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### Research Interests

The focus of research in this lab is to relate brain neurochemistry to behavior. We have three major research projects. The first major project is to determine how endocrine and sensory information associated with altered states of nutrition is relayed to the reproductive system. Conditions that limit food or metabolic fuels can profoundly effect the reproductive axis. We are testing the hypothesis that these compromised metabolic conditions are sensed by the brain as a stress and it is this stress that leads to an inhibition LH pulses.

A second research project (somewhat related to the first) explores the functions of recently discovered fat hormone receptors (adiponectin receptors) as they anatomically relate to specific brain nuclei and therein functions. This transgenic/knockout mouse project will help discern how fat hormones, like adiponectin, influence specific brain systems.

Our third major project explores the neurochemical changes associated with depression. Antidepressants targeted at several different classes of receptors lead to largely similar behavioral changes. In an attempt to more fully understand the cellular mechanisms associated with antidepressant action, we are identifying genes whose activity is altered during specific antidepressant treatments. Our goal for these studies is to determine if a common set of genes is regulated by different antidepressants. It is our hope that by identifying such a common set of genes that new and improved therapeutic strategies for the treatment of depression could be initiated.



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