

BIOLOGICAL SCIENCES  
COLLEGE OF ARTS AND SCIENCES

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

FOR APPLICATION YEAR: 2025

PROJECT TITLE: Sleep and circadian rhythms in blood feeding insects

Joshua B. Benoit  
Professor, Department of Biological  
Sciences  
University of Cincinnati, 318 College  
Drive  
Cincinnati OH 45221  
Phone: 513-556-9714  
Email: [joshua.benoit@uc.edu](mailto:joshua.benoit@uc.edu)

**Project Description**

Sleep-like states have been described in multiple insect systems, where these have been linked to immune functionality, stress tolerance, and reproductive aspects, but little is known about sleep-like states in blood feeding insects. In this project, we will characterize this overlooked aspect of insect biology through combined behavioral and physiological studies, and follow this with sleep manipulation studies to determine impact of sleep deprivation on reproduction and host preferences. The information generated from this research will be critical to understand how periods of sleep-like states impact blood feeding insect biology, potentially revealing targets of opportunity for control.