

Amirah N. Nieves Medina

787-408-7501 | amirah.nieves@upr.edu | LinkedIn: [Amirah Nieves](#)

EDUCATION

University of Puerto Rico-Humacao, Humacao P.R.
Bachelor of Science, General Biology; GPA 3.5

Expected May 2024

RESEARCH EXPERIENCE

University of Michigan – Ann Arbor
Summer Research Opportunity Program (SROP)
Advisor: Dr. Swathi Yadlapalli

Summer 2023

Project: Understanding the role of subcellular localization of clock mRNAs on circadian rhythms

Funded by: Rackham Graduate School

- We employed single-molecule RNA FISH (Fluorescence In Situ Hybridization) technique to know how neural activity affects mRNA subcellular localization in clock neurons to control circadian rhythms.
- Identify how timeless mRNAs are preferentially localized to the nuclei of clock neurons until mid-day and exported to the cytoplasm (where translation can occur) after lights are turned off.

University of Puerto Rico – Humacao, Biology Department
U-RISE Program

August 2022-Present

Advisor: Dr. Edwin Traverso

Project: Analysis of the MUSA1 Ubiquitin E3 Ligase Subunit in *X. laevis* Muscle Development

Funded by: National Institution of Health (NIH)

- Study the process of somitogenesis during the development of the model organism *Xenopus laevis*.
- Identify the role of MUSA1, a ubiquitin E3 Ligase, in the early muscle development using Western blot and Immunostaining techniques.
- Understanding the role of MUSA 1 to help explain how muscle mass loss and physical disability can arise from defects in muscle mass regulation.

Purdue University - West Lafayette
Research Experience for Undergraduates (REU)
Research Assistant for Dr. Catherine Searle

Summer 2022

Project: Variation in Host Competence for *Batrachochytrium dendrobatidis* across temperatures

Funded By: National Science Foundation (NSF)

- Environmental changes alter host-pathogen interactions, thus increasing infectivity of diseases, such as *Batrachochytrium dendrobatidis*, in a host. To further explore these interactions, tadpoles were exposed to the *B. dendrobatidis* pathogen for a period of time prior to measuring the host competence by varying environmental temperatures attributed to climate change.

- Through using q-PCR experiments, we studied the overall effect of temperature changes regimen on pathogen transmission.

University of Puerto Rico-Humacao, Biology Department

August 2021 - May 2022

Advisor: Ariel Diaz Pérez

Project: Taxonomy of arachnid species endemic of Puerto Rico

- Create a taxonomy to help categorize organisms by using hierarchical classification to further understand and organize the diversity of life in Puerto Rico.
- Collect arachnid samples and identify the location in urban areas to analyze their morphology and identify differences between them.
- Collaborated with a research team to study the diversity and distribution of the species Odonata.

SHORT COURSES

Massachusetts Institute of Technology

January 2023

Quantitative Methods Workshop 2023

- Brief introduction to quantitative tools and programming languages such as MATLAB and Python, for experimental data analysis in biology and neuroscience.

University of Michigan - Ann Arbor

May 2022

Developing Future Biologists Summer Short Course

- Week-Long Short Course to gain a working understanding of Developmental Biology Research.
- Participate in wet and dry labs involving the use of Developmental Biology model organisms.
- Get introduced to the program R-studio as an effective tool to create graphs and analyze scientific data.

RESEARCH PRESENTATIONS

A. Nieves Medina, A. Linskens, S. Yadlapalli. Understanding the role of subcellular localization of clock mRNAs on circadian rhythms. Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), Phoenix, AZ. November 17th, 2023

A. Nieves Medina, A. Linskens, S. Yadlapalli. Understanding the role of subcellular localization of clock mRNAs on circadian rhythms. Summer Research Opportunity Program Symposium, University of Michigan, Ann Arbor, MI. August 1st, 2023

A. Nieves Medina, P. Blackwood, C. Searle. Variation in Host Competence for *Batrachochytrium dendrobatidis* across temperatures. Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), Anaheim, CA. November 11th, 2023.

A. Nieves Medina, P. Blackwood, C. Searle. Variation in Host Competence for *Batrachochytrium dendrobatidis* across temperatures. Purdue Summer Undergraduate Research Symposium, Ecology Department, Purdue University, West Lafayette, IN. August 3rd, 2022.

EXTRACURRICULAR ACTIVITIES

Student Organizations and volunteer work

NeuroBoricuas UPRH Chapter

President

August 2022-May 2023

Vice-President

August 2023-Present

- Led and encouraged an executive staff to maintain an organized, respectful, and stable environment within the organization.
- Organized meetings and different activities related to the different areas in Neuroscience for former members.
- Collaborated, participated in, and promoted activities and workshops on professional development within the Neuroscience field.
- Organized and volunteered to hand out free cooked meals for UPRH students in need after Hurricane Fiona 2022.

Student Council of the University of Puerto Rico at Humacao

Representative of the Biology Department

August 2021-May 2022

- Encouraged peers to express their opinions and suggestions to improve overall undergraduate experience within the Biology Department.
- Participated in student council initiatives to foster student involvement in events and mechanisms to strengthen their presence with institution's management.
- Collaborated in a taskforce which proposed to include neurosciences and neuropharmacology courses in the department's curriculum.
- Represented students during campus's reaccreditation site visit by the Middle States Commission on Higher Education.

General Biology Association

August 2021-Present

Member/Volunteer for community service event

- Brought donation of hygiene products for children who have lived under conditions of domestic violence and reside at the Casa de la Bondad, Inc. in Humacao.

Cleaned, repaired, and painted dining rooms and surrounding areas within the shelter for children in need of housing.

CAP Foundation - San Juan, Puerto Rico

2014, 2017, 2019, 2022

Annual Donation Activity to Support Dr. Antonio Ortiz University Pediatric Hospital of Puerto Rico

- Participated in a fundraising event Uniendo Cabezas (Putting Heads Together).
- Donated ten (10) inches of hair for pediatric cancer patients.

Mentorship

The Girls STEM Ambassadors Program: "Semillas de Triunfo"

Mentor

August 2023-Present

- Mentor and introduce a Puerto Rican middle and high school female student to careers in science, technology, engineering, and mathematics (STEM).
- Empower to practice leadership skills and become a STEM ambassador in their community.
- Participate in educational activities designed and delivered by female Puerto Rican scientists and engineers.

Puerto Rico Outstanding Undergraduate Diversified Mentoship STEM Program

Mentor

August 2022-May 2023

- Provided campus tours to incoming first year STEM students on the UPRH Campus.
- Organized meetings with mentees to further answer questions about the program.
- Mentor incoming first year students on how to navigate higher educational processes such as enrolling for courses and financial aid applications.
- Provided support on how to approach and face challenges that may arise as first-generation students at a higher education institution.