

Emma Torija

EDUCATION

UNIVERSITY OF PENNSYLVANIA

Philadelphia, PA

Bachelor of Arts, *magna cum laude* (GPA: 3.60/4.00)

May 2021

Major: Biology

RESEARCH EXPERIENCE

Capstone Graduate Council Fellow (Advisor: Dr. Matthew Jenny)

August 2022- present

University of Alabama, Tuscaloosa, AL

Lab Research Assistant (Dr. Summer Thyme)

July 2021-July 2022

University of Alabama at Birmingham, Birmingham, AL

- Measured abnormal behavior and brain activity due to the loss of function of genes associated with childhood-onset schizophrenia using zebrafish as a model
- Analyzed zebrafish RNA sequencing data to pinpoint pathways disrupted by mutations important for early brain development

Lab Research Assistant (Advisor: Dr. Dustin Brisson)

January 2020-May 2021

University of Pennsylvania, Philadelphia, PA

- Statistically modeled how the behavior of white-footed mice is related to infection by *Borrelia*, the pathogen that causes Lyme Disease, with long-term field data.
- Investigated tick population dynamics throughout New York state by analyzing mitochondrial DNA.

CIEE Tropical Ecology and Conservation

August-November 2019

Monteverde, Costa Rica

- Conducted independent field research on the use of small-scale visual cues for homing in *Crawfordapis luctuosa*.
- Designed experiment, collected and analyzed data, and presented findings to the community.

NSF REU Fellow (Advisor: Dr. Kellee Siegfried)

June-August 2019

University of Massachusetts Boston, Boston, MA

- Characterized the loss of *dmrt1* and *dmrt2a* genes in zebrafish embryogenesis by genotyping mutant crosses and phenotyping various resulting genotypes using histology assays.

Lab Research Assistant (Advisor: Dr. Paul Schmidt)**January 2018-May 2019**

University of Pennsylvania, Philadelphia, PA

- Performed survival assays on *Drosophila* and collected new specimens at field sites.
- Managed husbandry of *Drosophila* and performed laboratory maintenance such as media preparation and cage maintenance.

TEACHING EXPERIENCE

Learning Assistant for Introduction to Biology B, Biol102**Fall 2020**

University of Pennsylvania, Philadelphia, PA

- Worked with small groups of students in an active learning classroom.
- Reviewed weekly assignments to gauge student understanding of material.

PRESENTATIONS

Torija E, Steinfeld J, Siegfried-Harris K. *Characterizing loss of dmrt2 genes in zebrafish development*.

Poster presented at: UMass Boston Summer Research Symposium, Boston MA. August 9, 2019

Torija, Emma. Use of small-scale visual cues in homing behavior of *Crawforapis lucutosa*. Presentation at: Estación Biológica de Monte Verde, Monte Verde, CR. November 26, 2019.**SKILLS**

Molecular techniques: bacterial transformation, DNA extraction, gel electrophoresis, micro-pipetting, PCR, DNA purificationComputer Skills: R, Adobe Photoshop, Microsoft Office**GRANTS/FELLOWSHIPS**

Alabama Audubon Walter F. Coxe Research Award (**Total Awarded: \$2,000**) 2023Capstone Graduate Council Fellowship Recipient (**Total Awarded: three years of full support**) 2022University of Alabama Biological Sciences Homecoming Tent Award (**Total Awarded: \$250**) 2022

National Science Foundation Research Experience for Undergraduates (NSF REU) Fellow 2019

PUBLICATIONS

Steinfeld, J.S., Ameyaw, K.K., Wood, C.G., Johnson, R.M, Escauriza, A.J.J., **Torija, E.G.**, Quiles, K., Venkataramani, K., MacNeil, J.N, and Siegfried, K.R. The zebrafish *dmrt* family genes have cooperative and antagonistic roles in sex determination and oogenesis. *G3: Genes, Genomes, Genetics*. In Review.Sandel, M.W., **Torija, E.G.**, Sandel, E.M. *Anolis sagrei* Range Extension. *Herpetological Review*. In Review.

OUTREACH

University of Alabama Afternoon at the ArBOOretum

October 2022

- Engaged with community members to discuss the importance and diversity of spiders in Alabama

University of Alabama Biological Sciences Homecoming Tent

September 2022

- Designed and presented activity to teach community members about genetics

References

Dr. Kellee Siegfried (REU Advisor)
Associate Professor of Biology
University of Massachusetts Boston
Boston, Massachusetts
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Email: kellee.siegfried@umb.edu

Dr. Dustin Brisson (Undergraduate Advisor)
Associate Professor, Department of Biology
University of Pennsylvania
Philadelphia, Pennsylvania
Tel: (215)746-6018
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