

# Marlee Hayes-Mims

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## Education

2018	<b>M.S.</b>	Biology, The University of Alabama at Birmingham, Birmingham, AL
2016	<b>B.S.</b>	Biology, <i>cum laude</i> , The University of Alabama at Birmingham, Birmingham, AL Concentrations: Marine Science & Molecular Genetics Minors: Environmental Science & Chemistry.

## Professional Experience

**Biological Laboratory Technician.** November 2020-present. Gulf Coast Seafood Laboratory (GCSL), Chemical Hazards Science Branch, U.S. Food and Drug Administration (FDA), Center for Food Safety and Applied Nutrition (CFSAN), Dauphin Island, AL.

Researching decomposition associated bacteria, including histamine producing bacteria, in shrimp, red snapper, mahi-mahi, yellowfin tuna, and Spanish mackerel with aims of improving methods of detections for spoilage in seafood products at refrigeration temperatures. Developing and optimizing a real-time PCR assay for a novel gene associated with histamine production. Researched histamine producing bacteria (HPB) proliferation and histamine production in fish tissue at various storage temperatures in relation to Scombrotoxin fish poisoning. Assisted with projects including identification and characterization of a novel HDC gene, evaluation of spatial distribution of HPB on Spanish mackerel tissues, isolation and identification of HPB in water and fish tissue samples.

**ORISE Research Fellow.** January 2018-November 2020.

Gulf Coast Seafood Laboratory (GCSL), Microbial Hazards Science Branch, U.S. Food and Drug Administration (FDA), Center for Food Safety and Applied Nutrition (CFSAN), Dauphin Island, AL. Contracted through Oak Ridge Institute for Science and Education (ORISE).

Researching decomposition associated bacteria, including histamine producing bacteria, in shrimp, red snapper, mahi-mahi, yellowfin tuna, and Spanish mackerel with aims of improving methods of detections for spoilage in seafood products at refrigeration temperatures. Developing and optimizing a real-time PCR assay for a novel gene associated with histamine production. Researched histamine producing bacteria (HPB) proliferation and histamine production in fish tissue at various storage temperatures in relation to Scombrotoxin fish poisoning. Assisted with projects including identification and characterization of a novel HDC gene, evaluation of spatial distribution of HPB on Spanish mackerel tissues, isolation and identification of HPB in water and fish tissue samples.

**Graduate Laboratory Research Assistant.** August 2014-January 2018. Dr. Stephen Watts. Department of Biology, UAB.

Studied the effects of volume, macronutrient levels and macronutrient sources on feed intake and satiety in the sea urchin *Lyttechinus variegatus*. Led field-based sampling and collection of *Lyttechinus variegatus* in the Gulf of Mexico. Assisted with various projects using the sea urchin *Lyttechinus variegatus* as a model to study physiology, growth and reproductive outcomes in response to nutrition. Assisted with projects involving zebrafish husbandry, rotifer culture maintenance and algal cultures.

**Fish Colony Manager.** October 2015- January 2017. Dr. Stephen Watts' Laboratory, Department of Biology, UAB.

Responsibilities included: *Notobranchius furzeri* MZM and GRZ strain colony management; breeding and egg collection, egg and fry care, system husbandry and training new employees.

**Data Management Assistant.** November 2014- April 2015; intermittent basis. UAB Sustainability.

Responsibilities included: compiling data for analysis in urban horticulture (green roofs) project and compiling precipitation, air temperature, soil temperature, soil moisture and other data from 2009-2012 in Birmingham area, and displaying data graphically for publication purposes.

**Laboratory Assistant, Level 3 Technician.** December 2013-July 2015. UAB, Animal Resources Program, Research Support Building.

Responsibilities included: daily care of zebrafish, setting up polyculture for larval fish, rotifer culture maintenance, water chemistry and filtration maintenance and training new employees.

**Undergraduate Field Research Coordinator.** May 2014-August 2014. Dr. Thane Wibbels. Department of Biology, UAB. Worked with the Diamondback Terrapin Conservation Program to organize collection of gravid terrapins *Malaclemys terrapin* and release of tagged terrapins at Cedar Point Marsh, Dauphin Island, Alabama.

**Undergraduate Laboratory Research Assistant.** April 2014-May 2014. Dr. Stephen Watts. Department of Biology, UAB. Studied dietary concentrations of nutrients in the sea urchin *Lytechinus variegatus*. Assisted with various projects including husbandry, aquaculture, nutritional geometry and macronutrient requirements in the sea urchin.

**Laboratory Assistant.** July 2013- May 2014. Department of Biology, UAB. Responsibilities included: preparing the Introductory Biology I, Introductory Biology II, and Microbiology laboratories for sessions and preparing any needed materials/media for upcoming terms including agar media and bacterial cultures.

**Undergraduate Laboratory Research Assistant.** January 2013-May 2014. Honors Research. Dr. Thane Wibbels, Department of Biology, UAB. Studied fitness of hatchlings relative to incubation temperature, sex and clutch in the diamondback terrapin, *Malaclemys terrapin*.

**Intern.** February 2013- May 2013. Birmingham Botanical Gardens; Friends of the Gardens (Non-profit). Responsibilities included: involvement in various departments to gain understanding about the components of running a non-profit organization, creating a database mapping the tribute gifts in the Gardens using GPS, aiding with membership recruitment, observation in the propagation lab and assisting with plant and ground maintenance.

**Undergraduate Laboratory Research Assistant.** January 2013-May 2014. Dr. Thane Wibbels, Department of Biology, UAB. Assisted with various aspects of projects related the diamondback terrapin *Malaclemys terrapin*, such as, husbandry, growth rates, egg care, kidney histology and evaluating carapace morphology as a potential sexing method.

## Peer Reviewed Publications & Thesis

1. Bjornsdottir-Butler, K., S. May, **M. Hayes**, A. Abraham, R.A. Benner. 2019. Characterization of a novel enzyme from *Photobacterium phosphoreum* with histidine decarboxylase activity. International Journal of Food Microbiology. 334:108815.
2. **Hayes-Mims, M.**, K.L. Baltzer, J. Nash, R.A. Benner, K. Bjornsdottir-Butler. 2022. Histamine Production by *Photobacterium* spp. in Tuna and Mahi-mahi under Various Storage Temperatures. In preparation for Journal of Food Protection. DSST Internal Review.
3. Frith, A., **M. Hayes-Mims**, R. Carmichael, K. Bjornsdottir-Butler. 2022. Effect of Environmental and Water Quality Variables on Histamine-Producing Bacteria Concentration and Species. Accepted by Microbiology Spectrum.
4. **Hayes, M.** Evaluation of the Factors Influencing Feed Intake and Satiety of the Variegated Sea Urchin, *Lytechinus variegatus*. 2018. MS Thesis, The University of Alabama at Birmingham, ProQuest Dissertations Publishing, 2018. 10790541.

## Published Abstracts, Articles, & Presentations

1. **K. Bjornsdottir-Butler, Hayes, M., S. May, M.D. McCough, and R.A. Benner.** Dynamic Changes in Bacterial Communities during Seafood Decomposition at Low Temperature. Oral presentation at IAFP Virtual Annual Meeting. 2021.

2. **Hayes, M., K. Lydon, S. May, M.D. McCough, R.A. Benner, and K. Bjornsdottir-Butler.** Bacterial Communities Associated with Shrimp Decomposition During Storage at 0 and 36°C, Poster presentation at IAFP Virtual Annual Meeting, 2020.
3. **Hayes, M., K.L. Baltzer, J. Nash, R.A. Benner, and K. Bjornsdottir-Butler.** Histamine Production by *Photobacterium* in Tuna and Mahi-mahi Tissue at 4°C, 10°C and 20°C, Poster presentation at IAFP Annual Meeting, 2019.
4. **Bjornsdottir-Butler, K., S. May, M. Hayes, A. Abraham, and R.A. Benner.** Characterization of a Novel Enzyme from *Photobacterium phosphoreum* with Histidine Decarboxylase Activity, Oral presentation at IAFP Annual Meeting, 2019.
5. **Lydon, K.A., M. Hayes, R.A. Benner, K. Bjornsdottir-Butler.** Changes in Shrimp Microbiome During Low Temperature Decomposition, Poster presentation at ASM Annual Meeting, 2019.
6. **Bjornsdottir-Butler, K., M. Hayes, K.L. Baltzer, J. Nash, and R.A. Benner.** Growth and Histamine Production of *Photobacterium* Species at Refrigeration Temperatures. Poster presentation at The International Association of Food Protection Annual Meeting, 2018.
7. **Bjornsdottir-Butler, K., M. Hayes, S.A. McCarthy, and R.A. Benner.** Characterization and Control of Histamine-Producing *Erwinia* and *Pluralibacter* spp. in Tuna Salad. Poster presentation at The International Association of Food Protection Annual Meeting, 2018.
8. **Hayes, M., McCafferty, B., Heflin, L.E., Lawrence, J. M., Raubenheimer, D., and Watts, S.A.** Variations in Patterns of Feed Intake in a Sea Urchin. Oral Presentation at Alabama Academy of Science Annual Meeting, 2018.
9. **Clanton, J., McCafferty, B., Hayes, M., Yuan, Y., and Watts, S.A.** Factors Directing Feed Intake and Satiety in the Sea Urchin Model, *Lytechinus variegatus*. Oral Presentation at Alabama Academy of Science Annual Meeting, 2018.
10. **Hayes M.** Mobile Bay Kayak Fishing Association Articles, 2017.
  - Natural History Notes of the Redfish (*Sciaenops ocellatus*)—Popular Inshore Catch.
  - The Marriage of the Fishermen & the Scientist—Bridging the Gap with Citizen Science.
  - Natural History Notes of the Southern Flounder (*Paralichthys lethostigma*)—Elusive Inshore Catch.
11. **Hayes, M., McCafferty, B., Heflin, L.E., Lawrence, J.M., Raubenheimer, D., and Watts, S.A.** Evaluating Feed Intake and Satiation in the Sea Urchin *lytechinus variegatus*. Oral presentation at the 8<sup>th</sup> North American Echinoderm Conference, 2017.
12. **Hayes, M., McCafferty, B., Heflin, L.E., Lawrence, J. M., Raubenheimer, D., and Watts, S.A.** The Evolution of Satiety: Studies in an Ancestral Deuterostome, the Sea Urchin. Poster Presentation at Experimental Biology: American Society of Nutrition, 2017.
13. **McCafferty, B., Hayes, M., Yuan, Y., and Watts, S.A.** Making Decisions Without a Complex Brain: Dietary Protein Targeting in the Sea Urchin *Lytechinus variegatus*. Poster Presentation at UAB Honors Research Expo, 2017.
14. **Hayes, M., Aida, V.** Mechanisms to Improve a Growing Community Service Committee: Quantifying Student Involvement and Student Values Towards Service. Oral Presentation at National Association of Graduate and Professional Students Southeast Regional Conference, 2017.
15. **Hayes, M.** Like Turtles, Terrapin Research Moves a Little Slow. *The Molecular Ecologist*, 2017.
16. **Hayes, M., McCafferty, B., Heflin, L.E., Lawrence, J. M., Raubenheimer, D., and Watts, S.A.** Factors Directing Feed Intake and Satiety in the Sea Urchin Model, *Lytechinus variegatus*. Poster Presentation at Alabama Academy of Science Annual Meeting, 2017.
17. **Hayes, M., Heflin, L.E., Lawrence, J. M., Powell, M.L., Raubenheimer, D., and Watts, S.A.** Nutrient Density Influences Satiety in the Sea Urchin, *Lytechinus variegatus*. Oral Presentation at Alabama Academy of Science Annual Meeting, 2016.
18. **Hayes, M., Heflin, L.E., Lawrence, J. M., and Watts, S.A.** Feed Intake and Satiety in the Sea Urchin *Lytechinus variegatus*. Oral Presentation at World Aquaculture Society Triennial/International Meeting, 2016.
19. **Dolin, T.L., Hayes, M., Roberge, T., Coleman, A., \*Wibbels, T., and Marion, K.** Evaluation of Maternal Investment in Offspring of the Diamondback Terrapin (*Malaclemys terrapin pileata*): Egg size and Growth. Poster Presentation at 7<sup>th</sup> Symposium on the Ecology, Status, and Conservation of the Diamondback Terrapin. 2016
20. **Hayes, M., Dolin, T.L., Thundena, P., Roberge, T., Marion, K., and Wibbels, T.** Evaluation of Post-Hatchling Fitness Relative to Incubation Temperature, Sex, and Clutch in the Diamondback Terrapin, *Malaclemys terrapin*. Poster Presentation at 34<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation, 2014.
21. **\*Dolin, T.L., Hayes, M., Thundena, P., Reynolds, J., Petrov, S.V., Roberge, T., and Wibbels, T.** Evaluation of Carapace Morphology as a potential sexing method for hatchling and post hatchling Diamondback Terrapin (*Malaclemys terrapin*). Poster Presentation at 34<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation, 2014.

22. **Hayes, M., Dolin, T.L., Thundena, P., Roberge, T., Marion, K., and Wibbels, T.** Fitness of Post-Hatchlings Relative to Incubation Temperature, Sex, and Clutch in the Diamondback Terrapin, *Malaclemys terrapin*. Poster Presentation at Alabama Academy of Science Annual Meeting, 2014.
23. **Hayes, M., Dolin, T.L., Thundena, P., Roberge, T., Marion, K., and Wibbels, T.** Evaluation of Post-Hatchling Fitness Relative to Incubation Temperature, Sex, and Clutch in the Diamondback Terrapin, *Malaclemys terrapin*. Poster Presentation at UAB Honors Research Expo, 2014.
24. **Thundena, P., Roberge, T., Hayes, M., Dolin, T.L., and Wibbels, T.** Development of Secondary Sexual Characteristics in Juvenile Diamondback Terrapins, *Malaclemys terrapin*: Evaluation of Sexing Technique. Poster Presentation at UAB Honors Research Expo, 2014.

## **Additional Education, Certifications & Specialized Training**

FDA Principal Investigator (PI) Leadership Training Program. Virtual. On Demand.

FDA Project Management for Principal Investigators. Jan 31, 2023

Getting Published: Submitters, and Reviewers. Jan 31, 2023.

Navigating Collaborations. Feb 6, 2023.

Scientific Presentations. Feb 6, 2023

Setting Expectations, Delegating. Feb 7, 2023.

Staffing and Managing the Lab. Feb 7, 2023.

Scientist Center for Animal Welfare (SCAW) Virtual Basic IACUC Training. On Demand.

IACUC Fundamentals for Justifying the Use of Animals in Research. Feb 1, 2023

Training - Enhancing the Basic Requirements. Feb 1, 2023

To Report or Not to Report: That is the Question. Feb 2, 2023

Are You Up to Date with APHIS, OLAW and AAALAC International? Q & A for You and Me. Feb 3, 2023.

Scientist Center for Animal Welfare (SCAW) Virtual IACUC Training Webinar. Mar 31, 2023. 2.5 hr CEUs

Averting an IACUC Crisis of Confidence: Things You Can Take to the Bank.

Seven Key Characteristics of an Effective IACUC.

Rules of the Road on the Way to Semiannual Inspections and Program Review.

Managing a Noncompliance or an Adverse Event Part 2.

OLAW Update.

Updates for USDA.

AAALAC International Update, Spring 2023.

The Use of Performance Standards in the AAALAC Accreditation Process. Allentown. Virtual. Mar 30, 2023. 1 hr CE

Why IACUCs Are Not – And Should Not Be Allowed To Become – Ethics Committees. National Association for Biomedical Research. Apr 25, 2023.

Comprehensive Training in Infectious Disease Applications of Next Generation Sequencing Webinar Series. American Society of Microbiology.

Review of Pathogen Genomics- Part I. On demand. Mar 2, 2023. 1 hr CEC

Review of Pathogen Genomics-Part II. Virtual. Mar 2, 2023. 1 hr CEC

Specifics of Eukaryotic Genomics. Virtual. Mar 23, 2023, 1 hr CEC

The Evolution of NGS Technologies - Part 1. Mar 30, 2023. 1 hr CEC

FDAOC Ethical Writing: Issues in Scientific Publication. HHS Webinar. Feb 16, 2023.

Developing a Competency-Based Individual Development Plan (IDP) Workshop. HHS Virtual. Feb 28, 2023.

Getting Things Done (GTD). HHS Virtual. Mar 20-23, 2023.

Crucial Conversations for Mastering Dialogue. HHS Virtual. Apr 18-20, 25-26, 2023.

Platform for Science- FDA End User Training. ThermoFisher, May 1-5, 2023.

FDA's Dataforward Initiative Training:

Data Science 101. Virtual. Sept 2021.

Leveling Up Your Data Visualizations. Proven Techniques for Communication Data. Jul 2022.

Science Communication in Visual Medium: Quick strategies, rules, and tips to create better and more effective visual scientific presentations. USAS Webinar. Jul 2022.

CFSAN Basic Food and Drug Law Course Oct 2021.

CFSAN Staff College:

Leading without Authority: How to Persuade, Motivate, and Influence. Virtual. Apr 2021.

Developing a Professional Presence. Virtual. May 2021.

Emotional Intelligence: The New Science of Success. Dec 1, 2022.

FDA University (FDAU):

Developing Your Resilience Action Plan. Virtual. via Telework Thrive. Mar 10, 2021.

Understanding Emotional Intelligence. Virtual. via Telework Thrive. Mar 24, 2021.

Plain Language. Virtual. Apr 8, 2021.

Technical Writing. Virtual. Apr 20, 2021.

InsideOut Breakthroughs. May 22, 2021.

Foundation for Advanced Education in the Sciences @ National Institutes of Health: (Total 13.5 CEUs)

R for True BeginRs (BIOF 043). Virtual. Sept 2020.

Introduction to R Bootcamp (BIOF017). Virtual. Feb 2021.

Visualizations with R (BIOF076). Virtual. Mar 2021.

Practical Scientific Statistics (BIOF097). Virtual. May 2021.

Introduction to Statical Analysis in R (BIOF098). Virtual. June 2021.

Intermediate R Bootcamp (BIOF018). July 2021.

Introduction to Bioinformatics (BIOF082). Sept 2022.

2022 Introduction to GalaxyTrakr Training. Virtual. Oct 14th, 2022.

Coursera:

Introduction to Algae. By University of California San Diego. Virtual. Feb 2021.

Epidemiology: The Basics Science of Public Health. Virtual. Aug 20, 2021.

Chemicals and Health. By Johns Hopkins University. Virtual. Sept 2021.

Food and Agriculture Organizations of the United Nations (FAO) elearning Academy:

Monitoring and Preventing Ciguatera Poisoning. Sept 2021.

Illumina Training:

MiSeq Systems Training. Presentation/lab training with Illumina Technician. GCSL. Aug 17-18, 2022.

On demand webinars:

Sequencing Fundamentals. Jul 20, 2022.

Sequencing: Introduction to Sequencing by Synthesis (SBS). Jul 20, 2022.

Illumina DNA Prep Library Preparation. Jul 20, 2022.

How to Start a Run. Jul 20, 2022.

Sequencing: Illumina Technology. Jul 21, 2022.

Amplicon Sequencing: Introduction. Jul 21, 2022.

BaseSpace Sequencing Hub: Introduction and Analysis Overview. Aug 17, 2022.

Collaborative Institutional Training Initiative (CITI Program):

Group 1: Principal Investigators, Lead Scientists, ASP Writers

Group 2: Animal Handlers (Fellows, Students, Researchers)

Group 4: IACUC Members

IACUC Protocol Review

NCTR - IACUC Chairs, Members and Coordinators

NCTR - Investigators, Staff and Students

White Oak Working with Fish in Research Settings

Managing Data Seminar. Hosted by UAB Center for Clinical and Translational Science (CCTS), Nov 2017.

Lay Responder CPR/AED/First Aid Training (Adult, Child, & Infant). Nov 2017.

CIRTL Service-Learning Workshop. Biology Department at UAB. Jul 2017.

Principles of Scientific Integrity Course. Graduate School at UAB. May-Aug 2017.

R Statistical Training Workshop. Department of Biology. UAB. Jun 2017.

Practitioner Certificate Center for the Integration of Research, Teaching, and Learning (CIRTL) at UAB. 2017.

Study Abroad. Gerace Research Laboratory, San Salvador, Bahamas. May 2016. Tropical Ecology (BY 567) of the Bahamas. 8-day field-based course (3 credit hours) with an emphasis on field work.

Associate Certificate. Center for the Integration of Research, Teaching, and Learning (CIRTL) at UAB. 2016.

Scientific Communication Course. Department of Biology at UAB. Aug-Dec 2016.

Grants and Fellowships 101 Workshop. The Graduate School at UAB. Sept 2016.

Science Policy Seminar. Science Careers Exploration Series. The Graduate School at UAB. Jul 2016.

Accelerate Your Dissertation Workshop. The Graduate School at UAB. Jul 2016.

Science Communications Seminar. Science Careers Exploration Series. The Graduate School at UAB. Jul 2016.

Annual Career Development Workshop. UAB Graduate Career Awareness and Trends (GCAT) Apr 2016.

Overview of Statistical Power Seminar, Professional Skills Development Series. Hosted by UAB Center for Clinical and Translational Science (CCTS). Nov 2015.  
 Fall Leadership Conference. UAB. 2015.  
 Designing your First Aquatic Lab: An Overview for New Principal Investigator Seminar. Presented by Aquaneering. UAB. 2015.  
 Field Experience. Dauphin Island Sea Laboratory, Dauphin Island, AL. May 2015; May 2014-Aug 2014. 18 credit hours of specialized marine environmental science courses with an emphasis on field work.  
 My Individual Development Plan Workshop. UAB. 2014.  
 Leadership Training Day with the National Society of Leadership and Success. UAB. 2013.  
 Class V Vessel License. Alabama Boating Basic Course. State of Alabama Department of Conservation and Natural Resources. 2007.

## **Professional Membership**

International Association of Food Protection. 2019- present.  
 American Society of Microbiology. 2020.  
 World Aquaculture Society, U.S. Chapter Member. 2016-2017, 2020.  
 National Alumni Society- UAB. 2016, 2018-2019.  
 Alabama Academy of Science. 2014-2017.  
 Coastal Conservation Association—Birmingham Chapter. 2014-2017.  
 American Society of Nutrition. 2017.  
 Alabama Paleontology Society. 2016-2017

## **Other Professional Activities**

CFSAN IACUC Committee Chair. 2022-2023  
 Alternative CFSAN Representative of the Animal Welfare Council. 2023  
 Editorial Board Member Journal of Food Protection. 2023.  
 Member of IAFP Seafood Safety and Quality Professional Development Group. 2021, 2022.  
 Co-convended “Spoiled Seafood? Advancements in Detecting Decomposition” session at IAFP. 2022.  
 CFSAN Microcystins Work Group. 2021, 2022  
 Volunteered for group project to plan a virtual tour experience of GCSL for “Research Experience for Undergraduates” program for Dauphin Island Sea Laboratory.

Attended:

Bays and Bayous. Mobile, AL. Jan 24-25, 2023.  
 Annual Genome Trakr Meeting. Virtual. Oct 19-20, 2022.  
 FDA’s 2022 Foods Program Regulatory Science Conference. Virtual Sept 27-28, 2022.  
 FDA’s 10th Annual Scientific Computing Days. Sept 7-8, 2022.  
 International Association of Food Protection Annual Meeting. Pittsburg, PA. July 31-Aug 4, 2022.  
 Institute for Food Safety and Health (IFSH) High-Throughput Sequencing (HTS) Symposium. May 2022.  
 Occurrence and Effects of Harmful Algae Blooms in Fish and Shellfish Webinar. US EPA. Mar 2022.  
 The 2<sup>nd</sup> Annual Harmful Algal Bloom Research Virtual Symposium. Jan 2022.  
 Institute for Food Safety and Health (IFSH). Institute of Technology. Virtual Annual Meeting. Sept 2021.  
 9<sup>th</sup> Annual FDA Scientific Computing Days. Virtual Meeting. Sept 2021.  
 ACS/FDA Colloquium -- Micro and Nanoplastics in Food: The What, Where, and Why. Virtual. Oct 2021.  
 National Nanotechnology Day - FDA Nanotechnology Task Force Virtual Symposium. Oct 2021.  
 Alabama Mississippi Bays and Bayous Symposium. Virtual. Dec 2020.  
 American Society of Microbiology. Virtual Conference. Jul 2020.  
 Aquaculture America 2020. Feb 2020.

## **Academic Teaching Experience**

*Guest Lecturer.*

1. Invertebrate Zoology, University of Alabama at Birmingham. Why Do Animals Eat What They Eat? Evaluating Feed Intake and Satiety in the Sea Urchin. Nov 2017.
2. Ecology Laboratory, University of Alabama at Birmingham. Biodiversity of Alabama. Oct 2016.
3. Marine Conservation Biology, Dauphin Island Sea Laboratory. The Diamondback Terrapin Conservation Project at Cedar Point Marsh. Jun 2014.

**Graduate Teaching Assistant.** Department of Biology, UAB. Introductory Biology I Lecture & I/II Laboratory. Aug 2016-Dec 2017.

**Supplemental Instruction (SI) Leader.** UAB Cell Biology/ Introductory Biology I. Jun 2015-Aug 2016.

**Student Athlete Tutor.** Academic Athletic Department, UAB. Mathematics, Biological Sciences, Physical Sciences and Environmental Sciences, & English Composition. Aug 2015-May 2016.

**Undergraduate Teaching Assistant.** Department of Biology, UAB. Lab in Natural History of Vertebrates & Lab in Environmental Science, May 2013- Dec 2013; Aug 2015-Dec 2015.

**Independent Mathematics Tutor.** Jefferson State Community College. 2012.

## Mentoring Experience

### University of Alabama at Birmingham. 2015-2017.

1. Ben McCafferty. BS. Feed intake and protein preferences in the sea urchin, *Lytechinus variegatus*. Poster presentation at UAB Research EXPO.
2. Sophie Bru. Post-BS. Tea leaves as an alternate food source in the sea urchin, *Lytechinus variegatus*.
3. Jacksyn Clayton. MS. Lipid preferences in the sea urchin, *Lytechinus variegatus*.

### Birmingham Southern College. 2017.

4. Undergraduate Researchers. 2017. Dr. Katie Gibbs' Laboratory.

## Scholarships, Awards & Honors

Master Student of Year Award. Department of Biology, UAB. Apr 2018.

Nominated for the Excellence in Service Award. 2017 UAB Student Excellence Awards. Mar 2017.

2<sup>nd</sup> Place Poster Presentation at Alabama Academy of Science Conference in Biological Sciences Session. Feb 2017.

Center for the Integration of Research, Teaching, and Learning Tuition Scholarship. UAB. Jan 2017, Apr 2016.

Outstanding Community Service Project of the Year, Student Excellence Awards, the Marine and Field Biology Club. Apr 2016.

5<sup>th</sup> Year Masters Scholarship in the Department of Biology. UAB. Sep 2015.

Steve Foster Book Award. UAB National Alumni Society. Jun 2015.

Excellence in Civic Service Award. Presented by the Graduate Student Government. May 2015.

Ken R. Marion Biology Career Award. Department of Biology. UAB. Mar 2015.

Presidential Honors. UAB. Summer 2014.

Coastal Conservation Association Birmingham Chapter Scholarship. May 2014.

Ken R. Marion Ecology/Environmental Science Career Award. Department of Biology. UAB. May 2014.

1<sup>st</sup> Place Poster Presentation at the UAB EXPO in Biological Sciences Session. Apr 2014.

Phi Theta Kappa Scholarship, UAB. 2013-2014; 2012-2013.

National Engaged Leader Award, National Society of Leadership and Success. 2013.

Honorary Member Award, National Society of Leadership and Success. 2013.

American Association of University Women Scholarship. 2012-2013.

Outstanding Student in Biology, JSCC. 2012.

Phi Theta Kappa, Beta Lambda Delta Chapter Placed 2<sup>nd</sup> at International Competition (member). JSCC. Apr 2012.

Phi Theta Kappa, Beta Lambda Delta Chapter won Continued Excellence Award at Regional (member). JSCC. Mar 2012.

President's List. JSCC. Fall 2011; Spring 2011.

Dean's List. JSCC. Fall 2010.

Full Academic Scholarship. JSCC. 2010-2012.

Sam Walton Scholarship. 2010.

School Level Winner. Harper Lee *To Kill a Mockingbird* Essay Contest. The University of Alabama Honors College. 2010.

## Grants

North American Echinoderm Conference Travel Scholarship. Jul 2017.  
 Biology Department Travel Grant, UAB. Jul 2017, Apr 2017, Feb 2016 & Apr 2014.  
 Phi Sigma, Biological Sciences Honor Society, Travel Grant. Apr 2017, Feb 2017, & Feb 2016  
 Graduate Student Government Travel Grant, UAB. Ap 2017 & Feb 2016.  
 Alabama Academy of Science Travel Grant. Feb 2017, Feb 2016, & Mar 2014  
 Alabama Academy of Science Research Grant. Feb 2016 & Mar 2015.  
 Recirculating Aquaculture System "Yellow Book" Undergraduate Student Travel Grant. World Aquaculture Society. Feb 2016.  
 Undergraduate Student Government Association Travel Grant, UAB. Apr 2014.

## **Academic Service, Honor Organization, & Extracurricular Involvement**

Vice President, Club Volleyball. UAB. 2017.  
 Captain, Intramural Volleyball Team. UAB. 2017.  
 Graduate Student Government. UAB. Biology Department Senator. 2015-2017.  
     Representative on the University Wide (Operations) Sustainability Committee. 2016-2017.  
     Co-chair of the Planning and Coordination Working Group (Strategic Planning Sub Group).  
     Community Service Committee Active Member. 2014-2017.  
     Committee Chair 2016-2017.  
     Communications and Marketing Committee. 2016-2017, Elections Committee. Spring 2016.  
     New Student Orientation Committee. 2015-2016, Professional Development and Leadership Committee. 2015-2016.  
 Marine and Field Biology Club. UAB. 2013-2017.  
     President. 2015-2016, Vice President. 2013-2015.  
 Phi Sigma Biological Honors Society, Gamma Theta Chapter. UAB. 2014-2017.  
     President. 2015-2016, Vice President. 2014-2015, Secretary. 2014.  
 Habitat Club (formerly Habitat for Humanity). UAB. 2014-2015.  
 Genetics Club. UAB. 2014.  
 Biology Honors Program. UAB. 2013-2014.  
 National Society of Leadership and Success, Sigma Alpha Pi. UAB. 2013-2015.  
     Fundraising Committee Chair, Success Networking Team Leader. 2013-2014.  
     Relay for Life Team, 3<sup>rd</sup> highest personally raised amount. 2013.  
 Delta Epsilon Iota Academic Honor Society. UAB. 2013-2015.  
 Golden Key Honor Society. 2013-2015.  
 Senator, Student Government Association. JSCC. 2012.  
 Phi Theta Kappa Honors Society, Beta Lambda Delta Chapter. JSCC 2012.  
 Vice President, Chief Editor of the Sigma Kappa Delta Newsletter, Sigma Kappa Delta Honors Society. JSCC. 2012.



## Community Service & Educational Outreach

### **Project Organizer/Team Leader**

Birmingham Botanical Gardens Workday. Mountain Brooke, AL. Aug 2017.  
 Moss Rock Workday. Hoover, AL. Jun 2017.  
 Guatemala Shoebox Project. Friends of the Children. Dec 2016.  
 Lake Purdy Clean Up. Birmingham, AL. Oct 2016.  
 Cedar Point Marsh Clean Up. Dauphin Island, AL. Mar 2016; Apr 2015.  
 Into the Woods Trail Clean Up. Bankhead National Forest, AL. Oct 2015.  
 Perdido Bay site at the 28<sup>th</sup> Alabama Coastal Clean Up. Sep 2015.  
 Holiday Canned Food Drive. Mar 2015.  
 UAB Into the Streets Service Project (site leader). Birmingham, AL. Nov 2013; Oct 2014.  
 Coastal Clean Up. Gulf Shores, AL. Apr 2014.  
 Hikes for Tykes. Birmingham Botanical Gardens. Feb 2013- May 2013.  
 Relay for Life at UAB. National Society of Leadership and Success. Apr 2013.  
 Camp Session Leader at the Walsh Academy for Leadership. Montevallo, AL. Jul 2012.  
 Journaling Program at Jessie's Place, Woman's' Shelter. Jun 2012-Jul 2012.  
 Blood Drive at JSCC. Clanton, AL. Mar 2012.

### **Presenter/Speaker**

Panel Speaker for Preparing for Graduate School Presentation for the Marine and Field Biology Club. Oct. 2017.  
 Workshop for DNA Extraction and Animals in Alabama. 6th annual UAB Girls in Science and Engineering Day (GSED). UAB Birmingham, AL. May 2017; May 2016; May 2015.  
 DNA Lecture and Activity. 5th -8th Graders. Lovelady Shelter. Birmingham, AL. Dec 2016.  
 Alabama Animals Demonstration.  
     Leeds Elementary School. Leeds, AL. Oct 2016.  
     KinderCare Summer Program. Hoover AL. May 2016.  
     Avondale Library for After School Program. Birmingham, AL. Mar 2016.  
     Science Olympiad. UAB. Feb 2016.  
 Student Panel  
     UAB Healthcare Day- College of Arts and Sciences Academic Session. Apr 2016.  
     UAB Transfer Day- College of Arts and Sciences Academic Session. Feb 2016; Feb 2014.  
     UAB Day- College of Arts and Sciences Academic Session. Sep 2015; Mar 2014.  
     Freshman Year Experience Course. Oct 2013.  
 Salamander Festival. Homewood Park, AL. Jan 2016.  
 Biology Department Representative. Earth Day Festival. UAB. Apr 2014.

### **Academic Judging**

Oral Presentations. Alabama Junior Academy of Science Scholarship Competition. Feb 2017; Mar 2015.  
 UAB Math Tournament. 6th Grade Proctor. Birmingham, AL. November 2016.  
 Poster Presentation. Undergraduate Expo. UAB. Jun 2016; Dec 2015; Jul 2015.  
 Paper Judge for Gorgas Scholarship Competition 2015. Alabama Science Scholar Search. Jan 2015.

### **Volunteer**

Into the Streets Day of Service.  
     UAB Campus. Oct 2017.  
     Moss Rock- Hoover AL. Nov 2016.  
 Cedar Point Marsh Clean Up. Dauphin Island, AL. Mar 2017.  
 Habitat for Humanity Workday. Jefferson County, AL. Mar 2017; Feb 2015; Nov 2014.  
 Fairfield City Clean Up. Jan 2017.  
 Ronald McDonald House Charities Meal Preparation. Birmingham, AL. Dec 2016.  
 Into the Streets Day of Service  
     Moss Rock- Hoover AL. Nov 2016.  
 Jones Valley Teaching Farm. Birmingham AL. Oct 2016.  
 29<sup>th</sup> Alabama Coastal Clean Up. Dauphin Island, AL. Sep 2016.  
 Moss Rock Trail Maintenance. Birmingham, AL. Jun 2016.  
 Boo at the Zoo. Birmingham AL. Oct 2015.  
 Biology Departmental Picnic. UAB. Sep 2015.  
 Freshman Move in Day. UAB. Aug 2015.  
 Surveying Shark Anglers. Alabama Deep Sea Fishing Rodeo. Dauphin Island, AL. July 2015.  
 Habitat Club Fundraiser for Habitat. Feb 2015; Mar 2014.  
 Birmingham Botanical Gardens. Various Events. Oct 2012-Apr 2014.  
 34th Annual Symposium on Sea Turtle Biology and Conservation. Apr 2014.  
 Oyster Farm. Auburn Shellfish Laboratory. Point aux Pines, AL. Jul 2014.  
 Tree Planting at Crystal River Preserve, FL State Park. Jan 2014.  
 New Student Orientation. JSCC. Clanton, AL. Jan 2012.