

## SOMMER FAITH STARR

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## EDUCATION

*Doctor of Philosophy*, Physical Environmental Science | Florida State University | Tallahassee, FL (Dec 2023)

Overall GPA: 4.000 | Relevant classes: Marine Isotope Tracers, Geomorphology, Geochemistry of Natural Water and Sediments, Marine Microbial Ecology, Polar and Alpine Biogeochemistry

*Master of Science*, Biological Sciences | University of Alabama | Tuscaloosa, AL (May 2020)

Overall GPA: 3.727 | Relevant classes: Wetland Plant Ecology, Conservation Biology, Global Change Biology, R Programming and Data Management, Ecohydrology, Remote Sensing I

*Bachelor of Science*, Biology | Univ. of West Georgia | Carrollton, GA (May 2018)

Institutional GPA: 3.600

*Associate in Applied Science*, Aviation Maintenance Technology | Community College of the Air Force | Montgomery, AL (April 2012)

## TEACHING EXPERIENCE

Graduate Teaching Assistant (2018-2019) – Biological Sciences, University of Alabama

Introduction to Biology I (BIO-115)

Introduction to Biology II (BIO-117)

Lab Instructor (2017-2018) – Department of Biology, University of West Georgia

Biological Diversity (BIOL-1110)

Teaching Assistant (2017-2018) – Department of Chemistry, University of West Georgia

Principles of Chemistry I (CHEM-1211L)

Principles of Chemistry II (CHEM-1212L)

Introductory Chemistry (CHEM-1100)

Peer Tutor (2017) – Center for Academic Success, University of West Georgia

## RESEARCH EXPERIENCE

PhD Research (2020-Present) – Department of Earth, Ocean, and Atmospheric Sciences, Florida State Uni.

Analysis of carbon dynamics in the Arctic, including estimating DOC yield in understudied Arctic rivers, microbial ecology and C cycling in a continuum of permafrost age, evaluating landcover type and permafrost extent as drivers of DOC characteristics in Western Siberia. **Relevant skills:** *Fourier-transform ion cyclotron resonance mass spectrometry (FT-ICR MS), fluorescence and absorbance analyses of DOM, TOC analysis, solid phase extraction, microbial ecology.*

Graduate Research (2018-2020) – Department of Biological Sciences, University of Alabama

Analyzed denitrification potential, microbial biomass, and fungal diversity in natural and constructed salt marshes. **Relevant skills:** *gas chromatography, membrane-inlet mass spectrometry, fluorescence analysis of nutrients, microbial ecology.*

Research Assistant (2017-2018) – Department of Biology, University of West Georgia

Compared wetland water chemistry to known aquatic salamander species ranges in Georgia as independent undergraduate research; Assistant to Dr. Janet Genz and Rachael Hicks on project “Response in growth, scute development, and whole-body ion composition of *Acipenser fulvescens* reared in water of differing chemistries”. **Relevant skills:** *spectrometric analysis of nutrients and metals, laboratory animal handling, geographic analysis.*

## GRANTS, FELLOWSHIPS, & AWARDS

**Cumulative monetary total: \$152,408.37**

- \$800** - Coastal and Estuarine Research Federation - Rising TIDES (Toward an Inclusive, Diverse, and Enriched Society) Program Organizer; stipend (Fall 2021)
- \$300** - University of Alabama - Graham Prize for outstanding academic achievement, research effort, and teaching quality (Spring 2020)
- \$138,000** - NSF - Graduate Research Fellowship Program (Fall 2019)
- \$658.37** - Coastal and Estuarine Research Federation - Rising TIDES (Toward an Inclusive, Diverse, and Enriched Society) Program Participant; funds for travel and conference costs (Fall 2019)
- \$100** – University of Alabama – 3 Minute Thesis Winner (Fall 2019)
- \$600** – University of Alabama - Arts & Sciences Research Grant (Spring 2019)
- \$1,500** - Birmingham Audubon Society - Walter F. Coxe Research Grant (Spring 2019)
- \$450** – University of West Georgia - Study Abroad Scholarship (Spring 2018)
- \$100** – Trinka Davis Rynne Scholarship (Fall 2017)
- University of West Georgia - Dean’s List (Fall 2016, Spring 2017, Fall 2017, Spring 2018)

## PUBLICATIONS & PRESENTATIONS

- Ledford, T., Mortazavi, B., Tatariw, C., **Starr, S.F.**, Smyth, E., Griffin Wood, A., Simpson, L.T., Cherry, J. (2021) *Ecosystem carbon exchange and nitrogen removal rates in two 33-year-old constructed salt marshes are similar to those in a nearby natural marsh.* Restoration Ecology, 29(7), e13439. <https://doi.org/10.1111/rec.13439>
- Tatariw, C., Mortazavi, B., Ledford, T., **Starr, S.F.**, Smyth, E., Griffin Wood, A., Simpson, L.T., Cherry, J. (2021) *Nitrate reduction capacity is limited by belowground plant recovery in a 32-year-old created salt marsh.* Restoration Ecology, 29(1), e13300. <https://doi.org/10.1111/rec.13300>
- Griffin Wood, A., Smyth, E., Tatariw, C., Ledford, T., Singh, N., **Starr, S.F.**, Kuehn, K.A., Mortazavi, B., Cherry, J. (Aug 2020) *Nutrient loading effects on biological contributions to elevation dynamics in a constructed and natural tidal marsh.* Ecological Society of America annual conference; online.
- Smyth, E., Cherry, J., Griffin Wood, A., Ledford, T., **Starr, S.F.**, Tatariw, C., Kuehn, K.A., Mortazavi, B., Cherry, J. (Aug 2020) *Differences in microbially-mediated organic matter decomposition in natural and constructed coastal wetlands.* Ecological Society of America annual conference; online.

**Starr, S.F.**, Ledford, T., Smyth, E., Griffin Wood, A., Tatariw, C., Simpson, L., Cherry, J., & Mortazavi, B. (Nov 2019) *Carbon quality: effects on nitrogen removal and fungal succession in a constructed salt marsh*. Poster presented at the 25<sup>th</sup> Coastal & Estuarine Research Federation biennial conference; Mobile, AL

Smyth, E., Cherry, J., Griffin Wood, A., Ledford, T., Mortazavi, B., Simpson, L., Tatariw, C., & **Starr, S.F.** (Nov 2019) *Differences in carbon storage between a constructed and natural brackish marsh*. Poster presented at the 25<sup>th</sup> Coastal & Estuarine Research Federation biennial conference; Mobile, AL

Tatariw, C., Ledford, T., **Starr, S.F.**, Simpson, L., Smyth, E., Griffin Wood, A., Cherry, J., & Mortazavi, B. (Nov 2019) *Building ecosystem function: Do constructed salt marshes remove nitrogen as well as their natural counterparts?* 25<sup>th</sup> Coastal & Estuarine Research Federation biennial conference; Mobile, AL

**Starr, S.F.**, Tatariw, C., & Mortazavi, B. (Sep 2019) *Controls on nitrogen removal capacity in an engineered Gulf coast salt marsh*. Poster presented at the University of Alabama Department of Biology Annual Graduate Student Research Poster Colloquium; Tuscaloosa, AL

**Starr, S.F.**, Zou, E., & Genz, J. (2018) *Mudpuppies in the marsh: the effect of water chemistry on aquatic salamander distribution across Georgia watersheds*. Poster presented at the University of West Georgia Annual Undergraduate Research Conference; Carrollton, GA

## **SERVICE & OUTREACH**

ArBOOretum Youth Outreach Volunteer | University of Alabama (2019)

Homecoming Day Biology Outreach Volunteer | University of Alabama (2019)

Undergraduate Research Conference Judge | University of Alabama (2019)

Primary School Science Fair Judge | Bessemer Academy K-12 | Bessemer, AL (2018)

Satellite image digitization | Humanitarian OpenStreetMap Team | (2017-Present)

Critter Camp Volunteer Teaching Assistant | The Amphibian Foundation | Atlanta, GA (2018)

Vice President | Beta Beta Beta Biological Honor Society | Univ. of W. Georgia (2017-2018)

## **PROFESSIONAL AFFILIATIONS**

**American Chemical Society** | Student Member (2019 – Present)

**Beta Beta Beta Biological Honor Society** | Vice President (2017 – 2018)

**Ecological Society of America** | Student Member (2017 – Present)

**Coastal & Estuarine Research Federation** | Student Member (2020 - Present)

**Sigma Xi** | Associate Member (2019 – Present)

**Society for Advancement of Chicanos/Hispanics and Native Americans in Science** | Student Member (2020 – Present)

## **OTHER EXPERIENCE**

Archeology Field Assistant | MRS Associates (Tuscaloosa, AL 2019)

Small Animal and Aquatic Habitat Care | Petsmart (2014-2015)

Aerospace Propulsion Technician | United States Air Force (2010-2013)