ADRIANNE WILSON

UNIVERSITY OF MIAMI
ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCES
DEPARTMENT OF MARINE BIOLOGY AND ECOLOGY
4600 RICKENBACKER CSWY.
MIAMI, FL 33149
Mobile: 773-630-5843
Email: atw15@miami.edu
Citizenship: USA

OBJECTIVE

Highly skilled and dedicated marine statistician/fisheries biologist/geneticist with a strong background in statistics, modeling, bioinformatics, and data analysis. Seeking a challenging position to apply my expertise in designing and conducting fisheries experiments, analyzing large datasets, developing population models, and evaluating management strategies for sustainable fisheries.

EDUCATION

University of Miami - Rosenstiel School of Marine & Atmospheric and Earth Science
Doctor of Philosophy in Marine Biology and Ecology, "Age, Growth and Genetic Diversity of Lane Snapper, a data limited species", September 2023

Relevant Coursework in Statistics: 6.00 Hrs Total
- RSM 612 Statistics for Environmental Management (3.00)
- MBE 716 Bayesian Statistics (3.00)

Relevant Coursework in Physical and Mathematical Sciences: 6.00 Hrs Total
- MBE 704 Biological Oceanography (3.00)
- MES 646 Marine Population Biology Processes and Modeling (3.00)

Relevant Coursework in Ecology: 3.00 Hrs Total
- MBE 615 Tropical Marine Ecology (3.00)

Other Relevant Coursework: 8.00 Hrs Total
- MES 677 Management and Conservation of Marine Ecosystems (3.00)
- RSM 622 Data Management for Scientists (2.00)
- MBE 629 Population Genetics and Genomics (3.00)

Florida A&M University - School of the Environment
Master of Science in Environmental Science, "Larval Fish Assemblages in the Gulf of Mexico during the Deepwater Horizon Oil Spill", August 2017

Relevant Coursework in Statistics: 4.00 Hrs Total
- EVS 6885 Environmental Research Design & Analysis (4.00)

Relevant Coursework in Policy: 5.00 Hrs Total
- EVS 5862 Environmental Regulations and Regulatory Agencies (2.00)
- EVR 5864 Environmental Policy and Risk Management (3.00)

Relevant Coursework in Ecology: 17.00 Hrs Total
- EVR 6064 Principles of Ecology (3.00)
- PCB 5315 Marine/Estuarine Ecosystems (3.00)

- EVR 5031C Wetland Preservation W/lab (4.00)
- EVR 5213 Marine Pollution (3.00)
- EVS 5027 Environmental Microbiology (4.00)

Other Relevant Coursework: 3.00 Hrs Total
- CHS 5610 Environmental Chemistry (3.00)

Northwestern University - Weinberg College of Arts and Science
Bachelor of Arts in Environmental Science, June 2014
Relevant Coursework in Statistics: 1.00 Hrs Total
- STAT 210-0 Statistics for Social Sciences (1.00)

Relevant Coursework in Mathematics: 3.00 Hrs Total
- MATH 213-0 Single Variable Calculus II (1.00)
- MATH 214-0 Single Variable Calculus III (1.00)
- MATH 220 Differential Calculus of One-Variable Functions (1.00)

Relevant Coursework in Chemistry and Biology: 7.68 Hrs Total
- BIOL_SCI 103-0 Diversity of Life (1.00)
- BIOL_SCI 164-0 Genetics and Evolution (1.00)
- BIOL_SCI 332-0 Conservation Genetics (1.00)
- BIOL_SCI 335 Critical Topics in Ecological Conservation (1.00)
- CHEM 101-0 General Chemistry (1.00)
- CHEM 102-0 General Inorganic Chemistry (1.00)
- CHEM 122-0 General Inorganic Chemistry Lab (0.34)
- CHEM 103-0 General Physical Chemistry (1.00)
- CHEM 123-0 General Physical Chemistry Lab (0.34)

Relevant Coursework in Earth and Environmental Science: 7.00 Hrs Total
- EARTH 101-0 Earth Science for the 21st Century (1.00)
- EARTH 201-0 Earth Systems Revealed (1.00)
- EARTH 316-0 Earth's Changing Climate (1.00)
- ENVR_SCI 201-0 Earth: A Habitable Planet (1.00)
- ENVR_SCI 202-0 The Health of the Biosphere (1.00)
- ENVR_SCI 203-0 Energy and the Environment (1.00)
- ENVR_SCI 390-0 Special Topics in Environmental Sciences (1.00)

Other Relevant Coursework: 4.00 Hrs Total
- PHIL 268-0 Ethics & the Environment (1.00)
- PHIL 269-0 Bioethics (1.00)
- ENVR_POL 390-0 International Environmental Politics (1.00)
- SESP 298-0 Conservation Ecology (1.00)

RESEARCH EXPERIENCE

University of Miami- Miami, Florida **August 2017-December 2023**
Graduate Research Assistant
Statistics and modeling
- Designed and conducted fisheries experiments in accordance with state, federal, and IACUC laws and protocols, ensuring ethical treatment of animals and accurate data collection.

- Expertise in analyzing complex datasets and identifying trends to inform management decisions.
- Wrote and modified code in R and Python to analyze data, develop models, and automate tasks related to data management.
- Ability to manage multiple projects simultaneously, meet deadlines, and deliver high-quality results
- Knowledge of age and growth analysis techniques, including fitting growth curves and addressing bias from size-selective fisheries
- Developed and implemented population models to gain insights into the dynamics of reef fish populations and predict future trends.
- Conducted management strategy evaluations on data-limited fisheries and proposed best practices for sustainable management.
- Authored specialized reports on findings and recommended best management practices based on the results of data-limited stock assessments.
- Collaborated with multiple stakeholders to create custom management procedures tailored to at-risk fisheries, considering their input and requirements.

Molecular Biology/ Biology
- Conducted genomic DNA extractions and set up quantitative PCR reactions for genetic research.
- Prepared libraries for whole-genome sequencing using Illumina MiSeq and HiSeq NGS platforms, ensuring accurate and high-quality data output.
- Recorded data and preserved biological samples collected in the field, maintaining data integrity and ensuring sample viability.
- Removed, processed, annotated, read, and assigned ages to thousands of otoliths, accurately determining daily rings and annuli for population analysis.
- Supported fishery-independent/dependent resource surveys through data collection, analysis, and fish identification.
- Trained multiple interns on otolith removal and processing techniques, ensuring proficiency and adherence to quality standards.
- Managed lab supplies and maintained lab safety protocols, ensuring a safe and efficient working environment.
- Coordinated with NOAA (National Oceanic & Atmospheric Administration) Living Marine Cooperative Science Centers (LMRCSC) to collaborate on research projects and contribute to scientific advancements.
- Planned and coordinated fieldwork, including logistics, sampling protocols, and data collection.
- Designed and implemented research projects with a focus on fisheries population dynamics, applying mathematical and statistical models to improve understanding and management strategies.
- Actively participated in fisheries management council meetings, providing scientific expertise and contributing to decision-making processes.
- Conducted sea duties on large and small marine vessels, acquiring firsthand field experience and ensuring accurate data collection.
- Communicated clearly and effectively with various stakeholders, scientists, and communities, presenting research findings and fostering collaboration.

National Oceanic & Atmospheric Administration- Panama City Beach, FL **June 2019 - September 2019**
Graduate Research Intern
- Prepared otolith samples for aging analysis by carefully cleaning, embedding, and polishing specimens under supervision.
- Assisted in the interpretation of otolith microstructures to determine fish age and growth patterns,

contributing valuable insights to ongoing research projects.

- Utilized microscopy techniques to examine otoliths for growth increments, annuli, and other age-related structures, following established protocols.
- Maintained laboratory equipment and supplies, including microscope lenses, embedding materials, and polishing compounds, to ensure optimal functionality and organization.
- Documented experimental procedures, observations, and results in laboratory notebooks and electronic databases, maintaining meticulous records for future reference.
- Collaborated with senior researchers and lab technicians to troubleshoot technical issues, optimize protocols, and improve workflow efficiency.
- Participated in lab meetings, seminars, and training sessions to enhance knowledge of otolith processing techniques, fish biology, and aging methodologies.
- Contributed to the preparation of scientific manuscripts, posters, and presentations summarizing research findings and laboratory activities for publication and dissemination.
- Demonstrated a commitment to safety protocols and best practices in laboratory operations, promoting a culture of responsibility and accountability among team members.

National Oceanic & Atmospheric Administration- Miami, FL **May 2016 - August 2017**
Graduate Research Assistant

- Sailed as a scientist on the R/V NOAA Nancy Foster, actively contributing to research expeditions and data collection efforts.
- Conducted deck deployment, recovery, and sampling of CTD casts from several depth profiles, facilitating the collection of dissolved oxygen samples and salinity analyses.
- Prepared and deployed MOCNESS, neuston, and mini bongo nets for plankton surveys, effectively capturing and studying plankton communities for ecological analysis.
- Prepared and preserved plankton samples following FORCES Lab's standard operating procedures, ensuring accurate data collection and comprehensive sample documentation.

Teaching Experience

University of Miami - Miami, FL **August 2019 - December 2019**
Teaching Assistant

- Drove and supervised a group of thirty students during field studies, ensuring their safety and facilitating their learning experience.
- Designed, wrote, and administered weekly labs, developing engaging and educational activities to reinforce course material.
- Provided technical assistance to professors and supported them by presenting lecture material, enhancing the overall learning environment.
- Assisted students by providing detailed feedback regarding class assignments, fostering their academic growth and understanding.
- Graded labs, quizzes, and homework assignments accurately and efficiently, providing timely feedback to students to track their progress.

University of Miami - Miami, FL **January 2019 - May 2019**
Teaching Assistant

- Designed and set up lab materials, ensuring all necessary equipment and specimens were available for each lab session.
- Coordinated with other faculty members and collected specimens from the field, contributing to the diverse and comprehensive lab experiences for students.
- Supported professors by providing technical assistance and presenting lecture material, assisting in delivering engaging and informative classroom instruction.
- Assisted students by providing detailed feedback regarding class assignments, guiding them in

their learning process and helping them improve their work.

Florida Agricultural & Mechanical University -Tallahassee, FL **January 2015 - August 2017**
Teaching Assistant
- Introduced guest speakers and led class discussions, promoting active learning and facilitating knowledge exchange.
- Administered and graded quizzes accurately, assessing students' comprehension and progress.
- Assisted students by providing detailed feedback regarding class assignments, guiding them in their learning process and helping them improve their work.

WORK EXPERIENCE
Northwestern University's Center for Talent Development -Evanston, IL **June 2015 - August 2015**
Residential and Commuter Assistant
- Actively supervised students and maintained Center for Talent Development's supervision standards during non-class time
- Collaborated with a 12-person residential team to foster a safe, fun, and engaging environment for over four hundred students
- Planned and facilitated recreational activities for students during afternoons, evenings, and weekends
- Consistently and fairly enforced Center for Talent Development's rules and procedures and appropriately addressed student behavior as necessary

U.S. Department of Education -Washington, D.C. **February 2015 - June 2015**
Peer Reviewer
- Evaluated twenty institutions of higher education's student support services under Federal TRIO Program
- Scored, ranked, and provided detailed, constructive, and timely written reviews of federal grant proposals

John G. Shedd Aquarium -Chicago, IL **December 2013 - February 2014**
Water Quality Lab Intern
- Collected daily water samples from tanks and enclosures using Shedd Aquarium's methods/procedures
- Measured pH, conductivity, and turbidity to ensure a healthy environment for Shedd's animal collection
- Analyzed and recorded nitrate, nitrite, and ammonium concentrations as a part of regular tank maintenance

FELLOWSHIPS AND GRANTS
- National Oceanic and Atmospheric Administration Educational Partnership Program (LMRCSC NOAA EPP) Fellow
- University of Miami Institute for Advanced Study of the Americas Field Research Grant
- National Oceanic and Atmospheric Administration -Living Marine Resource Cooperative Science Center TAB Grant
- Edward Alexander Bouchet Graduate Honor Society Member

PRESENTATIONS
Wilson, A. (2022, April). Age, Growth and Genetic Diversity of Lane Snapper, a data-limited species. Living Marine Resource Cooperative Science Center Graduate Seminar Series. Oral presentation conducted from Zoom, Miami, FL

Wilson, A. (2019, November). Age and Growth of Lane Snapper in the Gulf of Mexico. Oral session

presented at the University of Miami Institute for Advanced Study of the Americas Annual Graduate Symposium and Field Research Grant Workshop, Miami, FL.

Wilson, A. (2019, October). Age and Growth of Lane Snapper in the Gulf of Mexico. Oral session presented at the annual American Fisheries Society Meeting, Reno, NV.

Wilson, A. (2019, June). Black in STEM. L'Oreal USA and the American Association of University Women Miami Dade College, Microbiology Girls Club Summer Workshop. Oral presentation conducted from Miami Dade College-Homestead Campus,
Homestead, FL

Wilson, A. (2017, August). Larval Fish Assemblages in the Gulf of Mexico during the Deepwater Horizon Oil Spill. Oral session presented at the annual American Fisheries Society meeting, Tampa, FL.

SKILLS AND PROFICIENCIES

Statistical Programming: Highly Proficient

Extensive experience in quantitative analysis of estuarine and marine fish populations. Utilized R daily for statistical analysis tasks and data manipulation. Proficient in fundamental statistical methods such as linear and non-linear regression and ANOVA, as well as more complex techniques like generalized linear models and growth models. Expertise in managing and analyzing large datasets using various statistical software packages. Utilized various R packages to conduct analyses and create visually appealing figures for effective communication of findings to stakeholders.

Bayesian Modeling Software including OpenBUGS and JAGS: Proficient

Familiarity with a range of Bayesian modeling techniques, including generalized linear models, random effects models, ANOVA, log-normal models, growth models, mark-recapture models, multi-species models, and population dynamics models.

Bioinformatics and Data Management: Highly Proficient

Scripting Languages, Programming Languages, and Command-Line Interfaces including PowerShell, Python, and Cygwin: Proficient. Utilized PowerShell, Python, and Cygwin for manipulating large databases of omics data and conducting biological analyses, such as DNA sequences.

Microsoft Excel: Highly Proficient. Used for data management and statistical analysis tasks. MySQL:

Proficient. Received training in remote courses on data manipulation and analysis (Fall 2018).

Proficient in: TASSEL, dDocent, Structure, Arlequin

Laboratory and Field Skills– Water and soil quality assessments, DNA extraction, restriction enzyme digest, PCR, Genotyping-by-sequencing/Next-Gen library prep, familiar with ICP - spectrometer and HACH DR4000U spectrophotometers and other standard laboratory tests, small boat fieldwork, plankton preservation, and sorting, otolith removal, processing, and reading

INSTITUTIONAL SERVICE

Black Graduate Student Association (BGSA) – University of Miami **May 2019 - February 2020**

President

- Revitalize the BGSA after years of inactivity
- Consistently monitor organizational needs and propose modifications when needed
- Maintain a positive public relations image throughout the campus and on social media •
- Maintain constant communication with the faculty advisor and BGSA executive board.
- Make certain the organization remains registered and financially solvent
- Schedule and moderate regular meetings of the general body and executive board

- Prepare agenda, create, manage, and facilitate meetings and events

Graduate Student Association (GSA) – University of Miami **May 2019 – September 2021**

Senator-Member of Social and Civic Engagement Committee
- Act as the liaison between graduate students and the academic departments
- Listen to and resolve issues affecting the graduate student teaching and learning experience • Support UM community members and organizations in active engagement with issues of civic import within the campus • Work towards a student initiative to increase diversity and inclusion in the graduate school

Diversity Equity and Inclusion (DEI) Committee – University of Miami **May 2019 – September 2021**
Student Representative
- Act as the liaison between graduate students and the academic departments
- Listen and resolve issues affecting underrepresented students and their learning experience
- Work towards enhancing awareness among the Rosenstiel School of Marine, Atmospheric and Earth Science community on diversity, equity, and inclusion
- Host diverse speakers as well as diversity and inclusion workshops
- Advocate successfully for the removal of GRE scores as a program requirement
- Assist with adding a student representative to the department hiring committee
- Aid in the development of the "Rosenstiel Opportunity Award" for underrepresented populations
- Facilitate the connection between the Rosenstiel School of Marine, Atmospheric, and Earth Science and HBCUs (Historically Black Colleges and Universities) to increase recruitment efforts from diverse institutions
- Co-coordinate and facilitate RSMAS Brave Spaces/SEAS
- Create a section for DEI at student and RSMAS townhalls
- Assist in creating funding opportunities for graduate programs at RSMAS
- Review and rank scholarship applicants
- Provide regular updates on DEI committee progress
- Meet with University President to discuss current events, issues, and updates on DEI at the Rosenstiel School of Marine, Atmospheric and Earth Science

Historic Review Committee on Naming– University of Miami **September 2020 – September 2021**
Student Representative
- Act as the liaison between graduate students and the committee
- Collaborate to create and establish committee guiding principles
- Consider and review each naming case submitted to the committee
- Deliberate and discuss the impact and legacy of the namesake in question
- Provide recommendations to the President of the University and the Board of Trustees