# LAURA M. TREIBLE

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## CURRENT POSITION

**Postdoctoral Research Associate** (June 2020- *present*)
Skidaway Institute of Oceanography
Department of Marine Science, University of Georgia, Savannah, GA
Advisor: Dr. Adam Greer

## EDUCATION

**Ph.D. Marine Biology** (May 2018)
Department of Biology and Marine Biology
University of North Carolina Wilmington, Wilmington, NC
Dissertation: "Quantifying Environmental and Climate Drivers of Jellyfish Phenology"
Advisor: Dr. Jessie Jarvis

**M.S. Marine and Atmospheric Science** (May 2013)
Stony Brook University, School of Marine and Atmospheric Sciences, Stony Brook, NY
Thesis: "The Role of the Ctenophore *Mnemiopsis leidyi* in Nutrient Cycling in Long Island Sound, New York"
Advisor: Dr. Darcy Lonsdale

**B.S. Environmental Science** (February 2010)
University of Delaware, College of Earth, Ocean, and Environment, Newark, DE
Concentration: Marine Studies
Minors: Coastal and Marine Geoscience, Geography

## PREVIOUS RESEARCH, TEACHING, AND INDUSTRY POSITIONS

**Limited-Term Assistant Professor (2018 – 2020)**
Department of Biology
Georgia Southern University, Statesboro, GA
Position description: Instruction of 15 contact-hours per semester across the biology curriculum

**Consultant I (2017 – 2018)**
East Main Evaluation & Consulting, LLC
Wilmington, NC
Position description: Grant evaluation and organizational development with a focus on STEM disciplines; management of project goals, data organization and analysis, report writing and other communication of results; Project: CyVerse (previously *The iPlant Collaborative*) NSF grants DBI-0735191 and DBI-1265383

**National Science Foundation Research Fellow (2015)**
East Asia and Pacific Summer Institute (EAPSI)
Griffith University, Gold Coast Campus; Queensland, Australia
Project: "Determining the effects of a changing global climate on the early life stages of jellyfish"
Advisor: Dr. Kylie Pitt, Deputy Head of School (Research), Griffith School of Environment

**Laboratory Instructor (2013 – 2018)**
University of North Carolina Wilmington, Wilmington, NC
Position description: Instruction of laboratory sections of Concepts in Modern Biology (2013-2014) and Marine Biology (2014-2018)

**Research Assistant (2011 – 2013)**
NY Sea Grant, Stony Brook University; Stony Brook, NY
Project: "Influence of Gelatinous Zooplankton on Nutrient Cycles, Hypoxia, and Food Webs Across Long Island Sound"

**Research Assistant (2010 – 2011)**
NY Sea Grant, Stony Brook University; Stony Brook, NY
Project: "Impacts of Climate Change on the Export of the Spring Bloom in Long Island Sound"

**National Science Foundation REU Summer Research (2009)**
University of Delaware Marine Science Summer Intern Program; Lewes, DE
Project: "Impact of Wind on Non-Photochemical Dynamics in the Mid-Atlantic Coastal Ocean"

**Undergraduate Research Assistant (2009)**
University of Delaware; Newark, DE
Project: "A Field Study Determining the Growth of Invasive and Native Species of *Phragmites* in New Castle, DE"

## PUBLICATIONS

### Peer-Reviewed Manuscripts

5. Carroll, J.M., J.L. Kelly, **L.M. Treible**, and T. Bliss. (2021) Submarine groundwater discharge as a potential driver of eastern oyster, *Crassostrea virginica*, populations in Georgia. Mar. Environ. Res. 170

4. Greer, A.T., L.M. Chiaverano, **L.M. Treible**, C. Briseño-Avena, and F.J. Hernandez. (2021) Hypothesis generating machines: Discovery potential through imaging zooplankton ecological interactions. ICES J. Mar. Sci.

3. **Treible, L.M.** and R.H. Condon. (2019) Temperature-induced asexual reproduction and strobilation in three scyphozoan jellyfish polyps. J. Exp. Mar. Biol. and Ecol. 520

2. **Treible, L.M.**, K.A. Pitt, S.G. Klein, and R.H. Condon. (2018) Exposure to elevated $pCO_2$ does not exacerbate reproductive suppression of *Aurelia aurita* jellyfish polyps in low oxygen environments. Mar. Ecol. Prog. Ser. 591: 129–139

1. **Treible, L.M.**, D.J. Lonsdale, and C.J. Gobler. (2014) The Role of the Ctenophore *Mnemiopsis leidyi* in Nutrient Cycling in Long Island Sound, NY. Mar. Ecol. Prog. Ser. 510: 215-227

### Book Chapters and Other Contributions

**Treible, L.M.** "Do humans influence coastal jellyfish populations?" In: Human Impact: Our Relationship with Climate, the Environment, and Biodiversity (2019), S. Keyles (ed.) and K. Stone (ed.), ISBN-13: 978-1099273834

### Submitted Manuscripts

**Treible, L.M.**, L.M. Chiaverano, and A.T. Greer. Fine-scale Habitat Associations of Medusae and Ctenophores Along a Gradient of River Influence and Dissolved Oxygen. Estuarine, Coastal, and Shelf Science (*in review, submitted December 2021*)

**Treible, L.M.**, R.H. Condon, C.M. Duarte, C.H. Lucas, I.D. Haigh, F.M. Calafat, and K.A. Pitt. Solar magnetic activity mediates global multidecadal jellyfish cycles. (*in revision, to be resubmitted January 2022*)

**Manuscripts in Advanced Stages of Preparation (complete drafts available upon request)**

**Treible, L.M**. and L.E. Johnson*. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. (*to be submitted January 2022*)

** undergraduate co-author*

## FUNDED GRANTS

2015 National Science Foundation- East Asia and Pacific Summer Institute (PI) "Determining the effects of a changing global climate on the early life stages of jellyfish", *$5,000 stipend with additional travel and research support*

## SUBMITTED GRANTS

2021 L'Oréal Women in Science Postdoctoral Fellowship (PI) "Assessing impacts of dissolved oxygen on abundance and distribution of gelatinous zooplankton using deep learning for automated image classification", *$60,000*

2021 Georgia Sea Grant (co-PI) "Optimizing the 'jellyball' fishery: seasonal abundance, vertical distribution, and ecological impacts of cannonball jellyfish on the Georgia inner shelf", *$150,000*

2020 Georgia Department of Natural Resources Coastal Incentive Grant (co-PI) "Optimizing the 'jellyball' fishery: seasonal abundance, vertical distribution, and ecological impacts of cannonball jellyfish on the Georgia inner shelf", *$160,000*

2015 NOAA Dr. Nancy Foster Scholarship Program (PI) "Quantifying environmental and climate drivers of phenology in jellyfish populations", *$164,000*

## HONORS AND AWARDS

2022 UGA Postdoctoral Scholar Travel Program Award
2021 UGA Postdoctoral Association Professional Development Support Award
2020 Limnology and Oceanography Letters Early Career Publication Honor
2019 NSF Research Experience for Undergraduates (REU) mentorship, Georgia Southern Institute for Coastal Plain Science (ICPS)
2017-18 John Colucci, Jr. Memorial Endowed Scholarship, UNCW
2014-18 UNCW Graduate Assistantship
2017 UNCW 2017-2018 Graduate Travel Award
2017 CERF 2017 Biennial Conference Student Travel Grant
2017 UNCW 2016-2017 Graduate Travel Award,
2017 SEERS 2017 Spring Meeting Graduate Student Travel Award
2015 UNCW Dept. of Biology and Marine Biology Graduate TA of the Year
2013 New York Sea Grant Thesis Completion Award
2010-13 New York Sea Grant Fellowship
2010-13 Stony Brook University Full Graduate Tuition Scholarship
2006-10 University of Delaware Merit Scholarship

## SCIENTIFIC PRESENTATIONS

**Presentations at National and International Meetings**

2022 **Treible, L.M.**, Kepner, H.E.*, P.I. Duffy, L.M. Chiaverano, and A.T. Greer. Life stage-specific vertical habitat preference of pelagic tunicates in a stratified vs. well-mixed water column. ASLO 2022 Ocean Sciences Meeting, *accepted*

2021 **Treible, L.M.**, L.M. Chiaverano, and A.T. Greer. Distribution and habitat preference of large cnidarian medusae and ctenophores along a gradient of river discharge and dissolved oxygen. ASLO 2021 Aquatic Sciences Meeting, *virtual*

2019 **Treible, L.M**. and L.E. Johnson*. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Coastal and Estuarine Research Federation (CERF) 25th Biennial Conference, Mobile, AL

2017 **Treible, L.M**. and R.H. Condon. Jellyfish blooms in a warming ocean: Temperature-induced asexual reproduction in three scyphozoan jellyfish polyps. Coastal and Estuarine Research Federation (CERF) 24th Biennial Conference, Providence, RI

2017 **Treible, L.M**., K.A. Pitt, S.G. Klein, and R.H. Condon. Exposure to elevated $pCO_2$ does not exacerbate reproductive suppression of *Aurelia aurita* jellyfish polyps in low oxygen environments. Benthic Ecology Meeting Society (BEMS) 46th Annual Meeting and Southeastern Estuarine Research Society (SEERS) 2017 Spring Meeting, Myrtle Beach, SC

2013 **Treible, L.M.**, D.J. Lonsdale, and C.J. Gobler. The role of ctenophores in nutrient regeneration in Long Island Sound, NY. ASLO Aquatic Sciences Meeting, New Orleans, LA

2013 **Treible, L.M.**, D.J. Lonsdale, and C.J. Gobler. Nutrient Cycling by the Ctenophore *Mnemiopsis leidyi* in Long Island Sound. Long Island Sound Research Conference, Port Jefferson, NY

2013 **Treible, L.M.**, D.J. Lonsdale, and C.J. Gobler. The Role of the Ctenophore *Mnemiopsis leidyi* on Nutrient Regeneration in Long Island Sound. SoMAS Graduate Student Symposium, Stony Brook, NY

2010 **Treible, L.M.**, E.F. Geiger, M.D. Grossi, and M.J. Oliver. The Impact of Wind on Non-Photochemical Dynamics in the Mid-Atlantic Coastal Ocean. ASLO National Ocean Sciences Meeting, Portland, OR (*poster presentation*, undergraduate research)

**Invited Presentations**

2021 **Treible, L.M.** and S. Howard. Talkin' smack: The life cycle and future of jellies. Holland Lifelong Learning, South Carolina Aquarium, Charleston, SC

2021 **Treible, L.M.** A gelatinous journey: Understanding the distribution of jellyfish and other gelatinous plankton. Lowcountry Master Naturalist Association, Spring Quarterly Meeting, Okatie, SC; *virtual*

2020 **Treible, L.M.** Environmental impacts on gelatinous zooplankton populations. Department of Marine Sciences Seminar Series, Skidaway Institute of Oceanography, University of Georgia; *virtual*

2019 **Treible, L.M.** Environmental drivers of gelatinous zooplankton. Savannah State University, Savannah, GA

2016 **Treible, L.M.** My jellyfish journey. Waterways LLC, Wilmington, NC

2012 **Treible, L.M.**, D.J. Lonsdale, and C.J. Gobler. The role of ctenophores in nutrient regeneration in Long Island Sound. Long Island Marine Habitats, Southampton, NY

**Coauthored Presentations**

2022 Aaron, K.D., P.I. Duffy, **L.M. Treible**, M.E. Frischer, and A.T. Greer. A trait-based spatial analysis of mesozooplankton distribution using a new towed imaging system in the South Atlantic Bight. ASLO 2022 Ocean Sciences Meeting, *accepted*

2022 Duffy, P.I., **L.M. Treible**, M.E. Frischer, and A.T. Greer. Identifying favorable oceanographic conditions for bloom formation of doliolids using *in situ* imagery. ASLO 2022 Ocean Sciences Meeting, *accepted*

2021 Greer, A.T., S. Brown*, **L.M. Treible**, L.M. Chiaverano, K. Axler, C. Briseno-Avena, R.K. Cowen, S. Sponaugle, and F.J. Hernandez. Distributional changes in shelf-associated larval fishes in response to a gradient of freshwater influence and bottom water dissolved oxygen. ASLO 2021 Aquatic Sciences Meeting

2021 Duffy, P.I., M.E. Frischer, **L.M. Treible**, J.A. Brandes, and A.T. Greer. Resolving spatial variability and ecological context for pelagic tunicates using *in situ* imaging. ASLO 2021 Aquatic Sciences Meeting

2021 McKinney J.S., **L.M. Treible**, D. Vinodh, M. Kalp, J. Beecher, S. Nakajima, and T. Curley. Stroke Treatment with Tenecteplase Improves Door-To-Needle Time. International Stroke Conference. Stroke 52:AP28. doi: 10.1161/str.52.suppl_1.P28

2020 Johnson, L.E.* and **L.M. Treible**. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Society for Integrative and Comparative Biology (SICB) 2020 Annual Meeting, Austin, TX (*poster presentation*)

2019 Johnson, L.E.* and **L.M. Treible**. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Council on Undergraduate Research (CUR) Research Experiences for Undergraduates (REU) Symposium, Alexandria, VA (*poster presentation*)

** undergraduate co-author*

## COURSES TAUGHT

**Georgia Southern University**

**BIOL 5547: Marine Ecology** (lecture and lab); 10 students; Spring 2019

**BIOL 3133: Ecology and Evolution** (lecture); 38-42 students; Fall 2019, Spring 2020 (*half semester online*)

**BIOL 1230: Environmental Biology** (lecture); 100-220 students; Fall 2018, Spring 2019, Summer 2019, Fall 2019, Spring 2020 (2 sections, *half semester online*)

**BIOL 1107-L: Principles of Biology I Lab**; 20-24 students; Fall 2018, Fall 2019 (2-3 sections)

**BIOL 1108-L: Principles of Biology II Lab**; 20-24 students; Spring 2019 (2 sections)

**University of North Carolina Wilmington**

**BIO 362: Marine Biology Lab** (laboratory instructor); 15-24 students; Sp 2015, 2016, 2017, 2018; F 2015, 2016; Su 2015, 2016, 2017 (1 section/ semester)

**BIO 170: Biology of the Sea** (lecture, instructor of record, *online*); 36 students; Fall 2017

**BIO 105: Concepts in Modern Biology (**laboratory instructor); 15-24 students; Fall 2013, Spring 2014, Fall 2014 (2 sections/ semester)

**Stony Brook University**

**MAR 303: Long Island Marine Habitats** (teaching assistant); 20-24 students; Fall 2012

## PROFESSIONAL DEVELOPMENT AND SERVICE

**Reviewer:** *Marine Ecology Progress Series*, *Scientific Reports*, *Limnology and Oceanography Methods*, *Marine Biodiversity*, *Southeastern Naturalist*

**Professional Memberships**

*Society for Women in Marine Science* (SWMS)
*Association for the Sciences of Limnology and Oceanography* (ASLO)
*American Association for the Advancement of Science* (AAAS)
*Coastal and Estuarine Research Federation* (CERF)
*Southeastern Estuarine Research Society* (SEERS)
*New England Estuarine Research Society* (NEERS), 2011-2013

**Certifications**

Radiation Safety Training, lab-worker level- 2014, 2016 (UNCW), 2021 (UGA/ SkIO)
NAUI Open Water Diver- 2008
Coast Guard Basic Boating and Water Safety- 2009

**Professional Development**

2021-22 UGA Faculty and Staff Mentor Program

2021 National Association of Marine Laboratories (NAML)- "The Virtual Field: Expanding Field Station and Marine Laboratory Educational Programs with Virtual Experiences"

2021 UGA Certificate in Diversity and Inclusion workshops; "Beyond the Numbers", "Countering Unconscious Bias", "Deepening Dialogues in Diversity", "Organizational Excellence Through Diversity"

2020 UGA Diversifying STEM Seminar Series workshop- "Preparing for Beyond 2020: Building the Tools for Success and Positive Change in STEM"

2020 GSU Evidence-Based Teaching courses: "Course Design for the Gen Z Student", "No-Cost, Low-Cost Materials for Inclusive Courses"

2020 GSU Faculty Development Day, Diversity and Inclusion workshops: "Owning Your Own Biases/Recognizing Privilege", "Creating an Inclusive Classroom", "Difficult Dialogues: Keeping Controversial Conversations on Course"

2019 "Optimizing the Practice of Mentoring" course for research mentors, University of Minnesota online

2018 GSU College of Science and Mathematics, Faculty Learning Community; Research-based Practices in Teaching and Learning STEM

2017 National Academy of Sciences "The Science of Science Communication III" webcast

2017 National Oceanography Center, Southampton, UK; Global Jellyfish Blooms Workshop

2015 Teaching Excellence Workshop; "How to get your students thinking" with Dr. Michelle Withers, Director, National Academies Scientific Teaching Alliance

**Service to the University and to the Scientific Community**

2022 Session co-chair "The Fragile Food Web: Dynamics and impacts of gelatinous zooplankton and other understudied organisms", ASLO 2022 Ocean Sciences Meeting, Honolulu, HI, *accepted session*

2020-22 UGA Dept. of Marine Science Diversity Equity and Inclusion Committee; 'Lab Climate' subcommittee member

2021 Session co-chair "The Fragile Food Web: Dynamics and impacts of gelatinous zooplankton and other understudied organisms", ASLO 2021 Aquatic Sciences Meeting, *virtual*

2019 Graduate student presentation judge, Coastal and Estuarine Research Federation (CERF) 25$^{th}$ Biennial Conference, Mobile, AL

2017 Undergraduate poster judge, Coastal and Estuarine Research Federation (CERF) 24$^{th}$ Biennial Conference, Providence, RI

2017 Undergraduate poster judge, Benthic Ecology Meeting Society (BEMS) 46$^{th}$ Annual Meeting and Southeastern Estuarine Research Society (SEERS) 2017 Spring Meeting, Myrtle Beach, South Carolina

2013 Graduate Student Representative, R/V Seawolf Captain Hiring Committee

2012 Organizer, Graduate Student Research Symposium, School of Marine and Atmospheric Sciences, Stony Brook University

2011-12 Graduate Student Club Officer, School of Marine and Atmospheric Sciences, Stony Brook University

**MENTORING AND OUTREACH**

***NSF REU Program- Direct Supervisor***

2019 Lauren Johnson GSU "Synergistic effects of UVA and UVB on moon jellyfish proliferation and potential coping mechanisms"

***Mentored Undergraduate Students-*** Hannah Kepner (2021; UGA/ SkIO), Bailey Lin (2021; Georgia Tech, UGA/ SkIO), Severen Brown (2020-21; UGA/ SkIO), Serena Lea (2016-17;

UNCW), Danielle Siegert (2015-17; UNCW), Anita Harrington (2015-16; UNCW), Erin Meyer (2016; UNCW), Margaret Redick (2015-16; UNCW), Alex Lucas (2015-16; UNCW), Abigail Kuhn (2014-15; UNCW)

**Broader Impacts and Outreach**

*ongoing* Outreach in the P-12 school system; career days and other school visits, in-person and virtual

2017-22 National Ocean Sciences Bowl, Southern Stingray Bowl, Savannah State University, Savannah, GA- moderator, "über" science judge, timekeeper, scorekeeper

2018 GotScience Magazine guest writer; 'Do humans influence coastal jellyfish populations?' www.gotscience.org/2018/01/humans-influence-jellyfish-populations

2015-16 Science Olympiad, Wilmington Academy of Arts and Sciences, Wilmington, NC- coach for "Green Generation" event

2015-16 Marine Science Academy, Ashley High School, Wilmington, NC- created and employed hands-on inquiry-based labs for high school students

2015-16 TEAMS (Towards Elementary Advancement in Marine Science), Wilmington, NC- participated in weather balloon construction and launch with local 5$^{th}$ grade class, phytoplankton growth experiment with 1$^{st}$ grade class, and jellyfish temperature experiment with 6$^{th}$ grade class

2014 Oceans ROCK (Reaching Out to the Community and Kids), Wilmington, NC- free public outreach event featuring speakers, student research, presentations, displays, and family fun activities; presented keynote talk on changing global climate, the future of our oceans, and our planet

2014 UNCW MarineQuest, Wilmington, NC- jellyfish ecology activities

2013 UNCW outreach at Fort Fisher Aquarium, Fort Fisher, NC- taught children about marine food webs through hands-on game and coloring book assembly

2012-13 National Ocean Sciences Bowl, Bay Scallop Bowl, Stony Brook University, Stony Brook, NY- scorekeeper, timekeeper, organization volunteer

2012 Center for Talented Youth (CTY) 2012 Science and Technology Series, Stony Brook, NY- volunteer workshop instructor; worked with middle school students aboard a research vessel to teach basic oceanographic sampling techniques including plankton nets, microscope, YSI, and secchi disc

2012 Stony Brook University Marine Science Club, Southampton, NY- fieldtrip volunteer instructor; educational cruise to allow undergraduate students first-hand experience of plankton tows, trawling, seining, and organism identification

2012 "VIP" Cruise, Stony Brook, NY- graduate student presenter; cruise on the R/V Seawolf with VIP including Stony Brook University President, members of the President's council, and News 12 Network owner

2011 School of Marine and Atmospheric Sciences Open House, Stony Brook, NY- volunteer for children's marine science and craft stations

**RELEVANT SCIENTIFIC SKILLS**

**Instrumentation**- CTD (handheld and rosette), *In situ* imaging systems, Ring nets, Fluorometer, Spectrophotometer, FIRe System, Zooscan, Coulter Counter

**Laboratory Analyses**- pH, Alkalinity, Nutrient analyses, Radioisotopes, DIC/ DOC analysis, Stable isotopes

**SCUBA**- NAUI Open Water, Universal Diver Training

**Computer Programming**- statistics and modeling in R

**Research cruise experience**- >50 days at sea including multi-day cruises up to two weeks duration; experience as Chief Scientist