LaTreese S Denson
4600 Rickenbacker Causeway
University of Miami
Key Biscayne, FL 33149 United States
Mobile: 917 605 4615 - Ext:
Email: latreese.denson@gmail.com

Availability: **Job Type:** Permanent, Term, Detail, Presidential Management Fellows, Recent Graduates, Multiple
Appointment Types, Intermittent, Telework
Work Schedule: Full-Time, Part-Time, Multiple Schedules

Work Experience: **University of Miami Rosenstiel School of Marine and Atmospheric Sciences (UM-RSMAS)**
4600 Rickenbacker Causeway
Department of Marine Biology and Ecology
Key Biscayne, FL   33149 United States

08/2015 - Present
Salary: 2,171.00 USD Per Month
Hours per week: 40
Graduate Research Assistant
Duties, Accomplishments and Related Skills:
• Developed a simulation experiment to quantify the risk in overfishing when making the decision to
include or not to include the environment and the risk in making the wrong decision. Created my own
simulation feature for manipulating recruitment estimations as a function of an environmental index to
accompany the existing SS3sim R package. SS3sim is an R package that simulates population
dynamics and fisheries data in conjunction for testing with Stock Synthesis as the estimation model.
Gained experience with incorporating environmental covariates in various aspects of Stock Synthesis,
including recruitment deviation and catchability. Results have been presented at various scientific
conferences and meetings, and are in preparation for peer review.
• Developed and tested mechanistic hypotheses for environmental influences on King mackerel
(Scomberomorus cavalla) larval distribution and densities seen in the Southeast Monitoring and Mapping
Program (SEAMAP) Fishery- independent Plankton Survey. Collected geo-referenced environmental
data such as sea surface height, chlorophyll and sea surface temperature from the NOAA Easier
Access to Scientific Data (ERDDAP) Database. Compared the performance of modeling techniques for
including spatial and temporal variation into larval indices of abundance, whether they are auto-correlated
or due to environmental factors. Models used in experiment include nonlinear Generalized Additive
Models (GAMs) as well as Generalized Linear Mixed effects Models (GLMMs). The GLMMs are
implemented using the VAST (Vector-Autoregressive Spatio-temporal) package in R. Results have been
presented at various fisheries meeting nationally and internationally and are currently in preparation for a
peer-reviewed publication.
Supervisor: Dr. Elizabeth Babcock (305-421-4316)
Okay to contact this Supervisor: Yes

**National Oceanographic and Atmospheric Administration (NOAA) Southeast Fisheries Science
Center**
75 Virginia Beach Drive
Key Biscayne, FL   33149 United States

07/2019 - Present
Hours per week: 8
Stock Assessment Team Member
Duties, Accomplishments and Related Skills:
• Assisted with the update of the Stock Synthesis model and data for Gulf of Mexico King mackerel.
• Determined and tested a set of stock assessment model diagnostics that can be used to compare the
performance of the older model to the performance of the newer model with updated data. These
diagnostics include but are not limited to plots of the residuals to assess the model fit to the indices of
abundance in the assessment, a retrospective analysis using Mohn's rho to determine bias in
retrospective estimates of ending spawning biomass, and likelihood profiles to determine the importance
of various data sources to the estimation of important parameters such as initial recruitment.
Supervisor: Dr. Michael Schirripa (305-361-4568)
Okay to contact this Supervisor: Yes

NOAA Alaska Fisheries Science Center
7600 Sand Point Way
Seattle, WA   98115 United States

09/2018 - 12/2018
Hours per week: 40
Graduate Intern
Duties, Accomplishments and Related Skills:
• Gained an understanding of the statistical methods for incorporating spatial and spatio-temporal
variation into models to predict changes in density using Template Model Builder
• Investigated the effect of spatial and spatio-temporal variability on trends in larval King mackerel indices

of abundance using geostatistical models, implemented using the R package VAST.
• Attended the North Pacific Fisheries Management Council Groundfish Plan Team meeting to gain
insight on alternative ways to use these models for management.
Supervisor: Dr. James Thorson (206-526-4000)
Okay to contact this Supervisor: Yes

International Council for the Exploration of the Seas (ICES)
H. C. Andersens Boulevard 44-46
Copenhagen,   Denmark

04/2017 - 08/2017
Hours per week: 20
Proxy Review Group Member
Duties, Accomplishments and Related Skills:
• Worked with a team to provide written reviews of stock assessments conducted for ICES Category 3
and 4 stocks. These categories include stocks that are relatively data limited and rely solely on trends in
catch data or other indices of abundance.
• Reviewed the use of Length Based Indicators (LBI), Stock Production in Continuous time (SPiCT),
Length Based- Spawning Potential Ratio, and the Mean Length Mortality Estimator for estimating
reference points used to assess the status of stocks such as Angler fish (Lophius piscatorius and L.
budegassa) in the North Sea, the Skagerrak Strait, and the Kattegat Sea, Brill in ICES subdivision 22-32,
and Cod in ICES subdivision 21.
• Some recommendations from this work were incorporated into an online report published by ICES
Technical Guidelines and Policies (16.04.03.02 Category 3-4 Reference Points 2018).
Supervisor: Dr. John Hoenig (804-684-7125)
Okay to contact this Supervisor: Yes

Oregon State University (OSU)
Department of Fisheries and Wildlife
Nash Hall
Corvallis, OR   97331 United States

01/2012 - 06/2015
Salary: 1,409.00 USD Per Month
Hours per week: 40
Graduate Research Assistant
Duties, Accomplishments and Related Skills:
• Developed an advanced understanding of the fundamental theories that support the modeling of
population dynamics and stock assessment development.
• Designed and executed a full factorial simulation study evaluating alternative methods for accounting
for spatial variability in recruitment due to environmental influences.
• Used Visual Basic for Applications to build an operating model in excel that represented an age- and
spatially-structured population similar to Black rockfish (Sebastes melanops) on the US West Coast.
• Used Stock Synthesis as the estimation model and incorporated a simulated environmental index into
various iterations of the model to inform recruitment distribution.
• Results were disseminated in the form of presentations and a peer-reviewed publication (Canadian
Journal of Fisheries and Aquatic Sciences).
• Participated in community outreach to encourage careers in aquatic conservation (i.e. Marine Science
Day, Salmon Bowl, OSU Ag Day).
• Assisted peers with field research including participation in research cruises, beach seining, Geoduck
clam surveys, and fish tagging.
Supervisor: Dr. David Sampson (541-272-0813)
Okay to contact this Supervisor: Yes

NOAA Southeast Fisheries Science Center
Sustainable Fisheries Branch
Beaufort, NC   28516 United States

08/2011 - 12/2011
Hours per week: 15
Independent Researcher
Duties, Accomplishments and Related Skills:
• Acquired a basic understanding fishery ecology and population dynamics in order to model local
fisheries.
• Developed and conducted a study on the sensitivity of biological reference points, specifically the
spawning potential ratio, to discard mortality for Red Snapper in the South Atlantic. Simulated and
analyzed data for the Red Snapper population using R.
• Created monthly progress reports to update supervisors on research goals.
• Completed the project with a technical report and presentation to local scientists.
Supervisor: Dr. Kyle Shertzer (252-728-8607)
Okay to contact this Supervisor: Yes

Duke University Marine Laboratory (DUML) & Smithsonian Tropical Research Institute
Smithsonian Tropical Research Institute
Bocas Del Toro, Panama   Panama

10/2011 - 10/2011
Hours per week: 40
Study Abroad Volunteer
Duties, Accomplishments and Related Skills:
• Researched the distribution and density of various hermit crab and mangrove species .
• Developed hypotheses for the behavioral and mechanical adaptation of tropical marine species.
• Collaborated with a team to collect and present results on species density and behavior.
Supervisor: Dr. Cindy Van Dover (252- 504-7655)
Okay to contact this Supervisor: Yes

The Raleigh Girls Club
701 N. Raleigh Boulevard
Raleigh, NC   27610 United States

02/2011 - 08/2011
Salary: 10.00 USD Per Hour
Hours per week: 20
Education Coordinator
Duties, Accomplishments and Related Skills:
• Maintained reports of scholastic achievement for students ages 6-13.
• Designed, developed, and delivered weekly educational programing to increase minority student interest in the STEM fields, specifically biology.
• Facilitated relationships between Girls Club students and college mentors during science fairs and monthly science labs.
• Accompanied students on field trips to explore nature preserves where activities included fishing and hiking.

NOAA Southeast Fisheries Science Center
National Marine Fisheries Service Early Life Histories Unit
75 Virginia Beach Drive
Key Biscayne, FL   33149 United States

06/2009 - 08/2009
Salary: 3,000.00 USD Student Stipend Paid
Hours per week: 40
NOAA Ernest F. Hollings Intern
Duties, Accomplishments and Related Skills:
• Identified and collected juvenile snapper from local mangrove habitats using seine nets and hand lines
• Extracted otoliths from juvenile snapper and used otolith microchemistry to differentiate areas of recruitment utilized by various snapper species in Southern Florida.
• Presented research at NOAA headquarters during the Scholars 2009 Research Symposium.
• Conducted outreach with local elementary school students involving the conservation of marine biology.
Supervisor: Dr. Trika Gerard (305-361-4493)
Okay to contact this Supervisor: Yes

North Carolina State University (NCSU)
University Tutorial Center
Raleigh, NC   27695 United States

01/2008 - 05/2010
Salary: 10.00 USD Per Hour
Hours per week: 6
Calculus Tutor
Duties, Accomplishments and Related Skills:
• Worked with students one-on-one to develop basic skills in calculus comprehension .
• Guided and motivated students toward becoming independent learners.
• Trained to identify student learning styles and deliver individualized instruction.

Education: **University of Miami Rosenstiel School of Marine and Atmospheric Sciences** Key Biscayne, FL
                                            United States
                                            Doctorate 12/2020
                                            GPA: 3.7 of a maximum 4.0
                                            Credits Earned: 61 Semester hours
                                            Major: Marine Biology and Fisheries
                                            Relevant Coursework, Licenses and Certifications:
                                            Relevant Coursework in the Physical and Mathematical Sciences:

-MBF 704 Biological Oceanography (3.00)
-RSM 710 Phy Envrn Mar Orgn (3.00) - The fluid environment of the sea influences the growth, distribution, and survival of marine organisms. The physical processes that affect organisms occur in space and time, ranging from the molecular properties of water to basin-wide linkages between oceanic regime and climate shifts are discussed. Course emphasis is placed on how physical processes affect the life of plankton to nekton, Students are required to present reviews based on the literature.

Relevant Coursework in Ecology:
-MBF 615 Tropical Mar Ecology (3.00)

Relevant Coursework in Statistics:
-MBE 716 Bayesian Statistics (3.00)

Other Relevant Coursework:
-RSM 621 OOP and Agent-Based Modelling (3.00)
-RSM 622 Data Mgmt for Scientist (2.00)

Oregon State University Corvallis, OR United States
Master's Degree 06/2015
GPA: 3.6 of a maximum 4.0
Credits Earned: 143 Quarter hours
Major: Fisheries Science **Minor:** Statistics
Relevant Coursework, Licenses and Certifications:
Relevant Coursework in Statistics: (19 Hrs Total)
-BEE 529 Biosys Modeling Techniques (3.00) - Development of mathematical models of biological and ecological systems; linear and nonlinear systems analysis; stochastic modeling and random processes; model solution and analysis techniques.
-ST 511 Methods of Data Analysis (4.00)
-ST 522 Methods of Data Analysis (4.00)
-ST 521 Intro to Mathematical Stats (4.00)
-ST 522 Intro to Mathematical Stats (4.00)
-BI 570 Community Structure and Analysis (4.00) - Quantitative methods for the analysis of biotic communities, including community concepts, estimation of community composition parameters, theoretical aspects of multivariate methods of analyzing species importance data, and overview of multivariate tools; hands-on computer analysis of data sets.

Relevant Coursework in Ecology: (3 Hrs Total)
- FW 520 Ecology & MGT of Marine Fishes (3.00)

Relevant Coursework in Population Dynamics and Stock Assessment: (10 Hrs Total)
-FW 505 R&C/ Fish Stock Assessment (2.00)
-FW 531 Dynamics Marine Biological Resources (4.00)
-FW 599 ST/Numerical Methods for Fish & NR (4.00) - Now referred to as Numerical Computing for Natural Resources, this is a course taken remotely through the University of Washington as FISH559 with Dr. Andre Punt. The course focuses on developing, parameterizing and fitting population dynamics models. Examples and lectures cover age-aggregated models, age-structured models, and size-structured models. These types of models form the basis for population model-based stock assessments of fish and invertebrate stocks and are core to the methods of stock assessment applied in the US.

Duke University Durham, NC United States
Some College Coursework Completed 12/2011
GPA: 3.0 of a maximum 4.0
Credits Earned: 15 Semester hours
Major: Marine Ecology
Relevant Coursework, Licenses and Certifications:
Relevant Coursework in Ecology: (6 Total Hrs)
-BIOLOGY 207AL Tropical Marine Ecology (2.00)
-ENVIRON 219L Marine Ecology (4.00)

Relevant Coursework in Physical and Mathematical Sciences: (3 Total Hrs)
-ENVIRON 293 Analy Ocean Ecosystems (3.00 Credit hours)

The City College of New York New York, NY United States
Some College Coursework Completed 08/2007
GPA: 2.70 of a maximum 4.00
Credits Earned: 3.00 Semester hours
Relevant Coursework, Licenses and Certifications:
Relevant Coursework in Mathematics:
-MATH 20100 Calculus I (3.00)

North Carolina State University Raleigh, NC United States
Bachelor's Degree 12/2010
GPA: 3.48 of a maximum 4.0
Credits Earned: 147 Semester hours
Major: Marine Science Biological Oceanography **Honors:** Cum Laude
Relevant Coursework, Licenses and Certifications:
Relevant Coursework in the Physical and Mathematical Sciences: (21 Hrs Total)
-CH 201 Chem-A Quanti Sci (3.00)
-MEA 100 Earth Sys Science (4.00)
-PY 205M Physics Egr I M&I (4.00)
-MEA 200 Intro Oceanography (3.00)
-PY 208H Physics Egr Sci II (4.00)
-MEA 460 Prin Phys Oceanography (3.00)

Relevant Coursework in Biology and Ecology: (16 Hrs Total)
-BIO 181 Intro Biology I (4.00)
-BIO 183 Intro Biology II (4.00)
-PB 200 Plant life (4.00)
-PB 360 Intro to Ecology (3.00)
-PB 365 Ecology Laboratory (1.00)

Relevant Coursework in Mathematics: (11 Hrs Total)
-MA 111 Precalc Alg & Trig (3.00)
-MA 241 Calculus II (4.00)
-MA 242 Calculus III (4.00)

Relevant Coursework in Statistics (3 Hrs Total)
-ST 361 Intro Stat Engrs (3.00)

Other relevant Coursework:
-CSC 112 Intro Comp Fortran (3.00)

Job Related Training:

Marine Population Dynamics Workshop, National Oceanographic and Atmospheric Administration, Summerland Key FL
01/2011
• One of approximately 30 participants selected from the top quantitative students nationwide to explore the current state of Blue Fin Tuna population dynamics. During the workshop, we worked in teams to develop ideas about the future role of science in fisheries management. We also received hands-on training in analyzing data to obtain a maximum sustainable yield calculation for various populations. We used current assessment tools to replicate the stock assessment process, which included learning how to manipulate ASPIC, a surplus production model and BAM (Beaufort Assessment Model), an integrated catch-at-age formulation.

AD Model Builder Workshop, Oregon State University, Newport, Oregon
09/2014
• Received Training in AD Model Builder during a Week long workshop taught by Dr. Audre Punt. As a participant I used ADMB to create statistical models for fish population dynamics. Models included simple length - and age- structured stock assessment models.

Affiliations:

American Fisheries Society - Member
Black Graduate Student Association (BGSA) - Current Member and 2012-2014 President
Minorities in Agriculture Natural Resources and Related Sciences (MANRRS) - Member

Professional Publications:

Peer-Reviewed Publications:
Denson, L.S., Sampson, D.B., and Stephens, A. 2017. Data needs and spatial structure considerations in stock assessments with regional differences in recruitment and exploitation. Canadian Journal of Fisheries and Aquatic Sciences 74(11): 1918-1929.

Publications in Preparation:
Denson, L.S., Walter, J.F., Babcock, E.A., and Sharma, R. Environmental predictors of recruitment deviations and the risk in getting them wrong in a stock Assessment. Proposed Journal: Fisheries Research.

Denson, L.S., Babcock, E.A. The effects of spatio-temporal variation on indices of abundance used for King mackerel in the Northern Gulf of Mexico. Proposed Journal: Fisheries Research.

Other Documents:
Denson, L.S. Anglerfish (Lophius piscatorius and L. budegassa) in subareas 4 and 6, and in division 3a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat). 2017. A stock assessment proxy review report provided to the ICES Working Group for the Celtic Seas Ecoregion.

Denson, L. S., Hoenig, L. 2017. Brill 5.1: Brill in subdivisions 22-32. A stock assessment proxy review

report provided to the ICES Baltic Fisheries Assessment Working Group.

I maintain a blog to communicate to the public the necessity of scientific research and to provide insight on the everyday activities of a career in Fisheries Research. The blog is available on my website at latreesedenson.com.

I maintain a GitHub repository to store the R code for the manuscript "Environmental Predictors of Recruitment and the Risk in Getting Them Wrong in a Stock Assessment." The repository is entitled "Rec_envir_match_mismatch" and can be found at https://github.com/latreesedenson?tab=repositories.

References:

Name	Employer	Title	Phone	Email
Andi Stephens (*)	National Oceanic and Atmospheric Administration	Research Fishery Biologist	843-709-9094	Andi.stephens@noaa.gov
John F Walter (*)	National Oceanic and Atmospheric Administration	Branch Chief	305-365-4114	john.f.walter@noaa.gov
Elizabeth Babcock (*)	University of Miami	Associate Professor Marine Biology and Ecology	305-421-4852	ebabcock@rsmas.miami.edu
Dr. David Sampson (*)	Oregon State University	Professor Emeritus	541-867-0386	david.sampson@oregonstate.edu

(*) Indicates professional reference

Additional Information:

SKILLS AND PROFICIENCIES:
Statistical Data Analysis
• R Statistical Programming
- Highly proficient in R. I use it daily for data manipulation and statistical analysis tasks. These tasks include basic statistical tests such as an analyses of variance to more complex linear mixed effects models, non-linear models, and multivariate analyses such as a principle component analyses. I have built large simulation studies using R on multiple computers, and computer cores (parallel computing).
-I use established R packages but will typically create my own functions to suit my needs.

• Bayesian Modeling Software including OpenBUGS, WinBUGS and JAGS
- Exposed to Bayesian modeling for stock assessment and population dynamics concepts during a course on Numerical modeling (FW599).
- Built Bayesian hierarchical models using OpenBUGS and others during a Bayesian Statistics for Marine Scientist Course at the University of Miami (MBE 716). Created models included mark recapture and population growth models.
- Developed a Bayesian generalized linear mixed effects model to determine the effect of model mis-specification and data availability on bias and uncertainty in estimates of unfished and terminal spawning stock biomass using the data from my Master's thesis (unpublished).

• Stock Synthesis
- Highly proficient in using Stock Synthesis for stock assessment simulations as well as stock assessments for management.
- Initially learned basic components through a course on stock assessment (FW 505) in the winter of 2012 at Oregon State University with Dr. David Sampson. I then worked on converting previous versions of the Black Rockfish Assessment model in Stock Synthesis to Version 3.24. I have used Stock Synthesis as my estimation model for both my Master's thesis as well as for a chapter of my Ph.D. dissertation.
- I am honing my Stock Synthesis skills for a stock assessment that is used for management as a member of the Stock Assessment Team for the Gulf of Mexico King Mackerel Assessment Update.

• AD Model Builder
- Attended a week long workshop in the Fall of 2014 taught by Dr. Andre Punt from the University of Washington (FW 505). I learned how to build models and estimate parameters of basic population dynamics models such as the Von Bertalanffy growth equation. I also learned to interpret AD model

builder output such as the covariance file. By the conclusion of the workshop I had created my own age-structured stock assessment model.
- I received semester-long training in the Fall of 2014 through the University of Washington at Oregon State (FW 599) on using AD Model Builder to fit various fisheries models. I interpreted the results and produced reports as part of the course assignments.

• Template Model Builder
- I am familiar with this software as I am currently using VAST, a package in R that uses Template Model Builder for parameter estimation.
- I have sat in on classes and reviewed lecture notes from Dr. James Thorson at the NOAA Alaska Fisheries Science Center to learn the basics of building a spatial model in TMB.

• Familiar with FORTRAN, ASPIC and the Beaufort Assessment Model
- Received training through coursework and/or workshops to use these languages/models but have not used them consistently in over 5 years.

Modeling Ecological Systems
• Java
- Used Java for basic agent based modeling and created a basic simulation of fish movement and population growth.

• STELLA
- Used consistently in the past to develop simple models of ecological systems such as the water cycle and salmon fecundity given various stream conditions but have not used consistently in over 5 years.

Geospatial Data Analysis
• ArcGIS
- Received semester-long training in the use of ArcGIS for mapping and spatial analysis.
- Used most recently to map the relationship between King mackerel larvae and environmental factors such as temperature, salinity, and dissolved oxygen as well as to identify the center of mass of the population from year to year given the SEAMAP data.

Data Management
• Microsoft Excel (Visual Basic for Applications)
- Experienced in data management and statistical analysis and also experienced in writing macros for automation in excel.
• Familiar with MySQL
- Received training on data manipulation and analysis through a remote course taken though the University of Miami (Fall 2018).

PRESENTATIONS:
Denson, L. S., Babcock E. A., (2019) The effects of spatio-temporal variation on indices of abundance used for King mackerel in the Northern Gulf of Mexico. NOAA Headquarters, Silver Spring, MD.

Denson, L. S., Babcock E. A., Walter J. F., Sharma R., (2018) Environmental predictors of recruitment deviations and the risk them wrong in a stock assessment. University of Washington Quantitative Seminar in Seattle, WA.

Denson, L. S., Babcock E. A., Walter J. F., (2018) The effect of spatial and temporal variation on larval indices used for King mackerel in the Northern Gulf of Mexico. ICES Annual Science Conference in Hamburg, Germany.

Denson, L. S., Babcock E. A., Walter J. F., Sharma R., (2017) Environmental Factors in Stock Assessments: The risk in getting it wrong. Center for the Advancement of Population Assessment Methodology (CAPAM) Meeting in Miami, FL.

Denson, L. S., Babcock E. A., Walter J. F., (2017) Environmental Factors in Stock Assessments: The risk in getting it wrong. 147th American Fisheries Society Annual Meeting in Tampa, FL.

Denson, L. S., Babcock E. A., Walter J. F., (2017) Environmental Influences on Recruitment in Stock Assessments: The risk in getting it wrong. ICES Annual Science Conference in Ft. Lauderdale, FL.

Denson, L. S., Babcock E. A., Walter J. F., (2017) Spatial Structure of King Mackerel Larvae in the Gulf of Mexico and Oceanographic Influences. The Association for the Sciences of Limnology and Oceanography in Honolulu, Hawaii.

Denson, L. S., Sampson D. B., Stephens A., (2015) Data needs for spatially explicit stock assessments: A simulation study using Stock Synthesis. 145th American Fisheries Society Annual Meeting in Portland, OR.

Denson, L. S., Sampson D. B., Stephens A., (2014) The effects of spatial assumptions and data availability on stock assessment results in the presence of a changing environment: A simulation. NOAA EPP Seventh Education & Science Forum in Princess Ann, MD.

Denson, L. S., Sampson D. B., Stephens A., (2014) Environmental influence on stock assessments in time and space. 18th Western Groundfish Conference in Victoria, BC, Canada.

Denson, L. S., Sampson D. B., (2013) Using environmental data to inform spatial stock assessments with Stock Synthesis. North Pacific Marine Science Organization (PICES) 2013 Meeting in Nanaimo, BC, Canada.

Denson, L. S., Sampson D. B., (2013) Can we use environmental data to inform a spatial stock assessment? Developing a simulation experiment. 28th Annual Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) National Conference in Sacramento, CA.

Denson, L. S., Shertzer K. W., (2012) Spawning potential ratio of red snapper: Effects of discard mortality. Poster. NOAA EPP Sixth Education & Science Forum in Tallahassee, FL.

Denson, L. S., Gerard, T., Muhling B., Malca E. (2009). The Use of Otolith Chemistry to Compare Sources of Snapper Recruits from Southern Florida. Presented at the NOAA Hollings Scholar Research Symposium in Silver Spring, MD.

AWARDS AND FUNDING:
06/2019-University of Miami Rosenstiel School of Marine and Atmospheric Sciences Graduate Studies Office Service Award.

08/2018-NOAA Living Marine Resources Cooperative Science Center Technical Advisory Board Grant: $82,148 for a project entitled " Environmental influences on indices of abundance for King Mackerel in the Gulf of Mexico examined through spatio-temporal geostatistical models." Co-Principle Investigator.

July 2018-University of Miami RSMAS Student Travel Fund Award Recipient: $700 for travel to present collaborative research in Hamburg, Germany.

2016-American Society of Limnology and Oceanography Multicultural Program Award Recipient.

2015-2016-NOAA Living Marine Resources Cooperative Science Center Doctoral Fellowship: Included funding for tuition, stipend and travel at the University of Miami.

2013-2nd place in the Minorities in Agriculture Natural Resources and Related Sciences Graduate Oral Research Presentation Competition: $200.

2011 - 2015-NOAA Living Marine Resources Cooperative Science Center Masters Fellowship: Included funding for tuition, stipend, and travel at Oregon State University.

08/2011 - 12/2011-Duke University Marine Laboratory Undergraduate Fellowship in Marine Science: Included full tuition and funding to study abroad in Panama.

12/2010-First African-American Female to Graduate with a B.S. in Biological Oceanography from NCSU.

2009 & 2010-North Carolina State University Lawrence Clark Leadership Award.

2009-North Carolina State University Frank S. Smith Marine Science Award $3,000.

2008 - 2010-NOAA, Ernest F. Hollings Scholarship: $16,000 scholarship and a three-month paid internship.

2007-2010-North Carolina State University R.J. Reynolds Merit Scholarship: Approximately $500 per semester.

TEACHING EXPERIENCE:
NOAA Living Marine Resources Cooperative Science Center (LMRCSC) Undergraduate Intern Mentor (UM-RSMAS)
05/2019 – 07/2019
• Designed a three-month project to introduce an undergraduate student to population dynamics and geostatistical modeling.
• Introduced the student to basic linear and nonlinear modeling concepts, ultimately using generalized additive models for their project.
• Instructed the intern on how to use R for data analysis and modeling using various packages as well as creating their own R functions.
• Instructed the intern how to manage and analyze fishery-independent data as well as environmental data from databases.

Applied Environmental Economics Teaching Assistant (UM- RSMAS)
1/2019 – 5/2019
• Designed and executed labs to teach graduate students how to build and effectively use numerical models in R.
• Used simple stock assessment examples to explain maximum likelihood parameter estimation and it's transferable application to economics models.
• Responsible for assisting students with coding optimization problems, holding office hours, and grading exams.

Marine Conservation Guest Lecturer (UM Coral Gables Campus)
11/2017
• Lectured on the complexity of stock assessment models and their potential applications to marine conservation.
• Used my research on incorporating spatial population dynamics into a stock assessment as an example stock assessment issue.

Statistics for Environmental Scientists Teaching Assistant (UM-RSMAS)
08/2017 – 12/ 2017

• Maintained office hours to help students with questions about statistical concepts or R coding.
• Graded all problem sets.
• Taught labs on using Excel for statistical analysis, and installing and setting up R.

Earth System Science Teaching Assistant (NCSU)
01/2009 –05/2010
• Designed lab lectures and quizzes which aided in the student learning of the processes of and linkages among major components of planet Earth: Geosphere, hydrosphere, atmosphere, biosphere as dynamic and interdependent systems.
• Responsible for maintaining the quality of lab equipment.

LEADERSHIP AND TEAMWORK EXPERIENCE:
Co – Principle Investigator for King Mackerel Geostatistical Modeling Project (UM-RSMAS)
08/2018-08/2019
• Conceived, designed and prepared a pre-proposal and proposal for the NOAA Living Marine Resources Cooperative Science Center Technical Advisory Board request for proposals, with assistance from Dr. Elizabeth Babcock.
• Received funding for training in geostatistical modeling techniques using Template Model Builder by Dr. James Thorson at the NOAA Alaska Fisheries Science Center for three months.
• Received three months of funding to train an undergraduate intern from Savanah State University to use R to incorporate environmental factors into the analysis of larval King mackerel density and distribution.

ICES Annual Science Conference Session Co-convener
Tampa, FL
09/2017
• Developed a proposal for a conference session on new advancements for modeling recruitment dynamics as well as incorporating those dynamics into stock assessments for management.
• Collaborated with Dr. Fabian Zimmerman from the Institute of Marine Research in Norway and Dr. Katja Enberg from the University of Bergen in Norway to host the session and guide discussions.
• Recruited international experts in the field to speak on a panel, including Dr. Claire Paris, Dr. Kenneth Rose, Dr. Rishi Sharma, and Dr. Stephan B. Munch.

Student-Led Evaluation and Development Committee Chair (UM- RSMAS)
08/2017 – 08/2019
• Worked with a team of my peers to monitor and ensure high quality relationships between graduate students and their advisors.
• Designed and distributed surveys to assess University of Miami mentor-mentee relations.
• Presented and disseminated survey results to the Dean of the Graduate Studies office and to the Program Directors.

Week of Science Organizing Committee Member
Miami, FL
04/2017
• Developed and executed a week of activities to inform local communities of the importance of marine and atmospheric science to everyday life
• Collaborated with local organizations such as the New Florida Majority, the Little Haiti Cultural Center, and the CLEO Institute to enhance program impact on local communities in South Florida.

Marine Science Graduate Student Organization Member (UM-RSMAS)
08/2016 – 08/2017
• Served as the Multicultural Committee chair.
• Collaborated with students from diverse backgrounds to design and execute events to improve the atmosphere of diversity and inclusion at RSMAS.

Black Graduate Student Association President (OSU)
09/2012 – 09/2014
• Developed programs such as the BGSA Annual Research forum: Supporting Minorities in Academia in 2012 to assist graduate and undergraduate students with the development of their research communication skills.
- In its 3rd year, forum collaborators included the OSU Graduate School and the Office of Research.
• Reviewed and evaluated student programs for meeting established outcome
• Solicited for and supervised a budget of $8,000 to send two graduate students and two undergraduate students to the national conference in 2014 after three years of nonattendance.