

Caroline W. Kane

S-225 Ag. Science North , KY 40546

carolinew.kane@gmail.com, cwka222@uky.edu

(248) 605-5908

<https://www.linkedin.com/in/caroline-kane>

EDUCATION

- **University of Kentucky**
 - Doctorate of Science in Entomology, July 2020-Current
- **Michigan State University, Lyman Briggs College**
 - Bachelor of Science in Neuroscience, May 2019
- **Brandon High School, Ortonville, MI**
 - High School Diploma, June 2014

HONORS AND AWARDS

- The Society for Collegiate Leadership & Achievement (2020-current)
- University Undergraduate Research and Arts Award: Social Science (2017)
- National Honors Society, 2012-2014

RESEARCH EXPERIENCE

University of Kentucky, Lexington, KY

Graduate Research Assistant, July 2020-Current

- RNA extraction and cDNA synthesis reactions for 281 honey bee colony samples from 141 hives for viral testing.
- RT-qPCR testing for Deformed Wing Virus-A, Lake Sinai Virus-2, and reference gene glyceraldehyde 3 phosphate dehydrogenase.
- Develop specific protocols to test the viral presence of Deformed Wing Virus-A and -B, Lake Sinai Virus 2, Black Queen Cell Virus, Acute Bee Paralysis Virus, Chronic Bee Paralysis Virus, Israeli Acute Paralysis Virus and Kashmir Bee Virus.
- Assisted in managing dozens of Rittschof lab honey bee colonies since 2020. Work included overwintering hives, honey extractions, nutrition supplementation, queen introductions, aggression assays, behavioral observations, *Varroa* mite surveys, and miticide treatments. Collaborate with fellow graduate students and researchers on various pollinator projects
- Funded by the National Science Foundation, I coordinated in-person education with seven hobbyist beekeepers (age 14-70), teaching qPCR, PCR, RNA extraction, and gel electrophoresis.
- I am on a faculty hiring committee at the University of Kentucky for an Urban Landscape Entomologist Associate Professor position. Here I provide input student input throughout the hiring process.

Michigan State University, East Lansing, MI,

Research Technician, May 2019-Current

- Performed field research and data collection evaluating the top 30 annual and perennial plants found in garden centers best for pollination
- Collected and recorded data at various field sites to track the progression of the pathogen *Ovavesicula papillae* in Japanese beetles on Michigan golf courses
- Performed DNA extractions on 2,000 Japanese beetles, testing for *Ovavesicula popilliae* pathogen
- Working with graduate students on multiple projects and industry-funded pesticide experiments. Projects included pinning of landscape pollinators, beetle grub identification for June and Japanese beetles, and industry-funded pesticide experiments focused on agricultural protection against thrips, whiteflies, and aphids

Michigan State University, East Lansing, MI

Undergraduate Research Technician, June 2016-January 2019

- Collected and analyzed data on mother-child interactions, including affect changes, communication, and behavioral responses using Datavyu software
- Won an internal university award for research on depressed mother's responsiveness to infants
- Developed effective skills in observational behavior and data entry as a result of working independently in a deadline-oriented setting

ACADEMIC PRESENTATIONS

- 2022 Joint Annual Meeting Entomological Society of America Symposium Organizer and Moderator on November 16, 2022, 1:30 PM-4:30 PM, Meeting Room 214
 - Symposium: Pollinators and the Public: Conservation, Extension, and Civilization
- Entomological Society of America November 13th through November 16th, 2022
 - **Kane, C.**, Rittschof, C. (2022) The Role of Nutrition in Managing Honey Bee Viral Pathogenicity
- International Symposium on Biological Control of Arthropods March 15-17 and 23-24, 2022
- Entomological Society of America November 2021
- Cold Spring Harbor Laboratory Conference: Biology and Genomics of Social Insects March 30th-April 1st, 2021
 - **Kane, C.**, Rittschof, C. (2021) Analyzing Impacts of Nutrition on Viral Abundance in Kentucky Honeybees
- Entomological Society of America November 11th through November 25th, 2020
 - **Kane, C.**, Rittschof, C. (2020) Honeybee Hive Health: Analyzing Impacts of Nutrition on Viral Abundance in Kentucky Honeybees
- Mid-Michigan Symposium for Undergraduate Research Experiences July 26th, 2017
 - **Kane, C.**, Vallotton, C. (2017). It's Only Kids Play As I Grow: How Parents' Roles Are Influenced By Child's Play Over Time
 - McBratnie, M., **Kane, C.**, Vallotton., (2017) How Caregivers' role in Child's Play Affects Parent Mental State Talk
- University Undergraduate Research and Arts Forum April 7th, 2017
 - **Kane, C.**, Vallotton, C. (2017). It's All Just Child's Play, Yet It Changes As I Grow: How Parents' Roles in Childs' Play Changes Over Time

EXTENSION

- Deformed Wing Virus, Varroa mites, and Virus Transmission in Honey Bees. At the Queens and Drones Workshop, October 2021 and April 2022
- Honey bee viral presence and abundance, Eastern Kentucky Beekeeper Conference, January 2022
- Pollinator Biodiversity to Entomology undergraduate students at the University of Kentucky, October 2021
- Developed Kentucky Pollinator Extension Tumblr account for outreach and education (<https://www.tumblr.com/kentuckypollinatorresearch>) January 2022-current

WORK EXPERIENCE

University of Kentucky, Pollinator Biology Teaching Assistant, Lexington, KY

August 2021-December 2021

- Pollinators and People Undergraduate Course taught by Dr. Clare Rittschof. Responsibilities included grading assignments and projects throughout the semester.

Michigan State University, Integrated Biology Teaching Assistant, East Lansing, MI

January 2019-May 2019

- Developed curriculum addressing environmental issues in modern society and taught lectures for Integrated Biology, focused on global sustainability, science literacy, and insects.
- Sole learning assistant for a class of 178 students. Entered grades for daily homework and in-class assignments
- Analyzed student and class trends to make proactive decisions about the progression of the course

Designs by Nature LLC, Greenhouse Technician, Laingsburg, MI

May 2016-August 2016

- Assist in the cultivation of native plants of Michigan for regional reintroduction
- Managed agriculture greenhouse for removing weeds and adhered to watering schedule for crops

OUTREACH

- Kentucky Science and Engineering Fair
 - Judge, March 26th, 2022
- Fayette County Science Fair
 - Judge, February 12th, 2022
- FIRST Robotics Mentor in Okemos, MI
 - Mentor, January 2020-June 2020
 - Taught project management and safety skills for students aged 14-18
- Environmental Stewardship Program in Lansing, MI
 - Volunteer, January 2020-June 2020
 - Removing invasive buckthorn from community parks

LICENSES AND CERTIFICATIONS

- Michigan Commercial Pesticide Applicator (Core, 3A, 3B), Expires 12/31/22
- Wilderness First Aid, June 2018
- Wilderness Trip Leader, June 2018

RELEVANT COURSEWORK

- Entomology
- Insect Taxonomy
- Insect Behavior
- Statistics
- Agroecology
- Virology
- Seminars on Honey Beekeeping, Social Media in Extension, and Delusory Parasitosis
- Biochemistry
- Fundamental Genetics
- Science, Technology, and Public Policy
- Neuroscience undergraduate courses