

ELAINE HOFFMAN

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812-322-6211

EDUCATION

Ph.D. in Evolution, Ecology, and Behavior

Indiana University | August 2023-Present

Honors Biology B.S.

Medical Sociology Minor | IUPUI | GPA 3.858 | August 2019-May 2023

RESEARCH EXPERIENCE

Graduate Student Researcher | Indiana University | PI: Dr. Richard Phillips | August 2023-Present

- Researching nutrient cycling in temperate forest soils.

Parasitology Intern | Indiana University School of Medicine | August 2021-May 2023

- Studies *Plasmodium falciparum*, a causative agent of malaria.
- Investigating a protein involved in parasite mitosis known as TLK.
- Conducted an assay to isolate revertant parasite lines with mutations that allowed them to maintain wildtype growth in spite of the knockdown system on TLK.
- Analyzed the location of the mutations to evaluate the importance of TLK for parasite survival.
- Discovered a unique phenotype during the assay which launched a subsequent research focus on the transition from asexual to sexual reproduction (gametocytogenesis).
- Conducted an imaging study on wildtype parasites to determine the success rate of progression through the stages of gametocytogenesis.
- Currently conducting a similar assay on the TLK revertant parasite lines generated in the previous assay to evaluate the success rate of progression through the stages of gametocytogenesis while monitoring for defects that may be associated with the phenotype.
- Techniques utilized during this study include PCR, Western blot, parasite culture, and microscopy.

Summer Bat Field Research Tech | University of Illinois Urbana Champaign | May 2021-August 2021

- Evaluated the nesting habits of female Indiana bats during the breeding season in relation to the temperature of the provided roosting boxes.
 - Assisted with tagging females with radio tags during different stages of gestation using a mist net.
 - Tracked the tagged females using radio telemetry and conducted exit counts on the boxes they chose to determine how many females they chose to roost with and what roost box design they favored.
 - Navigated the Sodalis Nature Park off trail, independently, in all weather conditions to gather the population data.
 - Learned how to distinguish between visually similar bat species by observing small details.
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Fetal Alcohol Spectrum Disorder Research | IUPUI | August 2020-December 2021

- Experience was mainly through Zoom due to Covid but transitioned to in person during the last few months.
- Evaluated the rescuing capability of retinoids on the physical and behavioral defects caused by prenatal alcohol exposure using the model organism *Danio rerio*, commonly known as the zebrafish.
- Conducted literature research to improve/propose experimental designs.
- Analyzed large data sets and constructed figures to present the data.

TEACHING EXPERIENCE**Introductory Biology Lab** | IU Bloomington | August 2023-Present

- Led 24 students through experiments spanning multiple disciplines of biology.
- Provided instruction on relevant biological concepts.

Graded and provided feedback on all student work.

OUTREACH & MENTORING**School of Science Peer Advisor** | IUPUI | August 2022-May 2023

- Guide students while selecting courses and developing a plan to graduate on time.
- Connect students with resources for pre-professional programs and personal support.

Honors Peer Mentor | IUPUI | August 2022-May 2023

- Meet with freshmen to offer advice and support in order to ease their transition to college.

Vex Robotics Tournament Organizer/Judge | IUPUI | August 2019-Present

- Pre-Covid, planned and executed three VEX Robotics tournaments for elementary-aged students.
- Organized the space rental, recruited volunteers, setup the equipment, and managed the day of timeline.
- Currently, serve as a judge for high school tournaments by conducting interviews and reviewing engineering notebooks to evaluate the students' understanding of the engineering design process.

HONORS & SCHOLARSHIPS

Sole IUPUI Finalist—Barry Goldwater Scholarship and Excellence in Education Award Jan. 2021

Alpha Lambda Delta Honor Society Jan. 2020

Phi Eta Sigma Honor Society Jan. 2020

Adam W. Herbert Presidential Scholarship Feb. 2019

REFERENCES

Richard Phillips, PhD | Professor of Biology & Director of EEB Graduate Program | IU Bloomington
Research Supervisor | rpp6@indiana.edu | 812-856-0593

Sabrina Absalon, PhD | Assistant Professor of Pharmacology and Toxicology | IU Medical School
Research Supervisor | sabsalon@iu.edu | 317-274-7806

Kathleen Marrs, PhD | Associate Professor of Biology | IUPUI
Research Supervisor/Professor | kmarrs@iupui.edu | 317-278-4551
