

# SAMANTHA R. CSIK

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## EDUCATION

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- M.A. in Ecology, Evolution, and Marine Biology (EEMB)** **2020**  
University of California, Santa Barbara (UCSB)
- B.S. in Marine Biology, *magna cum laude*** **2016**  
Northeastern University (NEU)

## DATA SCIENCE & ANALYSIS EXPERIENCE

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*Data Science Fellow (ext.)*, National Center for Ecological Analysis & Synthesis (NCEAS) **Jan 2021 – Present**

- Engineering a knowledge model of salmon-related ideas and concepts to improve salmon data discoverability within the KNB data repository
- Facilitating an international effort among salmon researchers, managers, and data scientists to harmonize salmon data across organizations and increase data findability and interoperability using semantic tools

*Data Science Fellow*, National Center for Ecological Analysis & Synthesis (NCEAS) **Aug 2020 – Jan 2021**

- Improved the number and quality of semantically-described datasets within the Arctic Data Center (ADC) data repository by (a) expanding and developing ontologies to accurately describe ADC data and (b) semantically annotating 1100+ datasets
- Wrote scripts and developed pipelines in R to facilitate batch updates of Arctic Data Center metadata records with semantic annotations

*Thesis Research*, Department of EEMB, UCSB **2017 – 2020**

- Developed and conducted a 2-year interdisciplinary research project that examined how temperature alters the physiology and ecology of an important CA fisheries species
- Utilized quantitative analysis, including nonlinear regression analysis, to determine the effects of environmental stressors on animal performance

*Graduate Student Researcher*, Marine Science Institute, UCSB **2017, 2019**

- Summarized long-term oceanographic data using time series analysis
- Wrote and presented reports based on data analyses to inform future directions of experimental work

## LAB & FIELD-BASED RESEARCH EXPERIENCE

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*Graduate Student Researcher*, Marine Science Institute, UCSB **2019**

- Facilitated an undergraduate-led field study involving experimental planning, boating and field logistics, purchasing and deployment of large mesocosm cages, and animal collection and care

*Undergraduate Researcher*, Marine Science Center, NEU **2015-2016**

- Surveyed for coral disease across reefs in Bocas del Toro, Panama
- Developed an independent research project to study the disease susceptibility of an endangered coral species

*NSF REU Fellow*, Florida International University & Oregon State University **2014**

- Conducted a 3-month long field study investigating the effects of land-based nutrient runoff and corallivory on coral disease and mortality

- Prepared coral microbiome samples for DNA sequencing to identify shifts in coral microbial communities in response to predation by fishes

*Student, Three Seas Program, NEU*

**2013-2014**

- Demonstrated the ability to carry out research projects from start to finish in a year-long series of lab and field-based coursework at the Marine Science Center (NEU) in Nahant, MA, the Smithsonian Tropical Research Institute in Bocas del Toro, Panama, and Friday Harbor Laboratories (University of Washington), in Friday Harbor, WA

## **DATA ANALYSIS WORKSHOPS & COMMUNITIES**

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### **Organizations**

*R-Ladies Santa Barbara, Co-Organizer*

**Apr 2020 – Present**

*Tidy Tuesday Coding Club, Participant*

**2018 – 2019**

### **Workshop Lead/Instructor**

*Data Visualization with ggplot2, R-Ladies Santa Barbara*

**Aug 2020**

*Intro to the Tidyverse, R-Ladies Santa Barbara*

**May 2019**

### **Workshop Participant**

*SoCal All Hands useR Meeting*

**Nov 2019**

*Python Software Carpentry Workshop, UCSB*

**Jun – Sep 2019**

*Git & R Software Carpentry Workshop, UCSB*

**Jan 2019**

*Respirometry Workshop for Government Scientists, Stakeholders, and Academics, UCSB*

**2019, 2020**

## **PUBLICATIONS**

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### **Peer-Reviewed**

Jerde CL, Kraskura K, Eliason EJ, **Csik SR**, Stier AC, Taper ML (2019). Strong evidence for an intraspecific metabolic scaling coefficient near 0.89 in fish. *Frontiers in Physiology*. 10, <https://doi.org/10.3389/fphys.2019.01166>

### **Thesis**

**Csik SR**. 2020. The effects of temperature on the metabolism and foraging ecology of the California spiny lobster (*Panulirus interruptus*). M.A. Thesis. The University of California, Santa Barbara. Santa Barbara, California, U.S.A. Available at <https://escholarship.org/uc/item/3425x51f>.

### **Ontologies**

**Csik SR** & Schilhauer MP (2020). The Arctic Report Card Ontology (ARCRC). BioPortal. <https://bioportal.bioontology.org/ontologies/ARCRC/?p=summary>

## **PRESENTATIONS**

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**Samantha Csik**. *It's just all about semantics*. Santa Barbara Women in STEM. Lightning Talks, with a Focus on Software. Mar. 3<sup>rd</sup> 2021. Oral Presentation. <https://www.sbwomeninstem.org/events/2021/3/3/lightning-talks-event-software>

**Samantha Csik.** *Analyzing aquatic respirometry data in the California spiny lobster (Panulirus interruptus).* Respirometry Workshop for Government Scientists, Stakeholders, and Academics. University of California, Santa Barbara. Apr. 3<sup>rd</sup> 2020. Oral Presentation.

**Samantha Csik,** Erika J. Eliason, Adrian C. Stier. *Effects of temperature on the physiology and foraging ecology of the CA spiny lobster (Panulirus interruptus).* Western Society of Naturalists. Ensenada, Mexico. Nov. 1<sup>st</sup> 2019. Oral Presentation.

**Samantha Csik & Steve V. Vollmer.** *Disease resistance varies by genotype in an endangered Caribbean coral.* Western Society of Naturalists. Pasadena, CA. Nov. 17<sup>th</sup> 2017. Oral Presentation.

**Samantha Csik & Steve V. Vollmer.** *Disease resistance varies by genotype in an endangered Caribbean coral.* Honors Thesis. Boston, MA. April 12, 2016. Oral Presentation.

**Samantha Csik & Steve V. Vollmer.** *Disease resistance varies by genotype in an endangered Caribbean coral.* Research, Innovation, and Science Expo. Northeastern University. April 7, 2016. Poster.

## TEACHING & MENTORING

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### Teaching Assistant

(UCSB) *Conservation, Management and Food Production in Aquatic Systems;* **Fall 2017 – Spring 2020**  
*Behavioral Ecology; Biology of Fishes; Intro to Ecology; Intro to Biology*

(NEU) *General Biology; Lab & Diving Operations Organizer, Three Seas Program* **Spring 2015, 2016**

### Undergraduate Mentor

*Kylie Van De Wyngaerd, Santa Barbara Coastal LTER REU Fellow, UCSB* **Summer 2019**

*Maggie Slein, Ocean Global Change Biology REU Fellow, UCSB* **Summer 2019**

*Vincent Han Lee, Undergraduate Volunteer, UCSB* **Winter 2019**

*Gabbie Baillargeon, Ocean Global Change Biology REU Fellow, UCSB* **Summer 2018**

*Anna Zhou, Women in Science and Engineering, UCSB* **2017–2018**

## COURSEWORK DEVELOPMENT

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*Biology of Fishes (Lab), UCSB* **Fall 2018**

- Lab 1: “What is a Fish?”
- Lab 5: “Fish Evolution, Taxonomic Keys, and Shannon Diversity”

## PROFESSIONAL SERVICE & OUTREACH

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### Diversity, Equity & Inclusion Program Participant

*Unlearning Racism in Geoscience (URGE), NCEAS* **Jan 2021 – May 2021**

### Invited Speaker/Panel Member

*Jr. Oceanographers Summer Camp, Santa Barbara Museum of Natural History Sea Center* **Jul 2019**

*“Organism Spotlight: Spiny Lobster”, Santa Barbara Junior High School 8<sup>th</sup> Grade Science Class* **May 2019**

*“Bugs of the Sea...Long Live and Lobster!”, Santa Barbara Museum of Natural History Sea Center* **Oct 2017**

### Volunteer

*World Oceans Day, Santa Barbara Museum of Natural History Sea Center* **Jun 2018, 2019**

## Campus Organizations

*Treasurer, Graduate Student Advisory Committee, UCSB*

**2017-2019**

## Ad-hoc reviewer

*Journal of Experimental Marine Biology and Ecology*

## GRANTS & AWARDS

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*Graduate Student Association Excellence in Teaching Award Nominee, UCSB*

**2020**

*Excellence Scholarship, NEU*

**2011-2016**

*Dean's List, NEU*

**2011-2016**

*Provost's Undergraduate Research & Creative Endeavors Award, NEU*

**2015**

*NSF Research Experience for Undergraduates Fellow, Florida International Univ. & Oregon State Univ.*

**2014**

## MEMBERSHIPS & AFFILIATIONS

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*Western Society of Naturalists*

**2017 - 2020**

*American Academy of Underwater Sciences (AAUS)*

**2014 – 2020**

## TECHNICAL & RESEARCH SKILLS

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**Software:** R & RStudio, Git/GitHub, Protégé (Ontology Editor), ImageJ, Microsoft Office Suite: Word, PowerPoint, Excel, Google Suite: Google Docs, Google Slides, Google Sheets, Google Forms

**Certifications:** AAUS scientific diver, PADI advanced open water diver, CPR, first aid, AED, oxygen administration

**Field Procedures:** transect survey techniques, environmental sampling techniques, live specimen handling & husbandry, underwater navigation, boating and dive safety

**Lab Procedures:** pipetting, light microscopy, bacterial plating, DNA extractions, PCR, seawater system construction & maintenance, aquatic respirometry, aquatic animal heart rate logger implantation