MICHAEL ADU-BREW

Email: madubrew@umd.edu

EDUCATION

M.S. in Entomology
University of Maryland, College Park — Aug 2023 – Present

B.S. in Biological Science
Kwame Nkrumah University of Science and Technology — Sep 2017 – Nov 2021

RESEARCH EXPERIENCE

University of Maryland, College Park (UMD)
Research Assistant — Aug 2023 – Present

- Conducting toxicity bioassays, undertaking exposure estimates, and assessing risk of pesticides on Lepidoptera, particularly monarch butterfly.
- Develop rearing methods for butterflies.

Kumasi Centre for Collaborative Research (KCCR), Ghana
Research Assistant — Sep 2022 – Jul 2023

- Tested and compared the sensitivity and efficacy of Lifact Covid-19 and Influenza A & B combo antigen test kits.
- Collected samples and perform extraction, Polymerase Chain Reaction, and gene sequencing.
- Assisted in literature reviewing and data analysis.

Kwame Nkrumah University of Science and Technology, Ghana (KNUST)
Undergraduate Project: "Identification of insect pest on some vegetables". — Jan 2021 – Oct 2021

- Served as the team leader for the project. Delivered an oral defense of research work to faculty members and submitted a research paper to be graded.

CONFERENCE PRESENTATION (** presenter*)

Oral

- **Adu-Brew, M*** & Krishnan, N., "Assessing the toxicity and risk of newer conventional and biological pesticides on monarch butterflies", Entomological Society of America Annual Meeting, Phoenix, AZ, November 2024.
- **Adu-Brew, M*** & Krishnan, N., "Assessing the toxicity and risk of newer conventional and biological pesticides on monarch butterflies", Department of Entomology, UMD Colloquium, November 2024.
- Krishnan, N.*, **Adu-Brew, M**., & Kato, M., "Using species sensitivity distribution models and surrogate species to estimate pesticide toxicity and risk to listed lepidopteran and coleopteran insects", SETAC North America 45th Annual Meeting, Fort Worth, TX, October 2024.

Poster:

Adu-Brew, M*. & Krishnan, N., "Assessing the toxicity and risk of newer conventional and biological pesticides on monarch butterflies (*Danaus plexippus*)", 2024 Eastern branch ESA Annual Meeting, Morgantown, WV, March 2024.

SEMINAR BLOG

- El-Hifnawi, J. and **Adu-Brew, M**. "Complex Problems Requires Complex, Data-Informed Solutions", February, 2024.

- **Adu-Brew, M.** and Burgunder, B. "Going viral with a tick talk: Modeling tick life histories using fifteen years of field data", December, 2023.

MENTORSHIP (*Undergraduate students*)

- Luke Humke | Biology | University of Maryland | Jun 2024 – Present
- Daffa Villandiar | Biology | University of Maryland | Jul 2024 – Present
- Jordyn Hautz | Biology | University of Maryland | Aug 2023 – May 2024; Sep 2024 – Present
- Margaret Kato | Biology | University of Maryland | Aug 2023 – Aug 2024

Responsibilities

- Assist with toxicity studies and conduct sample collection during fieldwork.
- Plant and maintain milkweed in the greenhouse for research purposes.
- Perform data entry and analysis to support ongoing research projects.
- Assist with insect identification.
- Establish and maintain butterfly colony for experimental and observational research.

TEACHING EXPERIENCE

Department of Theoretical and Applied Biology, KNUST Nov 2021 – Aug 2022

Teaching Assistant / Lab Instructor Assistant

Instructor: Dr. Sandra Abankwa (Entomology); Dr. Augustina A. Sylverken (Microbiology); Dr. Kwadwo Boampong (Population genetics).

- Collaborated with laboratory technicians to ensure availability of chemicals for each experiment
- Worked with other teaching assistants to supervise laboratory projects of over 200 Biological science students.
- Organized tutorials for students on courses that were challenging through College of Science Students' Achievement Program.

AWARDS, HONORS & SCHOLARSHIP

- Phi Kappa Phi Honors Apr 2024
- Dean's fellowship award by the Entomology Department Jul 2023
- University of Maryland, College Park (Graduate Assistantship). Jul 2023
- College of Science Students' Achievement Program (COSSAP). Jun 2022
- Science Student Association (SCISA), KNUST Aug 2020

ACADEMIC ACHIEVEMENTS

- One of ten distinguished baccalaureates from the 2021 class to be engaged as teaching and research assistants at the Department of Theoretical and Applied Biology, KNUST.
- Outstanding performance in undergraduate Project (BIOL 455/456) in the 2021 graduating class of the bachelor's degree program in the KNUST.

LEADERSHIP/SERVICE

- Member of the Science Student Association's Advisory Board for the 2020/2021 Academic year.
- Served as the Vice President of the Science Student Association (SCISA), College of Science for the 2019/2020 Academic year.
- Served as the Chairman of the Welfare Committee, SCISA for the 2019/2020 Academic year.

VOLUNTEERING/OUTREACH

- Insect Zoo, Maryland Day — May 2024
- Intern: *Kumasi Centre for Collaborative Research in tropical medicine* — Jun 2022
- Project Coordinator: *Science Students Association (SCISA), KNUST* — Nov 2018

PROFESSIONAL AFFLIATION

- American Association for the Advancement of Science (AAAS). — 2024
- Entomological Society of America — 2023 – Present
- Entomology Students' Organization, UMD — 2023 – Present
- Ghana Science Association (GSA). — 2021 – 2023
- Biological Science Student Association (BIOSSA), KNUST — 2017 – 2021

SKILLS

- **Lab Skills:** LC-MS/MS, generation of toxicity dose-response curves, butterfly rearing, Polymerase Chain Reaction, Isolation of DNA and RNA, gel electrophoresis, microscopy, preparation of reagents
- **Application**: MS Office (Word, Excel, PowerPoint)
- **Data Analysis tools**: SPSS, Excel, R

REFERENCE

Available upon request