

## **Establishing Behavioral and Neurobiological Markers Associated with Ethanol Vulnerable Endophenotype**

This study attempted to identify an endophenotype of individual rats found to have a high vulnerability to ethanol consumption. Using standard Med Associates operant chambers, rats were lever trained and introduced to daily alcohol consumption on a fading procedure. Once comfortable with the taste, individual dependence was measured with a variety of tests:

- Baseline economic demand using a variable reinforcement schedule, where ethanol presentation required increasing daily lever presses.
- Demand in the face of negative consequences, in which rats would receive light foot shocks upon random ethanol presentations.
- Behavior in an environment inducing anxiety like symptoms when placed on an elevated plus maze.
- Extinction demand, measuring extinguishing demand in the face of no ethanol reward over the period of a few weeks

Finally, upon completion of the testing phase rats were perfused, the brain removed, sectioned, stained, and imaged to visualize the changes observed in behavior.

My involvement included leading daily testing sessions, rat husbandry and care, preparation of solutions, data collection and interpretation, perfusing, and supplying funding in the form of an undergraduate research award.