Grace E Coppinger

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EDUCATION

B.S. Biology Aug 2020- May 2024 — University of South Alabama, Mobile, Alabama

Minor: Marine Science

GPA: 3.89, 133 Credited hours

Honors Thesis: Venom Gland Transcriptomics of the rear-fanged snake, *Thamnophis sirtalis*

RESEARCH POSITIONS

2022-2023 Research Assistant, Department of Biology, in collaboration with the College of Medicine, PI Jason Strickland and CoPI Megan Hermance, paid position, University of South Alabama

"A Ticking Time Bomb: Testing how viral infection modifies salivary gland gene expression in an invasive tick during feeding"

- RNA-seq analysis with reference genome
- Differential expression analysis

2022-2023 Snake Spider Scorpion Toxins INformatics and Genomics (SSSTING) Lab member, Department of Biology, PI Jason Strickland, University of South Alabama

- RNA extractions
- Illumina cDNA library preparation
- *De novo* RNA-seq analysis
- Differential expression analysis

2020-2022 Lab assistant, Department of Civil, Coastal and Environmental Engineering, PI Kevin White, paid position, University of South Alabama

- Performed Nitrogen, Carbon, Phosphorus quantity test on soil samples from different field testing sights.

FELLOWSHIPS

2023 NSF REU at Boyce Thompson Institute, hosted by Cornell University, PI Zhangjun Fei, Ithaca NY.

- Whole genome alignment
- Structural variant identification
- RNA-seq analysis
- Gene ontology analysis
- Differential expression anaylsis

2022 Summer Undergraduate Research Fellowship at The University of South Alabama, PI Jason Strickland, Mobile, AL.

- Field work, trapping, biodiversity survey
- Rear-fanged snake milking
- Dissection and venom gland extraction

PUBLICATIONS

2024 **Coppinger G.E**, A.J. Stewart, J.A. Borden, J.L. Strickland. *Thamnophis sirtalis* and Their Toxic Relationship: Testing for Intraspecific Venom Variation in Common Garter Snakes. Toxicon ~*In Review*

2023 Canterbury, D.N., **G.E. Coppinger**, S. Morris, and J.L. Strickland. *Hyla gratiosa* (Barking Treefrog) Axanthism. Herpetological Review 54(2): 256-267.

PRESENTATIONS

2023 **Coppinger, G.E.,** H. Sun, and Z. Fei. Identification of structural variants between wild and cultivated watermelons through whole genome comparison. BTI REU George and Helen Kohut Symposium, Ithaca, NY.

2023 Stewart, A.J., **G.E Coppinger**, J.A Borden and J.L. Strickland. Diet diversity drives phenotypic variability in the venom of rear- fanged snakes. 70th annual meeting of the Southwestern Association for Naturalist, San Antonio, Texas. 2nd Place.

2022 **Coppinger, G.E.,** A.J. Stewart, and J.L. Strickland. Understanding Venom Transcriptomics of the Rear-fanged Snake *Thamnophis sirtalis.* Undergraduate Research Symposium at The University of South Alabama, Mobile, Alabama.

2021 **Coppinger, G.E.,** J.L. Strickland, and J.A. Borden. Reptile and Amphibian Diversity on the University of South Alabama's Campus. Meeting of the Alabama Partners in Amphibian and Reptile Conservation (ALAPARC), Andalusia, Alabama.

2021 **Coppinger, G.E.,** J.L. Strickland, and J.A. Borden. Reptile and Amphibian Diversity on the University of South Alabama's Campus. Meeting of the Southeast Partners in Amphibian and Reptile Conservation (SEPARC), Hosted Virtually.

2021 **Coppinger, G.E.,** J.L. Strickland, and J.A. Borden. Reptile and Amphibian Diversity on the University of South Alabama's Campus. Undergraduate Research Symposium at The University of South Alabama, Mobile, Alabama.

TEACHING AND OUTREACH EXPERIENCE

2021-present SSSTING Lab Mentor to Undergraduates: I have mentored 7 undergraduates during my time in the SSSTING Lab. My mentorship included preparing students for literature review, RNA extraction, cDNA library prep, bioinformatic pipelines, and tutoring them for classes.

2023-2024 Learning Assistant for advanced bioinformatics course: I was a student assistant for advanced bioinformatics 400 level course. I assisted peers with code and host weekly help sessions.

2023 Go Explore Math and Science Outreach: Local middle and elementary students visited the University of South Alabama and I lead a section local reptiles and amphibians.

2023 Teaching local middle school classes: I reached out to a local middle school and was a visiting teacher for a day. I taught an 8th grade science class about local reptiles and amphibians and how their local habitat is changing.

FIELDWORK EXPERIENCE

2020-2023 University of South Alabama AL, United States: Spent over 100 hours checking drift fence arrays, making funnel traps, building arrays, hand collection, and identification of specimen for the Biology Department at the University of South Alabama.

2022 Texas, United States: Spent three weeks searching for and collecting ribbon snakes, tarantulas, and scorpions for the SSSTING Lab and the Biology Department at the University of South Alabama.

PROFESSIONAL SERVICE, MEMBERSHIPS, AND HONOR SOCIETIES

2022-Present **Honors College Representative**

- Serve as liason between the Honors College and prospective students and University faculty

2021-Present **SSSTING Lab Member**

- Perform research, outreach to local communities, and manage social media accounts

2021-Present **Biology Student Association Member**

- Attend meetings and outreach opportunities

2021-2023 **Marine Science Student Association Member**

- Attend meetings and outreach opportunities

2020-2021 **First Year Council Member**

- Awarded member of the year.
- Improve freshman campus experiences, work with local safety committees and police departments, create "Awareness Wednesday" informational social media outreach

2020-Present **Honors College Member**

- Propose and defend an Honors Thesis, complete honors specific coursework, maintain 3.5 GPA, participate in local community outreach

SCHOLARSHIPS AND AWARDS

Jaguar Senior Medallion Award - Undergraduate research award (2024)

- The medallion recognize graduating seniors who have demonstrated excellence through achievement in scholarship and engagement in activities at the University of South Alabama. First recipient of the undergraduate research award.

USA Honors College - Undergraduate research award (2024)

- Recognized graduating students in the honors college who demonstrated excellence in research.

Rawls Outstanding Senior Award (2024)

- Awarded to the most outstanding senior biology major in the Biology Department at South Alabama.

Whiddon Honors Scholarship (2021-2023)

- Full tuition funding provided to Honors College students displaying excellence

USA Honors College Exploration and Experiential Learning Scholarship

- Scholarship awarded to students apart of the Honors College who are dedicated to becoming a well rounded student through service.

SCHOLARSHIPS AND AWARDS CONTINUED

Honors Summer Scholar Fellowship

- Scholarship awarded to students apart of the Honors College who are dedicated to furthering their academic achievement.

Ron Kiene Research Scholarship

- Scholarship awarded to students who are dedicated to protecting our environment through research.

Angelia and Steven Stokes Undergraduate Scholarship in Marine Sciences (2021-2023)

- Scholarship awarded to Marine Science students who excel in research, coursework, and involvement on campus.

Mike deGruy Memorial Scholarship (2021-2023)

- Scholarship awarded to Marine Science students who excel in research, coursework, and involvement on campus.

Brian Axsmith Memorial Scholarship

- Scholarship awarded by the Biology Department to students that are excelling in their classwork and research with interests in botany, ecology, environmental science, or evolution.

Neely Memorial Scholarship

- Scholarship awarded to students at the University of South Alabama who excel in research and academics.

Fresh Admission Scholar AB Tier 4

- Merit based scholarship

ATTENDED CONFERENCES

2022	Meeting of the Alabama Partners in Amphibian and Reptile Conservation, Andalusia, Alabama.
2021	Meeting of the Southeast Partners in Amphibian and Reptile Conservation, Virtual

REFERENCES

Jason Strickland, Ph.D — Office Phone: (251) 460-7310
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Department of Biology — 5871 USA Dr. N
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Jeremiah Henning, Ph.D — Office Phone: (251) 460-7987
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