

# Sarah J. Shelley

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## Summary

Doctoral Candidate in Energy Science and Engineering with the Bredesen Center; Bachelor of Ecology and Evolutionary Biology. Primary investigator in Oikos research article released in early 2021. 20+ years employment experience including research technician, supplemental biology instructor, biology/calculus/chemistry tutor, equestrian and restaurant/retail worker.

- Experienced in R programming
- Basic level ENVI skills
- Basic level ArcGIS skills
- Excellent communication/ writing skills
- Strong public speaking skills
- Adept to Teaching & Training

## Achievements

- **Summa cum laude** | University of Tennessee *and* Pellissippi State Community College
- **Karen Anderson Galápagos Islands Scholarship Recipient** | Tennessee Consortium for International Studies (TnCIS) | General Genetics – 2016
- **Best Poster** | Oak Ridge Associated Universities (ORAU) Undergraduate Research Symposium | Environmental Sciences Division – 2018 & 2019 (*winner, two consecutive years*)

## Experience

**Research Technician** | Oak Ridge National Laboratory (ORNL) — Oak Ridge, TN  
Environmental Sciences Division | Biodiversity and Ecosystem Health | March, 2021- Present

Primary investigator of 5-year peatland litter decomposition study. Working as a part of an interdisciplinary team of scientists, assisting field- and laboratory-based ecological studies of water quality and organic matter decomposition and the construction of leaf litter decomposition experiments. Analysis of environmental samples (leaf, root, soil) in the laboratory, including sorting, grinding, and weighing samples. Preparing samples for nutrient analysis and performing accuracy assurance/ QA/QC during data collection and summarization.

- o Shelley, S.J., Brice, D.J., Iversen, C.M., Kolka, R.K., Sebestyen, S.D. and Griffiths, N.A. (2021), Deciphering the shifting role of intrinsic and extrinsic drivers on moss decomposition in peatlands over a 5-year period. *Oikos*.  
<https://doi.org/10.1111/oik.08584>

**Undergraduate Research Assistant** | Oak Ridge National Laboratory (ORNL) — Oak Ridge, TN

## Environmental Sciences Division | Aquatic Ecology Group

- Began role as primary investigator of litter decomposition study. Field deployment, retrieval and laboratory preparation of vegetative litter samples for biogeochemical research; requiring proficiency in the operation of a Lachat spectrophotometric autoanalyzer, micro balance, ball pin grinder, acid hydrolyzable digestion, basic laboratory safety, sterilization and maintenance practices, data entry, QA/QC, data analysis and research communication.

### **Science Undergraduate Laboratory Internship (SULI) program**

June 2018-August 2018 (40 hours/week)

### **Higher Education Research Experiences (HERE) program**

August 2018- May 2019 (10 hours/week)

May 2019- August 2019 (40 hours/week)

August 2019- May 2020 (10 hours/week)

May 2020- August 2020 (40 hours/week)

August 2020- December 2020 (10 hours/week)

## **Education**

### **Bredesen Center- Oak Ridge Innovation Institute — Knoxville, TN/ Oak Ridge, TN**

Energy Science and Engineering , PhD | Environmental Sciences

Advised by Dr. Natalie Griffiths, ORNL Fall 2022 - Present

### **The University of Tennessee — Knoxville, TN**

Bachelor of Biology, Summa Cum Laude, Fall 2020 | Ecology and Evolutionary Biology

Minor: Geographic Information Sciences

- General Biology, Chemistry and Mathematics tutor

Student Success Center: August 2018- December 2019 (10 hours/week)

### **Pellissippi State Community College — Knoxville, TN**

Associate of Arts, Summa Cum Laude, Fall 2020

- Supplemental Instructor of General Biology: August 2016- December 2017 (6 hours/week during fall and spring semesters only)
- Mathematics Department Tutor: August 2015- December 2017 (12 hours/week during fall and spring semesters only)
- Sustainable Campus Initiative Representative August 2015- May 2016 (6 hours/week)

## **References**

**Natalie Griffiths: *Mentor*, Staff Researcher, Oak Ridge National Laboratory | [griffithsna@ornl.gov](mailto:griffithsna@ornl.gov)**

**Teresa Mathews, Group Leader, Oak Ridge National Laboratory | [mathewstj@ornl.gov](mailto:mathewstj@ornl.gov)**

**Verity Salmon, Staff Researcher/ Lab Manager, Oak Ridge National Laboratory | [salmonvg@ornl.gov](mailto:salmonvg@ornl.gov)**