
EDUCATION

Doctor of Philosophy, Marine Biology Texas A&M University – Galveston, Texas	August 2024 – Present
Master of Science, Biology Villanova University—Villanova, Pennsylvania Ecology, Evolution, and Population Biology emphasis	December 2024
Bachelor of Science in Biology and Mathematics Bryn Mawr College – Bryn Mawr, Pennsylvania	May 2021

RESEARCH EXPERIENCE

Nutrient Pollution impacts on Community Dynamics in a Coastal Ecotone Graduate M.S Thesis Research, The WETFEET Project – St. Augustine, FL	Sept. 2021 – Present
<ul style="list-style-type: none">• Established 40 mangrove and marsh plots for nitrogen enrichment experiment• Collect and analyze grass and mangrove seedling vegetation, porewater, soil, decomposition, and in situ growth metric data to compare nitrogen impacts on plots found on the creek-edge and marsh interior• Utilize conservative $\delta^{15}\text{N}$ isotope to investigate quick and long-term recovery of nitrogen• Rhizome sampling of <i>Schoenoplectus americanus</i> at Smithsonian Global Change Research Wetland (GCREW) for greenhouse experiment	
Research assistant The TIDE Project, Bryn Mawr College – Bryn Mawr, PA	January 2019 – August 2021
<ul style="list-style-type: none">• Assisted four undergraduates in different components of research projects for senior thesis• Organized and led fieldwork trips to TIDE sites in PIE-LTER, MA• Completed drone flights with standard drone and mica sense sensor for productivity data• Mentored undergraduates on research, graduate school, and career options• Acted as project lead in creating and compiling vegetative metadata for the TIDE project from 2006 to 2020, encompassing vegetative response to nutrient enrichment and recovery for marsh grasses.• Created figures in R for species height, shoot-specific mass, biomass, net primary production (EOSL)• Analyzed preliminary statistics comparing growth metric responses at different states of project (initial enrichment, during enrichment, and recovery) and identified trends across species and time• Presented analysis at TIDE annual meeting with PIs to receive feedback and guidance on analysis• Maintained an active role in Dr. Thomas Mozdzer’s lab aiding in ongoing senior thesis projects and NSF funded research• Created lab protocols for drone set up and storing, decomposition analysis, and RTK connection and processing	
Estimating Marsh Species Biomass using Allometric Models Undergraduate Senior Thesis – Bryn Mawr, Pa	September 2020-May 2021
<ul style="list-style-type: none">• Utilized long-term growth metric data set (2012 – 2019) to produce allometric models for common marsh grass species• Compiled R-script for general data sets to produce allometric models• Collaborated with Dr. Joshua Caplan to tailor R script and statistical analysis methods• Presented and defended thesis to the biology department and committee members	
Long-term Nutrient Enrichment Effects on Decomposition Summer Science Research: the TIDE Project – Plum Island, MA	June 2019 – August 2019
<ul style="list-style-type: none">• Studied the rates of decomposition in enriched and control creeks at the Plum Island Estuary Long-term Ecological Research in Massachusetts• Deployed different sized mesh decomposition bags to above ground surface 10 m from creek channel of enriched and control sites	

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- Collected mesh bags following a four-week time series collection to record change in mass and ID invertebrates present
- Assisted graduate students on thesis projects (i.e Flume netting)
- Collected and processed vegetation of marsh species *Spartina alterniflora*, *S. patens*, & *Distichlis spicata*

ADVISING & LEADERSHIP EXPERIENCE

Biology Graduate Teaching Assistant

September 2021 – Present

Villanova University – Villanova, Pa

- Manage multiple lab sections that familiarize undergraduate students with lab practicum and basic biological concepts
- Conduct prelab lecture covering foundational content including statistical analysis, research approach, animal and plant physiology, genetics, and ecology
- Provide essential feedback on lab reports, weekly assignments, and quizzes.
- Enforce lab safety protocols
- Courses: General Biology I and II, Global Change Biology, Heredity and Human Affairs

Undergraduate Teaching Assistant for Ecology

Sept. 2021 – Dec. 2021

Bryn Mawr College – Bryn Mawr, Pa

- Aided and provided resources and feedback for students for assignments, labs, and projects
- Managed lab supplies and preparations
- Met regularly with course instructor for lab preparation, course expectation, and class performance

RESEARCH PRESENTATIONS AND OUTREACH

Coastal & Estuarine Research Federation 27th Biennial Conference – Poster

November 12-16, 2023

Portland, Oregon

“Understanding the effects of eutrophication on the fate of nitrogen in a shifting marsh-mangrove ecotone”

Mangrove Macrobenthos & Management Meeting – 3-minute Lightning Talk & Poster

July 24-28, 2023

Cartegena, Colombia

“The dynamic relationship between nitrogen enrichment and geomorphological position within a shifting ecotone”

State of the Reserve Symposium, Guana Tolomato Matanzas Research Reserve – Poster

February 12, 2023

St. Augustine, Florida

“Additive effects of nutrient enrichment on species composition and mangrove encroachment”

WETFEET Symposium – 7-minute lightning talk (Virtual)

December 8, 2022

“Additive effects of nutrient enrichment on species composition and mangrove encroachment”

Three-Minute Thesis

November 11, 2022

Villanova University, College of Liberal Arts & Sciences

“Nutrient Enrichment effects on plant communities in a Northern Florida marsh-mangrove ecotone”

Center for Biodiversity & Ecosystem Stewardship Reception – 5-minute Lightning Talk

March 22, 2022

Villanova University, College of Liberal Arts & Sciences

“Micro adaption within *Schoenoplectus americanus*: Can long-term treatment influence morphological adaptations”

Society of Wetland Scientist Virtual Conference – Abstract

June 2021

“Nutrient enrichment and sea level effects on plant traits and productivity within a New England salt marsh”

North Carolina Elementary Public-School virtual presentation

May 21, 2021

“Aphid Life Cycle” Presentation given in English and Spanish to second grade classes

Biology Senior Thesis Research

May 18, 2021

Bryn Mawr College – Bryn Mawr, PA

“Allometric Models: Estimating Marsh Plant Biomass”

Summer Science Research Symposium

September 2019

Bryn Mawr College – Bryn Mawr, PA

“Litter Decomposition: How is decomposition affected by food web alterations?”

SKILLS

Language: Fluent in Writing, Reading, and Speaking in Spanish

Technical Experience: Working Proficiency in Excel, ArcGIS Pro, JMP 16, PIX4D, R Script, and R studio

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Lab Equipment: Experience setting up and using a lab equipment, RTK units, mica sense multi band sensors, and drones