

BROOKLYNN F. MINTON

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EDUCATION & TRAINING

Florida Southern College, Lakeland Florida

2023 - Present

Bachelor of Science (Dual Degrees)

(1) Marine Biology & (2) Environmental Studies | Honors Program

RELEVANT RESEARCH EXPERIENCE

Honors Project: Discovering the Complex Life Cycles of Bull Shark (*Carcharhinus leucas*) Tapeworms.

Advisors: Gabriel J. Langford, Allison Durland-Donahou, and Melanie L. Langford | 2025-Present

Conducting an integrative parasitology study to resolve the life cycles of cestodes infecting bull sharks by identifying intermediate hosts and linking larval and adult stages. Utilizes a combination of field sampling in the Alafia River and adjacent coastal systems, morphological examination of cestode specimens, and molecular techniques including PCR amplification and DNA sequencing to match life stages and confirm species identities. This research reconstructs transmission pathways and host associations to improve understanding of parasite persistence, biodiversity, and host-parasite dynamics in marine and estuarine ecosystems.

Bacterial Elasmobranch Research: Microbiomes of Tampa Bay Elasmobranchs

Advisor: Melanie L. Langford | 2025-Present

Conducting microbiological and parasitological research on shark and ray-associated microbes from Tampa Bay to investigate their potential as novel antibiotic sources. Involves isolating bacterial and parasitic microbes from elasmobranch skin, assessing antibiotic susceptibility across multiple drug classes, and screening for antibiotic-producing strains using patch plating assays, while also exploring ecological interactions and potential intermediate hosts of associated tapeworms. This project was funded by a Student-Faculty Collaborative Grant (Refer to M. Langford and B. Minton)

BIO 2501 Research Project: The Impact of Salinity-Induced Stress on *Exaiptasia pallida*

Advisor: Dr. Allison Durland | Fall 2024

Designed and conducted an independent experimental study examining the effects of salinity fluctuation physiological and behavioral stress responses in a model marine invertebrate. Results demonstrated that both hyper- and hypo-saline conditions significantly reduced zooxanthellae density and increased tentacle compression, indicating disruption of symbiotic relationships under environmental stress

SCIENTIFIC PRESENTATIONS

Minton, B., Langford, G. J., Durland-Donahou, A., & Langford, M. L. (2026). There and Back Again: Discovering the Complex Life Cycles of Bull Shark (*Carcharhinus leucas*) Tapeworms.

- Presented at Fiat Lux Research Symposium, Florida Southern College, Lakeland, FL (November 19, 2025)
 - Presented at The Southeastern Society of Parasitologists (SSP), Charleston, SC (March 19–21, 2026)
 - Upcoming presentation at American Society of Parasitologists (ASP), Orlando, FL (July 26–29, 2026)
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RELEVANT EMPLOYMENT HISTORY

Florida Southern College, Biology Department Teaching Assistant

BIO 2320 – Marine Microbiology (Spring 2026)

- Prepare laboratory materials, media, and equipment for microbiological experiments
- Provide individualized tutoring to reinforce microbial concepts and laboratory techniques
- Guide students through aseptic technique and proper handling of microbial cultures
- Support development of foundational lab skills relevant to environmental and aquatic systems

BIO 2220 – Biology of Fishes (Fall 2026)

- Assist in hands-on lab instruction, including fish dissections and anatomical analysis
- Support fieldwork using techniques such as seine netting, electrofishing, and cast netting
- Contribute to safe handling and identification of freshwater and marine fish species
- Prepare and manage field and laboratory equipment for aquatic research activities

BIO 3727 – Nucleic Acid and Cloning Techniques (Fall 2026)

- Prepare molecular biology lab materials, including DNA samples, reagents, and cloning tools
- Assist students with DNA extraction, amplification (PCR), and basic cloning procedures

- Promote accurate pipetting, sterile technique, and proper laboratory protocols
- Support application of molecular techniques relevant to genetics, disease analysis, and biotechnology

Florida Southern College (Admissions)

Present

- Lead engaging campus tours for prospective students and families, effectively communicating academic programs, campus life, and institutional values
- Selected by admissions counselors to represent the college at high schools and college fairs, promoting enrollment and outreach initiatives
- Serve as Director of Programming on the Executive Board, overseeing event planning and coordination for ambassador activities
- Develop and implement programming that enhances prospective student engagement and recruitment efforts

Lynchburg Veterinary Clinic, Lynchburg Ohio

2021 - 2025

- Assist veterinarians with clinical procedures, including administering vaccinations and supporting surgical operations
- Prepare and sterilize surgical instruments while maintaining strict adherence to sanitation protocols Monitor animal vitals and condition during procedures to ensure patient safety
- Provide hands-on care for a variety of domestic animals in a fast-paced clinical setting
- Manage financial transactions and contribute to daily office operations, improving workflow efficiency

RELEVANT COURSEWORK

- Marine Biology (BIO 1520)
- Biology and Conservation of Marine Mammals (BIO 2120)
- Biology of Fishes (BIO 2220)
- Marine Microbiology (BIO 2320)
- Conservation Biology (BIO 2900)
- Amphibians and Reptiles (BIO 3120)
- Animal Nutrition (BIO 3480)
- Parasitology (BIO 3850)
- Field Ecology (BIO 4301)

CAMPUS INVOLVEMENT, SCHOLARSHIPS, AND ACCOLADES

Campus Involvement

- Scientista (Women in Stem)
- Sustainability Club
- Tri Beta Biology Club
- FSC Snorkel Club
- Treasurer of Pre-Vet Society

Scholarships

- Danforth Scholarship
- Christoverson Scholarship
- Valedictorian/Salutatorian Scholarship
- Hansen Science Scholarship

Awards and Accolades

- National Society of Leadership and Success Honor Society – Initiated member
- Phi eta sigma – Initiated member
- Delta Alpha Pi – Initiated member
- Omicron Delta Kappa – Initiated member
- Rho Rho Rho Marine Biology Honor Society – Initiated member
- X4 President's List (4.0 GPA)
- Deans List (3.9-4.0 GPA)
- FSC cornerstone recipient
- Tar-rific Tardigrade Award (Commitment to my research)

REFERENCES

Gabriel Langford (Honors Research Advisor)
Professor

Department of Biology
Florida Southern College
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Melanie Langford (Associate Research Advisor)

Associate Professor
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Jason Macrander (Academic Advisor)

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Jarrold Thoroman (Small Animal Veterinarian)

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