

Samantha Christine (Wright) Leigh
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Education

University of California, Irvine

PhD in Ecology and Evolutionary Biology
Expected Graduation: June 2019
Advanced to Candidacy: June 6, 2017
Current GPA: 3.9

Coastal Carolina University, Conway, SC

Bachelor of Marine Science, GPA: 3.76
Minor: Environmental Science
Wall Fellow Leadership Development Class 2013
Graduated May 2013, *Magna Cum Laude*

Publications

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- Leigh SC**, Nguyen Q, & German D. (accepted, in press). The effects of protein and fiber content on gut structure and function in zebrafish (*Danio rerio*). *Journal of Comparative Physiology B*.
- Leigh SC**, Papastamatiou Y, and German DP (2017) The nutritional physiology of sharks. *Reviews in Fish Biology and Fisheries*, 27(3): 561-585.
- Wright SC** (2014). Tutor training techniques and topics. *Southern Discourse*. 18(1). Publication of the Southeastern Writing Center Association.

Selected Grants

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| 2017 | Newkirk Graduate Research Fellowship Award: \$10,000 |
| 2017 | Grover C. Stephens Excellence in Physiology Research Award: \$1,000 (UC Irvine) |
| 2017 | OCEANS Graduate Student Research Fellowship: \$7,000 (UC Irvine) |
| 2017 | Friday Harbor Laboratories Research Fellowship: \$1,300 (University of Washington) |
| 2016 | National Geographic Society, Young Explorers Research Grant: \$5,000 |
| 2016 | Sigma Xi Grant-in-Aid of Research: \$1,000 |
| 2016 | American Society of Ichthyologists and Herpetologists, Raney Fund Award: \$800 |
| 2016 | Society for Integrative and Comparative Biology GIAR: \$1,000 |

Selected Fellowships, Awards, and Honors

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| 2017 | Samuel H. Gruber Outstanding Presentation Award: \$300 (American Elasm. Society) |
| 2017 | Climate Action Training Program Fellow (UC Irvine) |
| 2016 | National Science Foundation: Graduate Research Fellowship Program awardee |
| 2016 | Friday Harbor Laboratories Fish Functional Morphology Course Fellow |
| 2015 & 2016 | Ford Foundation Fellowship Honorable Mention |
| 2015 | GAANN Fellowship Award: \$7,500 (U.S. Department of Education) |
| 2014 | Provost PhD Fellowship Award: \$20,000 (UC Irvine) |
| 2014 | Diversity Recruitment Fellowship Award: \$10,000 (UC Irvine) |
| 2014 | Competitive Edge Summer Research Fellowship Award: \$5,000 (UC Irvine) |

Presentations (*Indicates invited speaker)

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- S. Leigh**, Y. Papastamatiou & D. German. (2017). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks and Their Role in the Environment. *Ecological Society of America*. Oral Presentation.
- S. Leigh**, S. Hoffman, A. Summers, & D. German. (2017). Spiraling into Control: The function of the spiral intestine in Elasmobranchs. *Joint Meeting of Ichthyologists and Herpetologists*. Oral Presentation.
- S. Leigh**, Y. Papastamatiou & D. German. (2017). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks. *Joint Meeting of Ichthyologists and Herpetologists*. Poster.
- S. Leigh**, S. Hoffman, A. Summers, & D. German. (2017). The function of the spiral intestine in Elasmobranchs. *Society for Integrative and Comparative Biology Conference*. Oral Presentation.
- S. Leigh**, S. Hoffman, A. Summers, & D. German. (2016). Spiraling into Control: the function of the spiral intestine in Elasmobranchs. *Friday Harbor Laboratories Research Symposium*. Oral Presentation.
- *S. Leigh**. (2016). Pursuing a PhD: Research, Teaching, Mentoring, & Learning. *University of Southern California: Wrigley Institute for Environmental Studies Career Symposium*. Oral Presentation to REU students.

- S. Leigh & D. German. (2016). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks. *Society for Integrative and Comparative Biology Conference*. Poster.
- S. Leigh & D. German. (2016). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks. *Ecology & Evolutionary Biology Graduate Student Symposium*. Oral Presentation.
- S. Leigh & D. German. (2015). The Role of Diet Type on the Gut Size and Function of Zebrafish. *Society for Integrative and Comparative Biology Conference*. Oral Presentation.
- S. Wright & D. German. (2014). The Role of Diet Type on the Gut Size and Function of Zebrafish. *Southwestern Organismal Biology Conference*. Oral Presentation.
- S. Wright & D. German. (2014). The Role of Diet Type on the Gut Size and Function of Zebrafish. *Summer Research Symposium, UC Irvine*. Oral Presentation.
- S. Wright, N. McNabb, & K. Heidelberg. (2012). Diel Patterns of Zooplankton Diversity and Abundance in Big Fisherman's Cove. *Summer Undergraduate Research Experience (SURE) Symposium*. Poster.

Selected Outreach and Leadership Experiences

1) Graduate Student Representative (2017)

Responsible for representing the graduate students in the UC Irvine Ecology and Evolutionary Biology Department during monthly faculty meetings, organizing new student orientation and quarterly graduate student meetings, and assigning student-run committee roles.

2) NOAA Southwest Fisheries Science Center Intern (2017)

Created the first model of preferred opah (*Lampris sp.*) habitat distribution along the Pacific coast of the U.S. and projected changes of this habitat preference due to both seasonal and longer term environmental changes.

3) Peer-reviewer (2017)

Reviewed manuscripts for the *Public Library of Science* (PLOS ONE) and the *Croatian Journal of Fisheries* (CJF).

4) Ecological Society of America (2017)

Co-organizer of the organized oral session "Nutritional Ecology in a Changing World: The Transduction of Energy Between the Environment, Individuals and Communities."

5) Shark Camp: Back Bay Science Center (2017)

Once a month during the summer (June-September), the Back Bay Science Center exposes local youths (ages 7-15) to shark science through an interactive natural history and biology lesson followed by a fishing and identification session in Upper Newport Bay. I lead the biology lesson and assist campers with the fishing and elasmobranch identification process.

6) California State Science Fair (2016 & 2017)

I volunteered as a judge for the Junior Zoology Category (6th-8th grade).

7) Targeted Instruction Generating Excitement about Research and Science (TIGERS: 2014-2017)

Through this program, I aim to increase science literacy in our local community and inspire students to pursue STEM careers. Every month, I visit regular and AP biology classes at Valencia HS, which has a high number of students in underrepresented groups in the STEM disciplines, and carryout a lesson & lab activity related to their current curriculum.

8) "SciGirls" PBS (2014-2015)

I was chosen by PBS producer Marie Domingo to appear as a science mentor to three culturally diverse middle school girls on the television program *SciGirls*. I aided in developing the science project that the girls completed and helped them analyze their data. The full episode, titled "Terrific Pacific" is available online here: <http://pbskids.org/video/?guid=f75f1c4f-bd4c-441c-a6c9-577251ea9e25>.

9) Equitable Science Curriculum Integrating Arts in Public Education (ESCAPE: 2014 & 2015)

Served as a research science specialist to teach elementary school teachers about science misconceptions while incorporating artistic lessons into their curriculums.

10) Crystal Cove Alliance Citizen Science Cruises (2014 & 2015)

Aided in developing the cruise curriculum (geared towards middle school and high school students) and regularly serve as a science expert aboard the cruises.

Recent Related Research/Work Experience

University of California, Irvine: Dr. Donovan German Laboratory

Title: PhD Student/ Teaching Assistant (June 2014-present)

Projects: 1) Investigating *Sphyrna tiburo* (bonnethead sharks) to understand how they capitalize on vegetation by

- using a combination of molecular methods, biochemical assays, stable isotope analysis, and histology.
- 2) Exploring the ability of *Danio rerio* (zebrafish) to exhibit plasticity of gut structure and function when exposed to various diets (herbivorous, omnivorous, & carnivorous) over the course of multiple generations.
 - 3) Teaching Assistant for undergraduate courses and research mentor to ten undergraduate students.

Friday Harbor Laboratories: Fish Functional Morphology Course Fellow

Title: Student Fellow (July-August 2016)

- Projects:
- 1) Investigated the functional morphology of the spiral intestine in elasmobranchs using CT scanning, 3D modeling techniques, fluid dynamics, and chemically induced intestinal muscle contractions.
 - 2) Used Video Reconstruction of Moving Morphology (VROMM) combined with post-mortem electrical stimulation (EMG) to investigate 3D movement of the pectoral fin in *Squalus suckleyi*.

University of Georgia: Dr. Richard Steet Laboratory

Title: Research Technician/Lab Manager (September 2013-June 2014)

- Projects:
- 1) Used zebrafish as a model to study pathogenic mechanisms of lysosomal disease. Responsible for carrying out experiments using RT-PCR, cloning, transformation, western blots, RNA preparation, cDNA synthesis, husbandry, dissections, etc. Also responsible for ordering supplies, editing manuscripts, and maintaining the department Stock Center which entailed handling over \$20,000 worth of lab supplies.

Southern California Coastal Water Research Project: Microbiology Laboratory

Title: Research Assistant (May 2013-September 2013)

- Projects:
- 1) Worked on developing a faster, more effective way to monitor water quality. Responsible for collecting water samples in field, water filtering, qPCR, culturing samples, microbial source tracking, data entry and analysis, and inventory of lab freezers and chemicals.

University of Southern California: Dr. Karla Heidelberg Laboratory

Title: Research Intern (August 2012-November 2012)

- Projects:
- 1) Investigated how the stress of temperature increase impacts the symbiotic relationship between the California Golden Gorgonian, *Muricea californica*, and their microbiomes. Responsible for PCR, DNA gel electrophoresis, creating clone libraries, and epifluorescent/dissecting microscopy.