

# **Oregon Health & Science University**

## **2010-2011 Murdock Trust “Partners in Science” Mentor**

**Matthew M. Ford, Ph.D., Research Assistant Professor, Dept. of Behavioral Neuroscience**

Our laboratory group employs animal models of alcoholism to arrive at a better understanding of the physiological and psychological bases of drug abuse. Two ongoing projects in the laboratory specifically address: 1) alcohol-nicotine interactions and the role of neuronal nicotinic receptors in mediating reward, and 2) alcohol-stress interactions and the role of environmental contingencies that result in cognitive stress and associated excessive drinking. By investigating models of alcohol consumption and discrimination (perception of subjective drug effects) it is hoped that brain mechanisms underlying the propensity to drink alcohol uncontrollably can be identified, and subsequently manipulated to provide more effective treatment options for alcohol abusers.

*The teacher/intern would first become familiar with computer-based equipment and learn a set of behavioral methodologies in rodents. The teacher/intern would next carry out an independent experiment with the guidance of the mentor using the scientific method: formulate a question related to the overall research goals of the lab, conduct background literature searches to construct a hypothesis, design and run an experiment to test the hypothesis, analyze the data collected and form conclusions, and write a report to communicate the findings. The teacher/intern would also have opportunities to attend journal clubs and regularly-scheduled seminars pertaining to drug abuse, mental health, and neuroscience.*