

Ana Laura Loera-Lopez

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EDUCATION

Doctor of Philosophy in Neuroscience August 2022 - present
University of Georgia, Athens, GA

Bachelor of Science in Biology, Neuroscience Minor May 2021
Georgia Southern University, Statesboro, GA
Institutional GPA: 3.90
Overall GPA: 3.86

Dual Enrollment Fall 2015 – Spring 2017
Middle Georgia State University, Dublin, GA

RESEARCH EXPERIENCE

Undergraduate Research Assistant, Neurodegeneration Lab Spring 2020
Supervisor: Dr. Robert Mans (PhD - Neurobiology) Spring 2021 - present

- Investigated the role of the M₁ muscarinic acetylcholine receptor in the phosphorylation of ERK1/2 in relation to neurodegenerative diseases
- Extracted zebrafish brains microscopically and maintained ex vivo using artificial cerebrospinal fluid
- Conducted experimental treatments on brains using neuropharmacological drugs (Oxo-M, pirenzepine, BQCA)
- Conducted western blots on telencephalon samples to determine levels of phosphorylated ERK1/2
- Conducted statistical analyses to demonstrate differences between sample treatments

Ocean Mammal Institute of Hawai'i Internship Jan 1 - Jan 18, 2020

- Conducted field research within a team on the impact of vessel traffic on humpback whale behavior
- Rotated between positions of using binoculars to locate whales and call out behaviors, using a theodolite to record coordinates of whale sightings, and writing down data on time of whale sightings, coordinates, and behaviors.
- Recorded and analyzed whale behavior using a theodolite and 2D graphing techniques
- Compared whale behavior before, during, and after encounters with boats by calculating percentage of activity in each period to write a research paper on findings

PRESENTATIONS

Determining if the neuroprotective ERK1/2 cascade in the telencephalon of zebrafish is dependent upon the M₁ muscarinic acetylcholine receptor April 19, 2021
April 23, 2021

Ana Loera-Lopez, Sydney O'Rourke-Walker, Makenzi Thomas, Robert Mans

Presented to science and mathematics students, faculty, and community

College of Science and Mathematics Virtual COUR Symposium, Psychology Virtual Research Presentations

- Presented research findings from Dr. Man's neurodegeneration lab
- Blocking the M₁ mAChR with pirenzepine will block the phosphorylation of ERK induced by Oxo-M
- The phosphorylation of ERK induced by Oxo-M increased with the use of the M₁ mAChR allosteric modulator BQCA

Developmental Toxicology

March 23, 2021

Ana Loera-Lopez, Taylor Lee, Grace Perry

Presented to biology students and faculty

Georgia Southern University, Statesboro, GA

- Used peer-reviewed literature articles to communicate findings on recent developmental toxicology studies and the importance of studying developmental toxicology

Somatosensory Feedback and Mind Control in Emerging Prosthetics

Nov 16, 2020

Ana Loera-Lopez

Nov 19, 2020

Presented to biology, neuroscience, and electrophysiology students and faculty

Georgia Southern University, Savannah, GA

- Communicated personal research on prosthetics that used advanced methods in neuroscience

SKILLS

Lab and data collection

- Zebrafish brain extractions, micropipetting, microscopy, electrophysiology, western blotting, gel electrophoresis, sterile lab techniques, Microsoft Excel for data input and demonstrating results in graph form, Microsoft Powerpoint and Google Slides to present research findings

Research and writing

- Conducting and discussing literature reviews, presenting research findings, writing abstracts, recordkeeping

Language

- Spanish

RELEVANT COURSE WORK

| | | |
|----------------------------|------------------------------|--------------------------|
| Intro to Statistics I | Neurobiology | Physiology |
| Research and Analysis I | Introduction to Neuroscience | Physiological Psychology |
| Programming Principles I | Topics in Neuroscience | Mammalian Physiology |
| Genetics | Cancer Biology | Electrophysiology |
| Cell and Molecular Biology | Immunology | Developmental Biology |

WORK EXPERIENCE

Supplemental Instructor

Spring 2021

Georgia Southern University

Fall 2020

- Conducted supplemental activities related to biology and chemistry courses
- Documented 100+ student attendance and grades
- Relayed student progress and concerns with course professor in weekly meetings

Associate Trainer

Oct. 2018 – Aug. 2019

Panera Bread

- Trained new hires for all positions in store
- Communicated employee progress and issues to managers
- Used problem solving skills to resolve customer and employee complaints

LEADERSHIP EXPERIENCE

Peer Leader

Spring 2018

Georgia Southern University

- Mentored 15+ students in their transition to university
- Documented student attendance and grades
- Relayed student concerns with course professor
- Conducted a class lecture

COMMUNITY SERVICE

Campus Community Garden

Spring 2019

- Planted, fertilized, and watered fruits and vegetables on community garden on campus

Elephant Sanctuary in Tennessee

May 12-27, 2019

- Learned about elephant behavior and abuse
- Conducted tasks in a teamwork setting that enhanced appearance, organization, and efficiency of the sanctuary

Bulloch County Cleanup

2018

- Day event to clean local county of litter

ACADEMIC ACHIEVEMENTS

President's ListSpring 2021
Summer 2020
Spring 2020
Fall 2017**Dean's List**Fall 2019
Spring 2019
Spring 2018**Goizueta General Scholarship Recipient**

Fall 2017 – Spring 2021

Award amount: \$1,000 per year

Goizueta Foundation Scholarship Recipient

Fall 2020 – Spring 2021

Award amount: \$1,174 per year

John and Alice David Scholarship Recipient

Fall 2017 – Spring 2019

Award amount: \$1,250 per year

Zell Miller Scholarship Recipient
Award amount: Full coverage of tuition

Fall 2017 – Fall 2020