

# Thinking about going to graduate or medical school?

## Add to your CV and get some research experience!

Dr. Kirkpatrick, the director of the Reward, Timing and Decision Laboratory, would like to recruit 3-4 undergraduate research assistants for the **Fall 2019**. Successful research assistants can continue to work in the lab for the duration of their undergraduate experience.

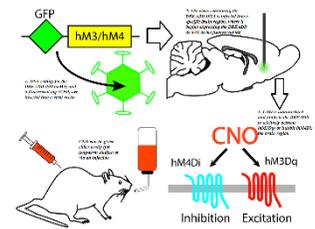
This opportunity is perfect if you are: motivated, dedicated, and dependable and are interested in working in a lab for **5-10 hr/week**. You can enroll in research credits (e.g., Psych 599, DAS 400, Biol 698) if you wish, or you can work on a voluntary basis. Students can learn a wide range of laboratory techniques used in behavioral neuroscience research.

If you are thinking about going to graduate or medical school then research is an excellent opportunity. You will receive training and professional development to promote your career success.

Here are some of the projects we are currently working on. For more details, visit our lab web site: <http://www.k-state.edu/psych/research/kirkpatrick/rtdlab/>

### Investigating the neural circuitry of impulsive choice using DREADDs

Designer Receptors Exclusively Activated by Designer Drugs (DREADDs) is a technique in behavioral neuroscience to investigate the role of specific brain regions and their connections in behavior. In the present study, we will assess the contribution of the prefrontal cortex in impulsive choice. We will implant designer receptors in the prelimbic area of rats trained in an impulsive choice task and then use a designer drug (CNO) to activate those receptors to see if we can change impulsive decision-making. Successful modification of impulsive choice will disclose the contribution of the prefrontal cortex in impulsivity and demonstrate for the first time the utility of the DREADDs technology on influencing this sort of decision-making.



### Neurocognitive interventions to increase self-control



Previous research in our lab has shown that we can make rats less impulsive by giving them a time-based intervention to help them learn to time delays better. Presently, we are investigating the degree to which the interventions improve temporal cognition (allowing individuals to make better informed choices) and delay tolerance (making individuals more willing to wait). We hope these studies can help us to develop more effective neurocognitive interventions that may eventually be adapted for human clinical settings.

### Diet-induced impulsivity

Recent research from our lab has shown that diets high in saturated fat can cause impulsive behavior in rats. This project will investigate how unhealthy diets affect impulsivity, food motivation, and food choice. Understanding how diet is affecting impulsive choice and food preferences could be paramount for developing either behavioral or pharmacological treatments that could help promote self-controlled food choices.



**If you are interested in joining our team, contact me at [kirkpatr@ksu.edu](mailto:kirkpatr@ksu.edu) to schedule an interview.**