Esmé Cope

Genetics and Genomics Interdisciplinary Program

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# EDUCATION

**Ph.D., Genetics and Genomics**, 2022 – Present

Texas A&M, College Station, TX

Research Advisor: Dr. Zach Adelman

**B.S., Biological Sciences (Chemistry Minor)**, 2018 – 2021

Utah Tech University, Saint George, UT

Thesis: *Spatiotemporal Study of Culex Mosquito Complex Population Distribution in Utah*

Research Advisor: Dr. Aaron Davis

# PEER-REVIEWED PUBLICATIONS

**Cope, E.** (2023). “A Spatial Distribution Study of *Culex* Mosquito Population Distribution in Utah.” Curiosity: Interdisciplinary Journal of Research and Innovation. https://doi.org/10.36898/001c.73157

Amodt, S., **Cope, E.**, & Boisvert, M. (2022). 2nd ed. “An Identification Guide of the Mosquitoes of Southwestern Utah.” Southwest Mosquito Abatement Library.

Yanke, R., Weaver, B., Hoskins, A., Donnelly, M., Doliwa, W., Shaw, R., Clemm, H., Karpenok, A., Tobin, S., Whetten, R., Cook-Dandos, J., **Cope, E.**, Walker, C. (2022). “Comparative Vertebrate Physiology Lab Manual.” Utah Tech University Library.

# RESEARCH GRANTS & SCHOLARSHIPS

2023 – GENE T32, National Institute of General Medical Sciences – $36,000

2021 – Southwest Mosquito Abatement Research Scholarship – $1000

2021 – Utah Tech Travel Grant – $200

2021 – IIC Digital Showcase Scholarship – $700

2020 – Utah Tech Undergraduate Research Office Grant – $500

# WORK EXPERIENCE

**Laboratory Manager**, Southwest Mosquito Abatement, **December** **2021 – June 2022**

Accessioned and maintained arthropod collection for the Natural Science Museum at Utah Tech University. Performed viral testing of West Nile Virus, St. Louis Encephalitis, and Western Equine Encephalitis on mosquitoes using RT-PCR.

**Researcher**, Department of Biology, Utah Tech University, **August** **2020 – June 2022**

Lead researcher on two projects focused on evaluating the distribution of the *Culex pipiens* mosquito complex using genetic analysis. Responsibilities included facilitating collaboration with 11 mosquito abatements throughout Utah to obtain specimens, GIS mapping of distribution charts for participating county, managing financials, and budgeting lab equipment.

**Intern**, Outdoor Leadership Academy, **August 2021 – May 2022**

Compiled a synthesis on teaching techniques for outdoor adventures. Assisted in coordination of camping trips for groups of 50-100 people. Taught safe outdoor practices to groups of 50-100 people. Guided groups of 10-20 people on day hikes and overnight backpacking trips.

**Medical Assistant**, Saint George Urology, **March 2020 – December 2021**

Assisted doctors with procedures, administered cancer treatments, obtained medical and family history, and chief complaints. Performed urinary catheterizations, blood draws, ultrasounds, urodynamic studies, and urinalysis tests. Collected and prepared various specimens for the lab such as blood, urine, and tissue.

**Field Surveyor**, Conserve Southwest Utah, **April – June** **2021**

Collected data on the location, abundance, and health of tortoises on the Shivwits Band of Paiutes Reservation.

**Academic and Writing Tutor**, Utah Tech Tutoring Center, **August 2019 - May 2020**

Tutored undergraduate students in multidiscipline areas including Biology, Chemistry, Psychology, Spanish, and English.

# TEACHING & MENTORSHIP

Teaching Assistant

* Introduction to Genetics Laboratory | Fall 2023 (Texas A&M)
* Introduction to Genetics Laboratory | Spring 2023 (Texas A&M)
* Introduction to Biology | Spring 2022 (Utah Tech)
* Advanced Research Methods | Spring 2022 (Utah Tech)
* Introduction to Genetics | Summer 2021 (Utah Tech)

Student Mentor

* Mentee: Makayla Roberts | Topic: Disruption of Proboscipedia in *Aedes aegypti*
* Mentee: Adri Earle | Topic: An Analysis of *Culex pipiens f. molestus* in Salt Lake County
* Mentee: Whisper Doliwa | Topic: Population genetic study of *Culex* Complex
* Mentee: Lindsay Altfillisch | Topic: Population Genetic Study of *Culex* Complex
* Mentee: Liberty Reign Krieger | Topic: Population genetic study of *Culex* Complex
* Mentee: Adam Gaudin | Topic: Identification of Tyrosinase (TYR) Gene Involved in North American Porcupine (*Erethizon dorsatum*) Albinism

# LEADERSHIP & OUTREACH

Rio Brazos Audubon | September 2022 – Present

* Board Member: Ensure that Audubon's charitable mission is carried out and that the Audubon's assets are used for its charitable purposes.

Entomology Graduate Student Organization | December 2022 – Present

* Vice President: Attend monthly departmental meeting and assist President with any additional tasks.

Genetics Graduate Student Association | August 2022 – Present

* GPSC Representative: Attend biweekly Graduate and Professional School meetings and represent GGSA for voting sessions.

Utah Tech LGBT Association | December 2021 – May 2022

* Communication Liaison: Facilitate social media posts to boost association’s presence online.

# RECOGNITIONS & AWARDS

Student of the Year – Biology Department

Utah Tech Research Scholar Award

Utah Tech Spring Biology Huddle Panel

Utah Tech LGBT Resource Center Panel

Undergraduate Honor Roll

Podcast interview on Science Café about Pika’aya Tooveep Project

Interview on Utah Public Radio on women in STEM and Pika’aya Tooveep

# PRESENTATIONS

“CRISPR Interference (CRISPR-I) for Sequence-Specific Control of Gene Expression in Aedes aegypti.” Life Sciences Symposium, College Station, Texas, **February 2024**

“How Birds Adapt to Their Environment.” Scotty’s House, non-profit Child Advocacy Center, College Station, Texas, **June 2023**

“Environmental Influences on Avian Phenotypes.” Rio Brazos Audubon Society, College Station, Texas, **March 2023**

“A Spatio-Temporal Study of the *Culex pipiens* Mosquito Population Distribution in the Western United States.” Utah Tech University Undergraduate Research Symposium, Saint George, Utah, **May** **2022**

“Spatiotemporal Study of *Culex* Mosquito Complex Population Distribution in Utah.” Utah Conference of Undergraduate Research, Saint George, Utah, **February** **2022**

“A Spatio-Temporal Study of the *Culex* Mosquito Population Distribution in the Western United States.” Utah Mosquito Abatement Association, Park City, Utah, **October** **2021**

“Population genetic study of *Culex pipiens* and *Culex quinquefasciatus* in the hybridizing zone.” Utah Tech University Undergraduate Research Symposium, Saint George, Utah, **March** **2021**

# SERVICE

Utah Tech Science Engagement Summer Camp Leader – Avian, **2022**

Genetics Graduate Student Recruitment Week, **2023**

Bird City Texas Community Engagement, **2023**

American Bird Conservancy Outreach, **2023**

# AFFILIATIONS

National Audubon Society, **2018 – Present**

Utah Tech Hiking Club, **2021**

Red Cliffs Audubon, **2020 – 2022**

Genetics Graduate Student Association, **2022 – Present**

Rio Brazos Audubon Society, **2022 – Present**

Aggies in Science, Technology, and Engineering Policy Club, **2023 – Present**

Entomology Graduate Student Organization, **2023 – Present**

Queer Graduate and Professional Aggies group, **2023 – Present**

TAMU’s Queer Empowerment Council, **2023 – Present**

Aggie Women in Entomology, **2023 – Present**