

CHEMISTRY
COLLEGE OF ARTS AND SCIENCES

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

APPLICATION DEADLINE: 03/01/2023

PROJECT TITLE: Sensors for neurotransmitter detection

Ashley Ross
College of Arts and Sciences, Chemistry
Department
312 College Dr.
404 Crosley Tower
Cincinnati, OH 45221
ashley.ross@uc.edu
Phone: 513-556-9314
Office: 418A Rieveschl

Project Description

Students will develop new electrochemical sensors to detect neurotransmitters in real-time. The Ross lab develops new methods to measure neurotransmitter signaling in tissue with subsecond resolution. To detect molecules in tissue on this timescale, requires carefully designed sensors with high sensitivity, selectivity, and fast temporal resolution. Students will learn how to fabricate sensors and methods to characterize them. Some example methods students will learn are fast-scan cyclic voltammetry. Raman Spectroscopy, Scanning electron microscopy imaging, atomic force microscopy, and other various electrochemistry techniques.