

LAWRY DEL MAR SOTO ESCOBAR

Notre Dame, IN

lsotoesc@nd.edu · (787) 925-5646

EDUCATION

UNIVERSITY OF NOTRE DAME

Doctor of Philosophy (Ph.D.) in Biological Sciences
Concentration: Neuroscience

Notre Dame, IN
August 2023 – Present

PONTIFICAL CATHOLIC UNIVERSITY OF PUERTO RICO

Bachelor of Science (B.S.) in Biomedical Sciences
Summa Cum Laude

Ponce, Puerto Rico
August 2019 – December 2022

RESEARCH EXPERIENCE

UNIVERSITY OF NOTRE DAME

Ph.D. Student

Principal Investigator: Katrina Adams, Ph.D.

Notre Dame, IN
January 2024 – Present

- Elucidating the role of endothelin-1 signaling in adult neural stem cells
 - Identify the effects of Ednrb ablation in neural stem cells within the adult mouse subventricular zone
 - Determine the molecular mechanism of ET-1 signaling in neural stem cell quiescence

PONCE HEALTH SCIENCES UNIVERSITY

Research Assistant

Principal Investigator: James Porter, Ph.D.

Ponce, PR
January 2023 – May 2023

- Investigating the sex-dependent effects of angiotensin II type 1 receptor blocker on behavioral changes induced by single prolonged stress
 - Performed auditory fear conditioning, open field tests and Single Prolonged Stress Procedure
 - Identified molecular effects of angiotensin II type 1 receptor blocker treatment on rats after Single Prolonged Stress exposure
 - Designed figures and writing
- Techniques learned: tissue sectioning, Pavlov and fear Conditioning, immunohistochemistry, confocal microscopy, and cell analysis through Image J

FLORIDA ATLANTIC UNIVERSITY

Intern - Research Experience for Undergraduates

Principal Investigator: Qi Zhang, Ph.D.

Jupiter, FL
May 2022 – August 2022

- Cholesterol Regulatory Factors in the Brain of APP-Null Mice – An Organ-Level Study Using Light Sheet Microscopy
 - The goal was to study the relationship between the amyloid precursor protein and cholesterol in the development of Alzheimer's disease
 - Performed light sheet microscopy to compare cholesterol regulators in the wildtype and APP-null mice

- Techniques learned: cell media preparation, immunocytochemistry, light-sheet microscopy mice cardiac perfusions, and brain dissections

PONTIFICAL CATHOLIC UNIVERSITY OF PUERTO RICO

Undergraduate Researcher

Principal Investigator: Zaira Mateo-Mayol, Ph.D.

Ponce, PR

August 2020 – December 2022

- Melatonin level in *Caenorhabditis elegans* using High-Performance Liquid Chromatography
 - Proposing a project that would study the effect of melatonin in *C. elegans* that express the human AD gene
 - Refining proposed protocols through independent experimental testing
 - Measuring melatonin intake by *C. elegans* using HPLC
- Techniques learned: Solution preparation, stereoscopic microscopy, high-performance liquid chromatography

PUBLICATIONS

- Sex-dependent effects of angiotensin II type 1 receptor blocker on molecular and behavioral changes induced by single prolonged stress, *Behavioral Brain Research*
Authors: Ortiz-Nazario, E., Denton-Ortiz, C., **Soto-Escobar, L.**, Mateo-Mayol, Z., Colon-Romero, M., Hernandez-Lopez, A., and Porter, J. (2023).

PRESENTATIONS

- Oral Presentation at the Cell Seminar, Biological Sciences Department
 - September 2024
 - Title: Elucidating the role of endothelin-1 signaling in adult neural stem cells
 - Location: University of Notre Dame
- Oral Presentation at the Puerto Rico Louis Stokes Alliance for Minority Participation Meeting
 - May 2022 and December 2022
 - Title: Melatonin levels in *Caenorhabditis elegans* using HPLC
 - Location: Pontifical Catholic University of Puerto Rico
- Poster Presentation at the Research Experience for Undergraduates Symposium
 - July 2022
 - Title: Cholesterol Regulatory Factors in the Brain of APP-Null Mice – An Organ-Level Study Using Light Sheet Microscopy
 - Location: Florida Atlantic University
- Oral Presentation at the Puerto Rico Interdisciplinary Scientific Meeting
 - April 2022
 - Title: Melatonin levels in *Caenorhabditis elegans* using HPLC
 - Location: University of Puerto Rico, Bayamón Campus
- Oral Presentation at Pontifical Catholic University's Scientific Research Symposium
 - April 2022
 - Title: Melatonin levels in *Caenorhabditis elegans* using HPLC
 - Location: Pontifical Catholic University of Puerto Rico

TEACHING EXPERIENCE

FUNDAMENTALS OF GENETICS (BIOS 20303)

January – May 2024

University of Notre Dame

Notre Dame, IN

Instructor: Katrina Adams, Ph.D.

- Met with students to discuss questions regarding course lectures in a weekly basis
- Offered review sessions for midterm and final exams
- Attended and supervised undergraduate students during biweekly lectures

NEUROSCIENCE AND BEHAVIOR (NSBH 20450)

August – December 2023

University of Notre Dame

Notre Dame, IN

Instructor: Sunny Boyd, Ph.D.

- Met with students to discuss questions regarding course lectures in a weekly basis
- Offered weekly review sessions
- Graded weekly assignments
- Proctored quizzes and exams

COMMUNITY OUTREACH

EXPANDING YOUR HORIZONS CONFERENCE

April 12, 2025

Notre Dame, IN

- Role: Workshop leader
- Led an interactive neuroscience workshop where the students learned about the regions of the brain, sensory input, and sensory homunculus
- The workshop was offered to girls in middle school who are interested in STEM careers

SCIENCE ALIVE

February 8, 2025

South Bend, IN

- Role: Workshop leader
- Led a hands-on activity performing strawberry DNA extractions
- The event was geared towards children from the community whose ages ranged from 5-13 years old

CAMPUS INVOLVEMENT

ASSOCIATION FOR WOMEN IN SCIENCE

2024 – present

University of Notre Dame

Notre Dame, IN

- Served as a mentor for undergraduate students as part of the STEMentorship Program

SOCIETY FOR ADVANCEMENT OF CHICANOS AND NATIVE AMERICANS IN SCIENCE

2024 – present

University of Notre Dame

Notre Dame, IN

- Social Media Chair

AMERICAN MEDICAL STUDENT ASSOCIATION

2019 – 2022

Pontifical Catholic University of Puerto Rico

Ponce, PR

- Secretary
- Organized monthly informative sessions on scientific research

SKILLS

Laboratory: Administration of Intraperitoneal Injections (IP) on Mice, Cardiac Perfusions, Tissue sectioning, Immunohistochemistry, RNAscope, Confocal Microscopy, and Mammalian Cell Culture

Languages:

- Spanish – fluent
- English – fluent

HONORS & AWARDS

- | | |
|---|----------------|
| • Professional Development Award from the Graduate School at Notre Dame | April 2025 |
| • Kinesis-Fernández Richards Family Fellowship | 2023 – Present |
| • Honor Society of Phi Kappa Phi | 2022 – Present |
| • NSF Puerto Rico Louis Stokes Alliance for Minority Participation | 2020 – 2022 |
| • Pontifical Catholic University of PR President's Excellence Award | 2021 – 2022 |
| • Dean's Honor List | 2019 – 2022 |