

Emily M. Waggoner

20518 Jacklight Lane
Bend, OR 97702
(541) 815-2722
waggoner.emily.m@gmail.com

Education

Bachelor of Science: Environmental Studies - concentration in Ocean Sciences, *University of Southern California, Fall 2018*

Minor: Science Visualization, *University of Southern California, Fall 2018*

Research Interests

Microbial activity and nutrient availability in the environment, sediment-microbe interactions and their impacts on biogeochemical processes, role of phytoplankton and zooplankton in the biological carbon pump

Research Experience

Research Assistant

2014 - 2017

Ziebis Lab, USC Marine Environmental Biology Department

Los Angeles, CA

- Research projects and methodology included:

- Prokaryotic and Viral Activity in Sediment Porewater

- Fluorescence In-Situ Hybridization (FISH) and NanoOrange staining

- Epifluorescence microscopy (cell counts and bacterial flagella determination)

- The Impacts of *Neotrypaea californiensis* Bioturbation on the Flux of Nitrous Oxide

- In-situ experiments conducted on the burrows developed by *N. californiensis*

- The Impacts of Carbon Loading on the Benthos

- Flow injection for dissolved inorganic carbon

- Fluorometry for ammonium, nitrate/nitrite and phosphate concentrations

- Spectrophotometry for iron determination

Research Fellow

May - August, 2016

USC Women in Science & Engineering (WiSE)

Los Angeles, CA

- Studied the Production and Flux of Nitrous Oxide in Coastal Zones. Methods used:

- Aquaria designed (cooling system, tidal flow, oxygen source) for in-situ experiments

- Unisense amperometric microsensors used to profile N₂O, H₂S and O₂ concentrations

Research Assistant & Crew

June - September, 2015

North 58 Sea Adventures

Scotland, UK

- Investigated the impacts of motorized vessels on common seal population behaviors
- Finalized a photo identification database of local Bottlenose dolphins
- Trained as the captain of a daily water taxi
- Logged 40 days as Skipper on three RIB's for wildlife ecoexcursions in the Moray Firth

Research Assistant & Museum Guide

Seasonal, 2010 - 2015

Carrie's Whale EcoExcursions

Depoe Bay, Oregon

- Logged 150 days at sea to photo identify 80 Oregon Resident Pacific Gray whales
- Established an organizational system for over 200,000 identification photos
- Managed bookings, museum tour guides and local tide pool tours

Field Research Experience

Oceanographic Cruises

August - September, 2018 Gulf of Mexico - *R/V Endeavor*

April - May, 2018 Tropical N. Atlantic - *R/V Endeavor transit*

Field Stations

2014 - 2017 Wrigley Marine Science Center on Catalina Island

Teaching Experience

Course Assistant

May - June, 2016

BISC-457: Methods in Oceanography, USC

Los Angeles, CA

- Guided 15 upperclassmen in a 4-week spring course taught on Catalina Island
- Organized materials and chemicals required for each protocol
- Carried out methodology for intertidal sediment sampling
- Led nutrient sampling from a rosette onboard the *R/V Yellowfin*

Science Visualization Intern

2016 - 2017

Joint Educational Project, USC

Los Angeles, CA

- Developed NGSS aligned ocean science K-5 curriculum (four lesson plans)
- Emphasized the introduction of digital arts and ocean sciences to elementary students
- Beta-tested the 3D printed gray whale migration lesson plan in 5th grade classroom

Professional Experience

Aquatic Nursery Research Lab Guide

January, 2018 - Present

Cabrillo Marine Aquarium

San Pedro, CA

- Sustaining the species, tanks, and inventory in the CMA Aquatic Nursery
- Monitoring three white abalone cohorts, as well as improving protocols for raising California market squid
- Mentoring 50 CMA Young Scientists through individual research projects, along with over 30 docents and interns

Deckhand

Seasonal, 2018

Carrie's Whale EcoExcursions

Depoe Bay, OR

- Responsible for tending lines and aiding the captain while at sea
- Performed general boat maintenance of three, 24-foot zodiacs

Special Projects Manager

2016 - 2017

Office of the Dean, USC Viterbi School of Engineering

Los Angeles, CA

- Carried out projects from the executive dean, six vice deans and the administrative assistants
- Managed three graduate students, completing a faculty awards database project for the dean
- Trained in account reconciliation, supply management, and MOU writing/processing

Product Designer

June - August, 2015

Suterra LLC

Bend, OR

- Formatted and reviewed label designs for natural pesticide products
- Collaborated with various stakeholders to ensure labels met EPA requirements
- Managed a product database for existing labels, including labels for over 70 countries

Community Service

Recruitment Chair

Spring - Fall, 2016

USC Helenes

Los Angeles, CA

- Nominated as the Recruitment Chair of a 150 student community service organization
- Planned recruitment events for an estimated 250 attendees
- Organized and reviewed 150 applications to accept 17 students into the organization
- Attended 50 hours of community service events each semester

Honors and Awards

2017	Renaissance Scholar, University of Southern California USC Women in Science and Engineering (WiSE) Fall Researcher USC WiSE Travel Grant
2016	Anita B. Wilson Scholarship USC Helenes Luc Scholarship USC WiSE Summer Research Fellowship
2015 - 2016	Harry A. Miller Scholarship
2012	Kris Calvin WhaleFest Travel Grant Oregon State University \$24,000 NWSE Scholarship (declined)

Certifications

2016	Radiation Laboratory Safety, <i>USC EH&S - Los Angeles, CA</i>
2015	Powerboat Level 2 License, <i>RYA - Scotland, UK</i> Sea Survival, <i>RYA - Scotland, UK</i> VHF Radio, <i>RYA - Scotland, UK</i>
2014	General Laboratory Safety, <i>USC EH&S - Los Angeles, CA</i>

Professional Affiliations

National Marine Education Association (NMEA)

Conference Presentations

Oral Presentations

Waggoner E*, Kast D*. Engaging Young Scientists: Visual Technology and interactive models for K-3 marine science curriculum. Talk given at: National Marine Education Association (NMEA) Conference; 2018 June 15-17; Long Beach, CA

Poster Presentations

Lehman J, Lambretti A, **Waggoner E***, Danford S, Cheng B, Ziebis W. Production and Fluxes of Nitrous Oxide in Coastal Zones. Poster presented at: West Coast Biological Sciences Undergraduate Research Conference (WCBSURC); 2017 April 22; Santa Clara, CA

Lehman J*, Lambretti A, **Waggoner E**, Danford S, Cheng B, Ziebis W. Production and Fluxes of Nitrous Oxide in Coastal Zones. Poster presented at: ASLO Aquatic Sciences Meeting; 2017 Feb 26-Mar 3; Honolulu, HI

Waggoner E*, Bermudez D, Newell C. Effect of Angle Variation on the Relative Area of *Eschrichtius Robustus* Markings. Poster presented at: WhaleFest Conference; 2012 Nov 2-3; Sitka, AK

Waggoner E*, Bermudez D, Newell C. Effect of Angle Variation on the Relative Area of *Eschrichtius Robustus* Markings. Poster presented at: Northwest Science Expo; 2012 Mar 23; Portland, OR

Presenter*

Publications

2018

Waggoner, E., Kast, D. (2018). Engaging Young Scientists: Visual Technology and interactive models for K-3 marine science curriculum, *Current: The Journal of Marine Education* (Volume 31, Number 2, Winter 2018), a publication of the National Marine Educators Association (www.marine-ed.org)