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

EDUCATION:

University of Miami (UM) - Rosenstiel School of Marine & Atmospheric Science (RSMAS)
Ph.D. in Marine Biology and Ecology (MBE) **Anticipated Completion: 08/2020**
GPA 3.71

Relevant Coursework in the Physical and Mathematical Sciences: 6.00 Hrs Total

- MBF 704 Biological Oceanography (3.00)
- RSM 710 Physical Environment of Marine Organisms (3.00)

Relevant Coursework in Ecology: 3.00 Hrs Total

- MBF 615 Tropical Marine Ecology (3.00)

Relevant Coursework in Statistics: 3.00 Hrs Total

- MBE 716 Bayesian Statistics (3.00)

Other Relevant Coursework: 5.00 Hrs Total

- RSM 621 Object-Oriented Programming and Agent-Based Modelling (3.00)
- RSM 622 Data Management for Scientists (2.00)

Oregon State University (OSU) **06/2015**
Master of Science in Fisheries Science, Minor in Statistics **GPA: 3.6**

Relevant Coursework in Statistics: 19.00 Hrs Total

- BEE 529 Biosystems 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 Introduction to Mathematical Statistics (4.00)
- ST 522 Introduction to Mathematical Statistics (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: 3.00 Hrs Total

- FW 520 Ecology & Management of Marine Fishes (3.00)

Relevant Coursework in Population Dynamics and Stock Assessment: 10.00 Hrs Total

- FW 505 R&C/Fish Stock Assessment (2.00)
- FW 531 Dynamics of Marine Biological Resources (4.00)
- FW 599 Statistical/Numerical Methods for Fish & Natural Resources (4.00) - Now referred to as Numerical Computing for Natural Resources at the University of Washington (UW), this was a pilot course taken remotely at OSU as FISH559 with Dr. Andre Punt at UW and Dr. Taal Levi at OSU. 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.

Duke University Marine Laboratory (DUML) **12/2011**
Some College Coursework Completed **GPA: 3.0**
Relevant Coursework in Marine Ecology: 6.00 Hrs Total

- BIOLOGY 207AL Tropical Marine Ecology (2.00)
- ENVIRON 219L Marine Ecology (4.00)

Relevant Coursework in Physical and Mathematical Sciences: 3.00 Hrs Total

- ENVIRON 293 Analysis of Ocean Ecosystems (3.00)

The City College of New York **08/2007**
Some College Coursework Completed **GPA: 2.70**
Relevant Coursework in Mathematics: 3.00 Hrs Total

- MATH 20100 Calculus I (3.00)

North Carolina State University (NCSU) **12/2010**
Bachelor of Science in Marine Science Biological Oceanography **GPA: 3.48**
Relevant Coursework in the Physical and Mathematical Sciences: 21.00 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: 16.00 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: 11.00 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: 3.00 Hrs Total

- ST 361 Intro Stat Engrs (3.00)

Other Relevant Coursework: 3.00 Hrs Total

- CSC 112 Intro Comp Fortran (3.00)

WORK EXPERIENCE:
Graduate Research Assistant **08/2015 – Present**
University of Miami - Miami, FL 33149
40 Hours per Week (30,000.00 USD per Year)
Supervisor: Dr. Elizabeth Babcock (305-421-4316)

- Designed a simulation study to quantify the risk of overfishing when considering incorporating environmental covariates in various aspects of Stock Synthesis, including recruitment deviation and catchability. 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. 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 Assessment 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 peer review.

Stock Assessment Team Member **07/2019 – Present**
National Oceanographic and Atmospheric Administration (NOAA)
Southeast Fisheries Science Center - Key Biscayne, FL 33149
2 Hours per Week (Volunteer)
Supervisor: **Dr. Michael Schirripa (305-361-4568)**

- 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.

Living Marine Resources Cooperative Science Center (LMRCSC) **09/2018 – 12/2018**
Fellow
NOAA Alaska Fisheries Science Center - Seattle, WA 98115
40 Hours per Week (Volunteer)
Supervisor: Dr. James Thorson (206-526-4000)

- 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 through 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.

Proxy Review Group Member **04/2017 – 08/2017**
International Council for the Exploration of the Seas (ICES) - Copenhagen, Denmark
20 Hours per Week (Volunteer)
Supervisor: Dr. John Hoenig (804-684-7125)

- 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).

Graduate Research Assistant **01/2012 – 06/2015**
Oregon State University (OSU) - Corvallis, OR 97331
40 Hours per Week (1,409.00 USD per Month)
Supervisor: Dr. David Sampson (541-272-0813)

- 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 Microsoft Excel that represented an age- and spatially-structured population similar to Black rockfish (*Sebastes melanops*) on the United States 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.

Independent Researcher **08/2011 – 12/2011**
NOAA Southeast Fisheries Science Center Sustainable Fisheries Branch - Beaufort, NC
15 Hours per Week (Volunteer)
Supervisor: Dr. Kyle Shertzer (252-728-8607)

- Acquired a basic understanding of fishery ecology and population dynamics needed for modeling 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.

Study Abroad Volunteer **10/2011**
Duke University Marine Lab (DUML) & Smithsonian Tropical Research Institute - Bocas Del Toro, Panama
40 Hours per Week (Volunteer)
Supervisor: Dr. Cindy Van Dover (252- 504-7655)

- 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.

Education Coordinator **02/2011 – 08/2011**

The Raleigh Girls Club - Raleigh, NC 27610
20 Hours per Week (10.00 USD per Hour)

- 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 Ernest F. Hollings Intern **06/2009 – 08/2009**
NOAA Southeast Fisheries Science Center NMFS Early Life Histories Unit - Key Biscayne, FL 33149
40 Hours per Week (3,000.00 USD Stipend)
Supervisor: Dr. Trika Gerard (305-361-4493)

- 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.

Calculus Tutor **01/2008 – 05/2010**
North Carolina State University (NCSU) University Tutorial Center - Raleigh, NC 27695
6 Hours per Week (10.00 USD per Hour)

- 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.

JOB RELATED TRAINING:
Marine Population Dynamics Workshop, NOAA **01/2011**
Mote Marine Lab - Summerland Key, FL 33042

- One of approximately 30 participants selected from the top quantitative students nationwide to explore the current state of Blue Fin Tuna population dynamics. Worked in teams to develop ideas about the future role of science in fisheries management. Received hands-on training in analyzing data to obtain a maximum sustainable yield calculation for various populations. 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 **09/2014**
OSU Hatfield Marine Science Center - Newport, Oregon 97365

- Received training in AD Model Builder during a week-long workshop taught by Dr. Audre Punt. Used ADMB to create statistical models for fish population dynamics. Models included simple length- and age-structured stock assessment models.

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. 2018. Rec_envir_match_mismatch. (https://github.com/latreesedenson?tab=repositories).
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."

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.

Denson, L. S. 2016. Not Your Timezone Blog (https://www.latreesedenson.com/blog).
Personal 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.

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.

SKILLS AND PROFICIENCIES:

Statistical Data Analysis

- R Statistical Programming – Highly Proficient
    - Used daily for data manipulation and statistical analysis tasks, including basic statistical tests such as an analysis of variance to more complex linear mixed effects models, non-linear models, and multivariate analyses such as a principle component analyses.
    - Built large simulation studies using R on multiple computers and computer cores (parallel computing).
    - Use established R packages but will typically create own functions to suit as appropriate.
- Bayesian Modeling Software including OpenBUGS, WinBUGS and JAGS – Proficient
    - 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 misspecification 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
    - Use 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. Converted previous versions of the Black Rockfish Assessment model in Stock Synthesis to Version 3.24. Used Stock Synthesis as estimation model for both my Master's thesis as well as for a chapter of my Ph.D. dissertation.
    - Further honing 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 – Highly Proficient
    - Attended a weeklong workshop at OSU in Fall 2014 taught by Dr. Andre Punt from the University of Washington (FW 505). Learned how to build models and estimate parameters of basic population dynamics models such as the Von Bertalanffy growth

equation. Learned to interpret AD model builder output such as the covariance file. Ultimately created my own age-structured stock assessment model.
    - 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. Interpreted the results and produced reports as part of the course assignments.
- Template Model Builder (TMB) – Proficient
    - Currently using VAST, a package in R that uses Template Model Builder for parameter estimation.
    - 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 – Proficient
    - 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 – Basic Proficiency
    - Used Java for basic agent-based modeling and created a basic simulation of fish movement and population growth.
- STELLA – Highly Proficient
    - Used consistently in the past to develop simple models of ecological systems such as the water cycle and salmon fecundity given various stream conditions.

Geospatial Data Analysis

- ArcGIS – Highly Proficient
    - 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) – Highly Proficient
    - Experienced in data management and statistical analysis.
    - Experienced in writing macros for automation in Excel.
- MySQL – Proficient
    - Received training on data manipulation and analysis through a remote course taken though the University of Miami (Fall 2018).

AWARDS AND FUNDING:

- 06/2019 UM RSMAS Graduate Studies Office Service Award.
- 08/2018 NOAA LMRCSC 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.
- 07/2018 UM 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 LMRCSC Doctoral Fellowship: Included funding for tuition, stipend and travel at UM.
- 2013 2nd Place in the Minorities in Agriculture Natural Resources and Related Sciences Graduate Oral Research Presentation Competition: $200.

- 2011 – 2015 NOAA LMRCSC Masters Fellowship: Included funding for tuition, stipend, and travel at OSU.
- 08/2011– 12/2011 DUML 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 NCSU Lawrence Clark Leadership Award.
- 2009 NCSU 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 NCSU R.J. Reynolds Merit Scholarship: Approximately $500 per semester.

TEACHING EXPERIENCE:

Undergraduate Intern Mentor (UM-RSMAS) **05/2019 – 07/2019**
NOAA LMRCSC

- 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 on how to manage and analyze fishery-independent data as well as environmental data from databases.

Teaching Assistant (UM- RSMAS) **01/2019 – 05/2019**
MES 623: Applied Environmental Economics

- 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 its transferable application to economics models.
- Responsible for assisting students with coding optimization problems, holding office hours, and grading exams.

Marine Conservation Guest Lecturer **11/2017**
UM Coral Gables Campus

- Lectured on the complexity of stock assessment models and their potential applications to marine conservation.
- Used personal research on incorporating spatial population dynamics into a stock assessment as an example stock assessment issue.

Teaching Assistant (UM-RSMAS) **08/2017 – 12/ 2017**
RSM 612: Statistics for Environmental Management

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

Teaching Assistant (NCSU) **01/2009 – 05/2010**
MEA 100L: Earth System Science

- Designed lab lectures and quizzes which aided in the 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 **08/2018 – 08/2019**
King Mackerel Geostatistical Modeling Project
UM-RSMAS

- Conceived, designed and prepared a pre-proposal and proposal for the NOAA LMRCSC 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.

Co-Convener **09/2017**
ICES Annual Science Conference Session - Tampa, FL

- 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 **08/2017 – 08/2019**
UM-RSMAS

- Worked with a team of 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 Graduate Program Directors.

Week of Science Organizing Committee Member **04/2017**
Miami, FL

- 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 **08/2016 – 08/2017**
UM-RSMAS

- 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.

OSU Black Graduate Student Association President **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 outcomes.
- 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.

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

REFERENCES:
Ph.D. Advisor: Elizabeth A. Babcock
Associate Professor Marine Biology and Ecology, University of Miami
Email: ebabcock@rsmas.miami.edu; Phone: 305-421-4852

Ph.D. NOAA Mentor: John F. Walter
Branch Chief, NOAA SEFSC Sustainable Fisheries Division
Email: john.f.walter@noaa.gov; Phone: 305-364-4114

Master's Advisor: David B. Sampson
Professor Emeritus, Oregon State University
Email: David.sampson@oregonstate.edu; Phone: 541-867-0386

Master's NOAA Mentor: Andi Stephens
Research Fishery Biologist, NOAA NWFSC
Email: Andi.stephens@noaa.gov; Phone: 843-709-9094