

# Herbert E. Leavitt

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## EDUCATION

### Master of Biology

Anticipated Graduation: **May 2024**

University of Louisiana at Lafayette, Lafayette, LA

August 2021 - Present

- GPA: 4.0

### Bachelor of Science

**May 2020**

**Majors: Marine Science, Environmental Studies**

Minor: Chemistry

Thesis: Investigating Remotely Operated Vehicle Avoidance and the Distribution of Mesopelagic Fauna

- Received Honors

Eckerd College, St. Petersburg, FL

August 2016 – May 2020

- GPA: 3.97
- Phi Beta Kappa
- Graduated with High Honors

### *Study Abroad*

Natural History of Ecuador and the Galapagos, Eckerd College, Ecuador

Winter Term 2017

Language Immersion in Montpellier, Eckerd College, Montpellier, France

Winter Term 2018

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## WORK EXPERIENCE

### Graduate Research Assistant

6/1/2021 – Present

Nelson Lab, University of Louisiana, Lafayette, LA

- Developed and designed a research plan to collect data for my master's thesis
- Conducted literature reviews on coastal ecology and stable isotope analysis
- Acted as a research technician during field collections for several projects in Dr. James Nelson's lab, including a week-long research cruise
- Designed and built a drop sampler device to be used for future research projects in the lab
- Used self-taught welding and fabrication skills to build sampling gear to specifications

### Coastal Ecology Research Technician

9/14/2020 – 6/1/2021

University of Georgia Marine Extension, Brunswick, GA

- 40 hours/week, \$11.50/hour
- Provided design input on research evaluating the value of reclaimed surface mining lands for gopher tortoises
- Met research goals by designing and carrying out vegetation, soil, and burrow occupation surveys as well as managing wildlife cameras at multiple sites
- Delivered mitigation services to surface mining operations by surveying parcels pre-mining and relocating plant and animal species of particular concern
- Produced maps illustrating contracted work in ArcGIS for reporting
- Piloted implementation of new Trimble-based workflow, involving significant data-base creation and management
- Created material for the lab's social media on a weekly basis
- Assisted with husbandry for head-start gopher tortoises and education animals, including crocodilians and venomous snakes

### Marine Science Tutor

9/1/19 – 05/18/20

Eckerd College, St. Petersburg, FL

- 4 hours/week, \$9.50/hour
- Assisted students with test preparation, homework, and studying
- Developed regimes and strategies for marine science students to build better studying habits

### Science Crew aboard *R/V Atlantis*

2/9/20 – 2/18/20

McClain Lab, Louisiana Universities Marine Consortium

- 40+ hours/week, Uncompensated
- Invited to return as a science technician on the *R/V Atlantis* during the last research cruise of the Wood Falls project
- Sampled and processed deep-sea benthic invertebrates colonizing wood falls
- Provided technician support for a range of tasks including maintenance and preparation of vital project-specific sampling equipment used during dives
- Maintained, inventoried, and quality checked critical field equipment pre-dive
- Assisted in processing, cataloging, and storing samples

**Marine Invertebrate Biology Teaching Assistant**

09/1/19 – 12/15/19

Eckerd College, St. Petersburg, FL

- 8 hours/week, \$8.46/hour
- Aided in preparation and cleanup of invertebrate biology lab
- Collected specimens for use in invertebrate biology lab using a variety of field collection techniques
- Worked with students to solve problems and answer questions

**Science Crew aboard *R/V Pelican***

4/10/19 – 4/24/19

McClain Lab, Louisiana Universities Marine Consortium, Cocodrie, LA

- 40+ hours/week, Uncompensated
- A member of the science crew during a two-week voyage in the Gulf of Mexico studying deep-sea benthic invertebrates colonizing wood and alligator falls as part of the Wood Falls project
- Provided technician support during ROV surveys of the benthos in addition to other duties including sample processing, equipment maintenance, and deck operations
- Worked under Dr. Clifton Nunnally and Dr. Craig McClain

***Aiptasia* as a Model Organism to Study Bacterial Assemblages in Coral**

9/1/17 – 12/15/19

Krediet Lab, Eckerd College, St. Petersburg, FL

- 8 hours/week, Uncompensated
- Spearheaded my own research funded by the Ford Apprentice Scholarship directed at studying commensal bacteria on *Aiptasia pallida* to better understand dynamics of microbial assemblages in coral
- Maintained laboratory stocks of *Aiptasia pallida*
- Developed new procedures and practices for field collections of wild anemones and gained proficiency in an array of molecular techniques
- Ensured organized and proper execution of sampling protocols among all team members
- Mentored by Dr. Cory Krediet at Eckerd College

**NOAA Office of Ocean Exploration and Research Hollings Intern**

5/28/19 – 8/2/19

NOAA Office of Ocean Exploration and Research, Silver Springs, MD

- 40 hours/week, \$600/week
- Joined the NOAA Office of Ocean Exploration and Research (OER) for a ten-week internship as part of the Hollings Undergraduate Scholarship
- Used acoustic and video data collected from exploratory midwater dives with the ROV *Deep Discoverer* to investigate the distribution of mesopelagic fauna relative to the deep scattering layer
- Aided in web coordination for OER, writing daily updates, monitoring the social media feed, and writing a mission log aimed at enhancing public engagement with the program
- Included extensive use of ArcGIS, Echoview, and R studio software to complete project
- Gained experience managing, organizing, and quality controlling large datasets
- Used statistical software to rapidly visualize, interpret, and convey meaning from large datasets synthesizing spatial, environmental, and acoustic data
- This project was adapted into a senior thesis at my home institution, which received honors.
- Mentored by Dr. Adrienne Copeland, Dr. Amanda Netburn, and Dr. Mike Ford

**LUMCON REU Program Intern**

6/1/2018 – 8/24/2018

Roberts Lab, Louisiana Universities Marine Consortium, Cocodrie, LA

- 40+ hours/week, \$500/week
- Developed and completed a research project with Dr. Brian Roberts at LUMCON.
- Studied relationships between soil salinity and photosynthetic physiology of salt marsh vegetation
- Invited to stay on at LUMCON for an additional two weeks to complete another project with the Roberts lab measuring carbon flux over a diel cycle in controlled marsh mesocosms
- Engaged in career building seminars including research ethics and scientific writing

**Volunteer Lab Technician**

5/18/17 – 9/1/17

Nelson Lab, University of Louisiana at Lafayette, Lafayette, LA

- 6 hours/week, Uncompensated
- Volunteered in an ecology lab under Dr. James Nelson at ULL processing and organizing field samples, performing bomb calorimetry analysis, and maintaining equipment
- Aided with shore-based field research and collections in wetlands of fish, invertebrates, and vegetation

**Restoration Crew Member**

5/25/17 – 9/1/17

McIlhenny Company, Avery Island, LA

- 40 hours/week, \$7.25/hour
- Restored salt marsh by manually transplanting vegetation to heavily eroded areas
- Followed quality assurance and product development laboratory procedures for Tabasco Brand Pepper Sauce
- Worked in the Tabasco factory and pepper mash warehouse maintaining equipment and processing pepper mash
- Assisted in alligator ranching programs by locating and marking alligator nests and releasing farm-raised animals back into the wild.

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**COMMUNITY INVOLVEMENT**

**Co-SCUBA Coordinator for the Marine Science Club at Eckerd**

September 2017-May 2020

- Led and coordinated SCUBA trips for the club
- Developed a framework for advertising, funding, and overseeing SCUBA trips with the club
- Acquired and managed a budget of \$1,500 to offset student costs during trips
- Engaged in outreach events including the Great American Teach-In and the St. Pete Science Festival to teach elementary students about marine plastic pollution and marine biodiversity
- Implemented new Reef Environmental Education Foundation (REEF) Fish ID classes through the club where members could get certified through REEF as citizen science surveyors
- Coordinated student political action around environmental issues during local elections

**Marine Fish Population Survey in Cozumel, Mexico**

March 2018

- Led students during citizen-science based service trip to Cozumel to survey reef fish populations with the Reef Environmental Education Foundation
- Taught and utilized the roving diver method to record abundance and species of reef fish on heavily trafficked dive sites in Cozumel
- Planned logistics and prepared courses for Eckerd students participating in the program
- Responsible for budgeting, planning, and leading students before and during the trip
- Continued teaching fish identification classes at Eckerd for students after the trip was completed

**Audubon Conservation Leadership Initiative**

September 2019-Present

- Selected to be part of initiative to connect college students with conservation leaders around Florida through the Audubon Society
- Used the programs stipend to attend conservation-oriented events around Florida

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**RESEARCH COMMUNICATION**

**Southeastern Partners in Amphibian and Reptile Conservation**

- Speed Talk: *Evaluating Gopher Tortoise use of Reclaimed Surface Mine Sites*

**In preparation: *Using Remotely Operated Vehicles and Active Acoustics to Study the Distribution of Mesopelagic Fauna***  
Manuscript

- Adaptation of my senior thesis and Hollings work into a publication concerning ROV and acoustic methods of studying midwater fauna. Addresses issues of avoidance behavior, faunal distribution relative to the deep scattering layer, and environmental parameters effecting distribution of functional groups of mesopelagic taxa

#### **AGU Ocean Sciences 2020**

February 2020

- Oral: *Using Remotely Operated Vehicles and Active Acoustics to Study the Distribution of Mesopelagic Fauna*

#### **Society for Integrative and Comparative Biology**

January 2020

- Poster: *Investigating Remotely Operated Vehicle Avoidance and Distribution of Mesopelagic Fauna*

#### **Presentation to the Ocean Exploration Advisory Board**

August 2, 2019

- Oral: *Using Remotely Operated Vehicles and Active Acoustics to Study the Distribution of Mesopelagic Fauna*

#### **Eckerd College Science Symposium**

March 2019

- Poster: *Diel variation in carbon fluxes and photosynthetic efficiency in saltmarsh ecosystems.*

#### **Gulf of Mexico Oil Spill and Ecosystem Science Conference**

February 2019

- Poster: *Diel variation in carbon fluxes and photosynthetic efficiency in saltmarsh ecosystems*

### **HONORS, AWARDS, AND SCHOLARSHIPS**

#### **Marine Science Academic Excellence Award**

May 2020

- Senior academic award for outstanding excellence within the marine science major

#### **2018 Ernest F. Hollings Undergraduate Scholarship**

March 2018

- Scholarship distributed by NOAA including 10-week paid internship with NOAA faculty

#### **Ford Apprentice Scholarship**

April 2018

- Candidates are sponsored by faculty and recipients chosen by faculty decision. Scholarship includes funded research with faculty sponsor and additional courses including intellectual history and an individually designed course of study within my major.

#### **Marine Science Freshman Academic Excellence Award**

May 2017

- Given to one freshman in the marine science major each year for highest achievement in academics

### **SKILLS/ CERTIFICATIONS**

Project WILD/Aquatic WILD environmental educator - Stress and Rescue Diver Certified SSI - Boating License in Louisiana and Florida -MSHA Certified- CPR and First Aid Certified

#### **Programs and Technical Skills**

##### **Programming Languages: R**

**Programs:** Windows/PC, Mac OSX, Microsoft Office Suite, Dropbox, Google Suite, R Studio, SPSS, ArcGIS (Desktop, Pro, Online), QGIS, Echoview, Photoshop, Lightroom, Past4.0, Adobe XD, SciDAVis, ChemDraw, TerraSync, GPS Pathfinder,

**Technical Skills:** Multivariate and univariate analysis, processing EK60 acoustic data, data

QA/QC/cleaning/management/visualization, CTD Data processing, remote video survey processing, mixed modeling, photo management and analysis, spatial analysis in GIS and R, survey design, database management, data dictionary creation

##### **Field Techniques**

- Aluminum MIG welding, steel MIG welding, basic fabrication skills, dip netting, visual surveys, vegetation transects, Sien netting, cast netting, setting and recovering minnow traps, multimeter use, small boat operations, microscope operation, creating and managing herbariums, water quality index, Niskin bottle operation, experimental design, bomb calorimetry, leaf peels, visual surveys, beach profiles, canoeing, kayaking, ATV operation, UTV operation, AWD operation, photography, macro photography, vertebrate and invertebrate preservation, aerial drone photogrammetry, line transect surveys, point transect vegetation surveys, burrow scoping, venomous snake handling, soil clod sampling using an auger, soil color analysis, soil texture analysis.

### **REFERENCES**

Name	Position	Contact Information
Brian Roberts	Associate Director of Science at LUMCON	Phone: 985-851-2821 Email: broberts@lumcon.edu

Adrienne Copeland	NOAA Affiliate Office of Ocean Exploration and Research	Phone: 301-734-1172 Email: <a href="mailto:adrienne.copeland@noaa.gov">adrienne.copeland@noaa.gov</a>
Cory Krediet	Assistant Professor, Eckerd College	Phone: 727-864-7727 Email: <a href="mailto:krediecj@eckerd.edu">krediecj@eckerd.edu</a>
Clifton Nunnally	Lab Manager/Senior Research Associate	Phone: (985) 851-2856 Email: <a href="mailto:cnunnally@lumcon.edu">cnunnally@lumcon.edu</a>