
Shelby E. Gantt, M.S.

1300 University Blvd.
Campbell Hall, Rm. 459B
Birmingham, AL 35233 USA

PhD Candidate
University of Alabama
at Birmingham,
Department of Biology

sgantt10@gmail.com

Education

- 2018 - Present **Doctor of Philosophy, Biology**
University of Alabama at Birmingham, Birmingham, AL USA
GPA: 3.85 (based on 4.0)
- 2016 - 2018 **Master of Science, Marine Biology**
University of North Carolina, Wilmington, NC USA
Overall GPA: 3.92 (based on 4.0)
- 2014 - 2016 **Bachelor of Science, Biology** (Research Option)
Georgia Institute of Technology, Atlanta, GA USA
Certificate in Marine Science
Overall GPA: 3.67 (based on 4.0)

Research Interests

- Microbial Symbioses and Effects on Host Behavior/Fitness
- Climate Change in Relation to Effects on Symbiosis Interactions
- Marine and Benthic Ecosystems
- Conservation of Benthic Ecosystems

Publications

Peer Reviewed:

5. Keister EF, **Gantt SE**, Reich HG, Turnham KE, Bateman TG, LaJeunesse TJ, Warner ME, and Kemp DW (2022) A physiological balancing act: Conformity amongst corals from contrasting reef environments of Palau, Micronesia. *PNAS* (2023). **In Review.**
4. **Gantt SE**, Keister EF, Manfroy AA, Merck DE, Fitt WK, Muller EM and Kemp (2022) Wild and nursery-raised Corals: Comparative physiology of two framework species. *Coral Reefs* (2023). doi: 10.1007/s00338-022-02333-9
3. **Gantt SE**, McMurray SE, Stubler AD, Finelli CM, Pawlik JR & Erwin PM (2019) Testing the relationship between microbiome composition and flux of carbon and nutrients in Caribbean coral reef sponges. *Microbiome* 7: 124.
2. **Gantt SE**, López-Legentil S & Erwin PM (2017) Stable microbial communities in the sponge *Crambe crambe* from inside and outside a polluted Mediterranean harbor. *FEMS Microbiology Letters* **364**(11): fnx105. doi: 10.1093/femsle/fnx105

1. Padilla CC, Ganesh S, **Gantt S**, Huhman A, Parris DJ, Sarode N and Stewart F (2015) Standard filtration practices may significantly distort planktonic microbial diversity estimates. *Front. Microbiol.* **6**:547. doi: 10.3389/fmicb.2015.00547

In Prep:

1. **Gantt SE** and Erwin PM (2022) Effects of sponge-to-sponge contact on the microbiomes of three Caribbean coral reef species. *MicrobiologyOpen*.

Theses:

2. **Gantt SE**, McMurray SE, Stubler AD, Finelli CM, Pawlik JR & Erwin PM (2019) Testing the relationship between microbiome composition and flux of carbon and nutrients in Caribbean coral reef sponges. Masters Thesis. University of North Carolina at Wilmington. <http://dl.uncw.edu/ETd/2018-1/r1/gantts/shelbygantt.pdf>
1. **Gantt S**. 2016. Effects on the *Pocillopora verrucosa* microbiome when in contact with macroalgae under ocean acidification. Undergraduate Research Option Thesis. Georgia Institute of Technology. <http://hdl.handle.net/1853/55388>

Other:

1. **Gantt, Shelby** (March 20, 2020) Brood parasitism or adoption? Mixed parentage of brooding damselfishes. *Molecular Ecologist*. Stacy Krueger-Hadfield. <https://www.molecularecologist.com/2020/03/brood-parasitism-or-adoption-mixed-parentage-of-brooding-damselfishes/>

Presentations

Invited Talks:

- 2022 **Shelby E. Gantt**, Elise F. Keister, Alicia A. Manfroy, Dakotah E. Merck, William K. Fitt, Erinn M. Muller, Dustin W. Kemp. Mote's Coral Health and Disease Department. Wild and nursery-raised Corals: Comparative physiology of two framework species with additional data. Dec. 7th, 2022.
- 2022 **Shelby E. Gantt**, Elise F. Keister, Alicia A. Manfroy, Dakotah E. Merck, William K. Fitt, Erinn M. Muller, Dustin W. Kemp. Coral Restoration Team Meeting, including most coral restoration managers of the southeastern United States. Wild and nursery-raised Corals: Comparative physiology of two framework species with additional data. Nov. 7th, 2022.

Conference:

- 2022 **Shelby E. Gantt**, Elise F. Keister, Alicia A. Manfroy, Dakotah E. Merck, William K. Fitt, Erinn M. Muller, Dustin W. Kemp. Reef Futures in Key Largo. Oral. Wild and nursery-raised Corals: Comparative physiology of two framework species.
- 2019 **Shelby E. Gantt**, Steve E. McMurray, Amber D. Stubler, Christopher M. Finelli, Joseph R. Pawlik, Patrick Erwin. Symbiofest at the University of Georgia. Oral. Microbial Symbionts, Carbon and Nutrient Cycling in Caribbean Coral Reef Sponges.

- 2018 **Shelby E. Gantt**, Steve E. McMurray, Amber D. Stubler, Christopher M. Finelli, Joseph R. Pawlik, Patrick Erwin. 48th Annual Benthic Ecology Meeting, Corpus Christi, TX. Oral. Microbial Symbionts, Carbon and Nutrient Cycling in Caribbean Coral Reef Sponges.
- 2017 **Shelby E. Gantt**, Steve E. McMurray, Amber D. Stubler, Christopher M. Finelli, Joseph R. Pawlik, Patrick Erwin. American Society for Microbiology, North Carolina Chapter Meeting, Raleigh, NC. Poster. Microbial Symbionts and Carbon Cycling in Caribbean Coral Reef Sponges.
- 2017 **Shelby E. Gantt**, Susanna López-Legentil, Patrick Erwin. 47th Annual Benthic Ecology Meeting, Myrtle Beach, NC. Oral. Hard Rock! Stable Sponge Microbiome in a Heavy Metal Polluted Environment.
- 2017 **Shelby E. Gantt**, Susanna López-Legentil, Patrick Erwin. Graduate Student Symposium, University of North Carolina, Wilmington. Oral. Symbionts and the Sponge-loop.
- 2016 **Shelby E. Gantt**, Susanna López-Legentil, Patrick Erwin. American Society for Microbiology, North Carolina Chapter Meeting, Wilmington, NC. Poster. Indifferent to pollution: Stable microbial communities in the sponge *Crambe crambe* from inside and outside a Mediterranean harbor.
- 2016 **Shelby E. Gantt**. Spring Georgia Tech Undergraduate Research Symposium, Atlanta, GA. Poster. Contact with Macroalgae Affects the *Pocillopora verrucosa* microbiome.
- Other:**
- 2018 **Shelby E. Gantt**. Master of Science Thesis Defense. Oral. Microbial Symbionts, Carbon and Nutrient Cycling in Caribbean Coral Reef Sponges.

Workshops Attended

- 2022 **5th International Cassiopea Workshop**. In-person at Key Largo Marine Research Laboratory, Key Largo, FL.
- 2021 **4th International Cassiopea Workshop**. Online platform.
- 2019 **Mega2019: Functional Genomics and Gene Expression Network Analysis with Tag-Seq**. In-person at Mote Marine Lab's Elizabeth Moore International Center for Coral Reef Research and Restoration, Summerland Key, FL.
- 2019 **Mega2019: Population Genomics Using Low-Coverage/RAD Data**. In-person at Mote Marine Lab's Elizabeth Moore International Center for Coral Reef Research and Restoration, Summerland Key, FL.

Grants and Awards

Graduate:

Grants Awarded:

March 2018 **Biology Graduate Student Association Travel Grant: \$200**

March 2018 **Graduate Student Association Travel Grant: \$750**

April 2017 **Graduate Student Association Travel Grant: \$600**

Undergraduate:

Awards Received:

Spring 2016 **Williams-Walls Life Science Award:** Faculty nominated. An award given annually to one or more senior women in the life sciences (Biology or Psychology) with a grade point average of 3.5 or above, and who has applied to graduate school. Includes a monetary award, and the student's name will be engraved on a plaque permanently displayed in the School of Biological Sciences office.

Organizations

Academic:

- Phi Sigma: Biological Sciences Honor Society, University of Alabama at Birmingham.

Volunteer:

- S.T.E.M. Outreach at UAB: Graduate student organization at UAB that engages in science tutoring and mentoring outreach for 6th – 9th grade students via collaboration with local schools and Girls, Inc (an afterschool program for girls that also hosts a summer camp).

Mentoring

Master Students:

Rose Ferguson (Spring 2021-Fall 2021, UAB)

Post-Baccalaureate:

Emily Nixon (Spring 2021, PhD student, Scripps)

Undergraduate Students:

Samantha Jerry (Fall 2022 - present, UAB), Hazel Higginbotham (Fall 2021-present, UAB), Nabaa Naveed (Summer 2022, UAB), Erin Jones (Fall 2021-Summer 2022, UAB), Austin "AJ" Brown (Fall 2021, UAB), Rose Ferguson (Fall 2019-Spring 2021, UAB), Savannah Martin (Summer 2021-Fall 2021, UAB), Riann Martin (Summer 2021, UAB), Perri Von Seebach (Summer 2021, UAB), Cameron McPhail (Fall 2018-Fall 2020, UAB), Rayna O'nan (Spring 2017, UNCW), Dante Deascanis (Spring 2017, UNCW), Sara Coble (Spring 2017, UNCW)

Teaching

Courses Taught (Teaching Assistant):

Spring 2023	UAB	BY 201	Climate Change & Environment	LectureTA/50 students
2022-present	UAB	BY 109	Lab in Environmental Science	3 sections/20 students
2018-2021	UAB	BY 109	Lab in Environmental Science	3 sections/20 students
2017-2018	UNCW	BioL 425	Microbiology Lab	2 sections/24 students
2016-2017	UNCW	BioL 201	Principles of Biology: Cells Lab	2 sections/24 students

Invited Guest Lecturer:

- 2020 BY 460/560 - Advanced Invertebrate Zoology: “Coral Reefs: Forests of the Sea”, University of Alabama at Birmingham, Biology. Online lecture series covering sponge taxonomy, anatomy, and ecosystem function. Instructor of Record: Sabrina Heiser and Dr. James B. McClintock.
- 2019 BY 108 – Human Population and the Earth’s Environment: “Coral Reefs: Forests of the Sea”, University of Alabama at Birmingham, Biology. Lecture covered coral reef biodiversity and impacts of climate change on future of coral reefs. Instructor of Record: Leslie Hendon.
- 2019 BY 474/674 - Chemical Ecology: “Predator Defense”, University of Alabama at Birmingham, Biology. Lecture covered the different metabolic and structural adaptations predators use against prey defenses. Instructor of Record: Dr. Charles D. Amsler.

Professional Service and Outreach

- UAB Fall Research Expo 2022 - Judged in person undergraduate research symposium poster sessions for Biology and Life Sciences, Health Sciences and Health Profession, and Physical and Applied Sciences. Nov. 30th, 2022.
- UAB Summer Research Expo 2022 - Judged the online and in person undergraduate research symposium poster sessions for Biology and Life Sciences, Health Sciences and Health Profession, and Physical and Applied Sciences. July 29th, 2022.
- Biology Department Seminar Committee Student Representative – Helped organize weekly seminars with 3 department faculty members, duties include speaker selection, composing a speaker panel and hosting the graduate student seminars. Spring 2022 - Spring 2023.
- UAB Fall Research Expo 2021 - Judged the online undergraduate research symposium poster sessions for Biology and Life Sciences, Health Sciences and Health Profession, and Physical and Applied Sciences. Dec 3, 2021.
- UAB-CORD Central Alabama Regional Science and Engineering Fair – Judged the high school environmental science and earth science divisions. March 7, 2020.

- Girls in Science and Engineering Day (GSED) May and October 2019 - Taught Girls of Birmingham between the ages of 10 and 15 about Alabama biodiversity, tree identification and animal foraging through a program encouraging girls in Birmingham STEM. May 11, 2019 and October 26, 2019.
- Girls Inc. Summer Camp – Taught basic principles of atoms and chemical bonds via the creation of various slimes for 4 days one hour each, and then taught about bacteria and the multi-faceted complexity of one’s identity. Girls were minority dominated and between the ages of 6th - 11th grade. April – August 2019.
- UAB Spring Research Expo 2019 – Judged the undergraduate research symposium poster sessions for Biology and Uncompleted Projects. April 19, 2019.
- Presented at Science Olympiad – presented local Alabama animals and habitats for middle/high school Science Olympiad participants. Handled live animals, Co-Presenters: Leslie Hendon, Michelle Curtis, Sabrina Heiser, Christopher Taylor, Shelby Gantt, Rebecca Wilcox. February 2019.(Gantt et al. 2023)
- UAB-CORD Central Alabama Regional Science and Engineering Fair – Judged the high school environmental science and earth science divisions. March 2, 2019.
- Guest Panel: Chasing Coral – Viewed “Chasing Corals” with 8-12th grade students at Indian Springs School and some local community members, then participated in a 6-person panel of experts to answer and discuss questions/topics of interest from the documentary. March 2019.
- Biology Graduate Student Association – **Vice President** (2017-2018) and member (2016-2018) of the volunteer-based departmental SGA. Planned volunteering opportunities for members, coordinated BioGSA events, setup departmental seminar meetings, and BioGSA merchandise creation, orders, and sales.
- Science Olympiad Coach 2017 and 2018 – Trained 6th and 7th grade girls from the all-girl G.L.O.W academy in the topic of “Ecology”, “Invasive Species” and “Disease Detectives” for the March 4, 2017 and March 10, 2018 Science Olympiad Competitions. Met one hour a week from October-March each year.
- Center for Marine Science Open House 2017 – A volunteer-based event to educate locals of New Hanover County, NC on the research being done at the UNCW campus. I volunteered to share research undertaken by the iMESA lab. September 23, 2017.
- MarineQuest Biotechnology Camp – Paid to plan, lead, and teach a three-day camp on biomolecular and genetic analysis of invasive ascidians for 16–17-year-old students. Students processed *Styela plicata* samples from collection/dissection to genetic barcoding/species identification. July 10th-14th, 2017.
- Biology and Marine Biology TA Bootcamp 2017 –Paid to plan and run a 3-hour seminar on teaching techniques for graduate student teaching assistants. August 15, 2017.

Certifications

Teaching: Teaching and Learning Associate Certificate (CIRTL)

SCUBA: Nitrox and AAUS

References

Dr. Dustin W. Kemp

University of Alabama at Birmingham
Department of Biology
Birmingham, AL 35233
E-mail: dwk@uab.edu
Phone: +1 (205) 934 -1426

Dr. Patrick Erwin

University of North Carolina, Wilmington
Department of Biology and Marine Biology
Wilmington, NC 28403
E-mail: erwinp@uncw.edu
Phone: +1 (910) 962-2326

Dr. Susanna López-Legentil

University of North Carolina, Wilmington
Department of Biology and Marine Biology
Wilmington, NC 28403
E-mail: lopezlegentils@uncw.edu
Phone: +1 (910) 962-2615

Dr. Frank Stewart

Montana State University
Department of Microbiology and Immunology
Bozeman, MT 59717
E-mail: frank.stewart@montana.edu
Phone: +1 (406) 994-223