Summer Student Research Program
Project Description

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PROJECT TITLE (200 Characters max):

Examining behavioral and neural overlaps in binge eating and alcohol consumption

HYPOTHESIS:
Given evidence that binge consumption of food and alcohol operate on the same neural circuitry, we hypothesize that a history of binge eating will make mice more prone to alcohol consumption.

PROJECT DESCRIPTION **(Include design, methodology, data collection, techniques, data analysis to be employed and evaluation and interpretation methodology)**

In this project, mice will be trained to binge eat a palatable food, and we will then explore the sensitivity to alcohol using behavioral tasks. We will also perform the corollary experiment, where mice will be trained to binge on alcohol, and then we will examine binge consumption of a palatable food. At the end of the behavioral experiments, brains will be collected and processed to determine common underlying brain circuitry.

SPONSOR'S MOST RECENT PUBLICATIONS RELEVANT TO THIS RESEARCH:

https://pubmed.ncbi.nlm.nih.gov/31665630/

IS THIS PROJECT SUPPORTED BY EXTRAMURAL FUNDS?
Yes ☐ or No ☒
(IF YES, PLEASE SUPPLY THE GRANTING AGENCY'S NAME)

THIS PROJECT IS: **☐Clinical** **☒Laboratory** **☐ Behavioral** **☐ Other**

THIS PROJECT IS CANCER-RELATED☐
Please explain Cancer relevance

THIS PROJECT IS HEART, LUNG & BLOOD- RELATED☐
Please explain Heart, Lung, Blood relevance

THIS PROJECT EMPLOYS RADIOISOTOPES☐

THIS PROJECT INVOLVES THE USE OF ANIMALS ☒
PENDING ☐ APPROVED ☒ IACUC PROTOCOL # PROTO202100148

THIS PROJECT INVOLVES THE USE OF HUMAN SUBJECTS ☐
PENDING ☐ APPROVED ☒ IRB PROTOCOL #

THIS PROJECT IS SUITABLE FOR:

UNDERGRADUATE STUDENTS	☒	ENTERING FRESHMAN	☐
SOPHMORES	☐	ALL STUDENTS	☐

THIS PROJECT IS WORK-STUDY: **Yes ☐ or No ☐**

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THIS PROJECT WILL BE POSTED DURING ACADEMIC YEAR FOR INTERESTED VOLUNTEERS?: **Yes** ☐ **or** **No** ☐

WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?

Through the duration of this project, the student will learn how to apply the scientific method to ask directed research questions. The student will engage in data collection and learn animal handling and behavioral techniques, as well as wet lab experimentation methods such as immunohistochemistry, quantitative PCR and western blot. The student will then be trained in data analysis and scientific presentation. The student will take part in regular lab meetings and journal clubs.