Ethan R. Hackney

# Curriculum Vitae

**Personal Information**

*Campus Address:* Email:

*Home Address:*

Phone (cell): 205-919-1893

**Education**

2025-present PhD graduate, Biology, Biology Department

 University of Kentucky, Lexington, Kentucky 40506

2022-2025 Graduate, Biology, Biology Department

Murray State University, Murray, Kentucky 42071

2018-2021 Undergraduate, Neuroscience Major, Psychology Department
Morehead State University, Morehead, Kentucky 40351

**Honors and Awards**

May 2025 Outstanding graduate student, Murray State University

2018-2021 Dean’s Scholar Scholarship, Morehead State University

2018-2021 Kentucky Educational Excellence Scholarship (KEES)

**Presentations at Scientific Meetings**

Ethan R. Hackney, Samuel J. Tindell, Alyssa G. Boeving, Carlie England, and Alexey L. Arkov**.** (January-February 2025).Structure-function analysis of RNA-protein granules in germline development. 2025 KY INBRE Research Conference. Main Session Research Presentation.

Ethan Hackney, Samuel J. Tindell, Alexey L. Arkov. (June 2024). Assembly of membraneless organelles in *Drosophila* germ cells. 9th National IDeA Symposium of Biomedical Research

Excellence (NISBRE). Short Research Presentation.

Ethan Hackney, Samuel J. Tindell, Emma Alexander, Alexey L. Arkov. (December 2022). Interaction between eIF4A and Aubergine within the Tudor protein complex in germ granules. 8th Biennial National IDeA Symposium of Biomedical Research Excellence (NISBRE), Virtual Poster Presentation.

Ethan Hackney and Ilsun M. White (November 2021). The effect of fatigue on muscle activity: sex differences. Kentucky Academy of Science (KAS), Virtual Poster Presentation.

Ethan Hackney (November 2021). Does short-term hunger and fatigue affect muscle activity? Senior capstone presentation, Psychology Department, College of Science, Morehead State University, Morehead, Kentucky.

**Research Experience**

Sept 2023-Dec 2023 Widening the Lens Microscopy Education Program, Vanderbilt University

This class was led by Dr. Bryan Millis at Vanderbilt University. I learned valuable lessons regarding basic principles of light microscopy as well as different techniques and methodology that are valuable for more advanced microscopy.

Jan 2022-present Graduate research, Biology laboratory, Murray State University

I am actively involved in research pertaining to stem cell and germline cell development in *Drosophila* Melanogaster, as well as proteins that are found in glial cells. My work includes PCR, *Drosophila* Melanogaster and Nasonia Vetripennis dissection, immunoprecipitation, Western Blot analysis, imaging, microscopy.

Jan 2021-Dec 2021 Undergraduate research, Neuroscience laboratory, Morehead State University

I was involved in research projects that examines the factors that influence muscle activity. My research focused the effect of hunger and fatigue on muscle activity, using EMG recordings. I also examined sex and age differences in muscle activity. My hypothesis was that there will be a difference in female muscle activity, particularly in fatigued conditions, and that there would be a greater decrease in muscle activity for older subjects. I found that there was a non-significant difference in muscle activity between a hunger state and a non-hunger state. During a short-term hunger state, there was a non-significant trend with decreased muscle activity, particularly during a fatigue state. Also, there was a decrease in older subjects when compared to younger subjects and that females showed a slight decrease in the hungry and fatigued condition. These findings suggest that omitting food consumption will affect muscle activity of females and older people more, leading to suboptimal motor activity. Through this project, I learned EMG recording technique, data collection, and data analysis, and how to present research outcomes. In another project, we are examining the effects of alcohol and addictive drugs on muscle activity. Supervisor: Ilsun M. White, PhD

Fall 2021 Neuroscience laboratory, Morehead State University

I learned histological techniques and other research methods commonly used in behavioral neuroscience research.

Spring 2021 Genetics Lab, Department of Biology and Chemistry, Morehead State University.

In genetics lab, I learned DNA gene editing technique, theCRISPR, clustered regularly interspaced short palindromic repeats, using yeast DNA to produce the yeast more resistant to heat.

March 2021 NeuroWorkshop, Neural Engineering Laboratory, University of Missouri, Columbia, MO

This workshop involved training of neuroscience students and faculty on ‘how to use simulation program to study neurophysiology using Google Colab. Using software, I learned to simulate different neural functions, including generation of action potential and neural communication.

**Work Experience**

2022- 2025 Genetics Lab, Biology Building, Murray State University

I work as a researcher in a biology genetics lab where I work with purification and study DNA and proteins. As well as maintenance and study of *Drosophilia* and *Nasonia.*

2021-2021 Equipment Lab, Camden-Carroll Library, Morehead State University

I supervise the equipment lab, monitoring and maintenance of lab equipment, including 3-D printers, laser engraver, and other equipment. This lab provides resources and service to students, staff and faculty members at Morehead State University. Supervisor: Mr. Joseph R. Schubert

2019-2021 Learning Resource Center, Camden-Carroll Library, Morehead State University

My job involved helping faculty members at Morehead State University locate and provide educational resources for a range of different classes. Supervisor: Mr. John W. Burton

**Service**

2020-2021 Member, Literature for Young ReadersAwards Committee

This committee reviewed and judged which student books to be published by Morehead State University.

**Professional Affiliations**

Student Member, Kentucky Academy of Science, 2021-2021

**References**

Alexey Arkov, PhD. Professor of Biology. Department of Biology, Biology Building 2112I, Murray State University, Murray, KY 42071. E-mail: aarkov@murraystate.edu

Gary ZeRuth, PhD. Professor of Biology. Department of Biology, Biology Building 2112F, Murray State University, Murray, KY 42071. E-mail: gzeruth@murraystate.edu

Kabita Kharel, PhD. Vector Ecologist. Santa Clara Vector Control District. 1580 Berger Dr. San Jose, CA 95112. Phone: 765-479-5418. E-mail: kabboo17@gmail.com

Ilsun M. White, PhD. Professor of Psychology, Director of Neuroscience, Department of Psychology, Reed Hall 411A, Morehead State University, Morehead, KY 40351. Phone: 606-783-2991. E-mail: i.white@moreheadstate.edu.