs have been key targets for anticancer and anti-inflammatory agents, yet the mechanism of transport by the FRs still remains elusive. FRs are complex proteins with extremely tight affinity to folic acid making them difficult to study in vitro. My work focuses on building a series of biochemical assays, such as fluorescent anisotropy, and cell-based assays to understand trafficking patterns and in turn build assays to characterize relevant clinical mutations.



RSVP for food & drinks!

Postdoc & Graduate Students ONLY!

SCAN ME!