

Samantha Christine (Wright) Leigh

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APPOINTMENTS

June 2019 – Present Postdoctoral Scholar, Biological Sciences, California State University Fullerton

EDUCATION

2019 *PhD in Ecology and Evolutionary Biology*, University of California, Irvine
Advisor: Dr. Donovan German
NSF GRFP Fellow

2017 *MS in Ecology and Evolutionary Biology*, University of California, Irvine
Advisor: Dr. Donovan German

2013 *BS in Marine and Environmental Science*, Coastal Carolina University
Wall Fellows Leadership Development Program Fellow

SCIENTIFIC PUBLICATIONS

- 4) Hoffman SL, Donatelli CD, **Leigh SC**, Brainerd EL, and Porter ME (2018) Three-dimensional movements of the pectoral fin during yaw turns in the Pacific spiny dogfish, *Squalus suckleyi*. *Biology Open*. DOI:10.1242/bio.037291.
- 3) **Leigh SC**, Papastamatiou YP, and German DP (2018) Seagrass digestion by a notorious “carnivore.” *Proceedings of the Royal Society B*. DOI: 10.1098/rspb.2018.1583.
- 2) **Leigh SC**, Nguyen Q, and German DP (2018) The effects of protein and fiber content on gut structure and function in zebrafish (*Danio rerio*). *Journal of Comparative Physiology B*. 188(2): 237-253.
- 1) **Leigh SC**, Papastamatiou YP, and German DP (2017) The nutritional physiology of sharks. *Reviews in Fish Biology and Fisheries*, 27(3): 561-585.

TEACHING PUBLICATIONS

- 2) **Leigh SC** (2019) Plants and animals have requirements for survival. *STEM Taught Journal*. In Press.
- 1) **Wright SC** (2014) Tutor training techniques and topics. *Southern Discourse*. 18(1). Publication of the Southeastern Writing Center Association.

MANUSCRIPTS UNDER REVIEW OR IN ADVANCED PREP (Available upon request)

- 4) **Leigh SC** et al. (In Prep) Optimization of digestive enzyme assay methodology.
- 3) **Leigh SC**, Brodie S, Hazen E, Muhling B, Garfield T, Dewar H (In Prep) Analysis and forecast of opah (*Lampris spp.*) distribution along the pacific coast of the US.
- 2) **Leigh SC**, Hoffmann S, Summers A, German DP (In Prep) An investigation of the spiral intestine in elasmobranchs.
- 1) **Leigh SC** and German DP (In Prep) The role of microbial symbionts in bonnethead shark seagrass digestion.

SELECTED GRANTS

- 2018 ***Sigma Xi Grant-in-Aid of Research: \$1,000***
Rewards scientific excellence by providing funds for research travel and equipment. Funding the acquisition, preparation, and CT scanning of elasmobranch spiral intestines.
- 2018 ***Microbiome Initiative Pilot Project Award*** (UC Irvine)
Provides in-kind support for exceptional applicants to analyze microbiome samples.
- 2017 ***Public Impact Distinguished Fellowship Award: \$12,000*** (UC Irvine)
Only four distinguished fellows are chosen from university-wide nominations. Supports graduate students whose current research has the potential for substantial impact in the local, national, or global public sphere.
- 2017 ***Newkirk Center for Science and Society Graduate Research Fellowship: \$10,000*** (UC Irvine)
Support to engage the community as a partner in scientific knowledge production. Funds used for 16s and metagenomics sequencing of the gut microbiome in bonnethead sharks and to set up an outreach

- project incorporating art, science, and community engagement at Crystal Cove State Park.
- 2017 **OCEANS Graduate Student Research Fellowship: \$7,000** (UC Irvine)
Encourages marine research crossing traditional disciplinary boundaries. Funds used for stable isotope analysis to determine bonnethead shark seagrass assimilation and for the creation of an interactive art exhibit (walk-through shark digestive tract) at Crystal Cove State Park's "Art in the Park" event.
- 2017 **Friday Harbor Laboratories Research Fellowship: \$1,300** (University of Washington)
Supports exceptional marine research to be conducted at Friday Harbor Laboratories. Funded investigation of the function of the spiral intestine in elasmobranchs.
- 2016 **National Geographic Society, Young Explorers Research Grant: \$5,000**
Covers field costs for hard-working, creative individuals with a passion for improving our understanding of the world. Funded field work for investigation of the resource acquisition of seagrass-eating bonnethead sharks and their ecological role in coastal habitats.
- 2016 **Sigma Xi Grant-in-Aid of Research: \$1,000**
Rewards scientific excellence by providing funds for research travel and equipment. Funded enzymatic and histological analysis of bonnethead shark digestive tract.
- 2016 **American Society of Ichthyologists and Herpetologists, Raney Fund Award: \$800**
Supports outstanding research conducted by a pre-doctoral ichthyologist or herpetologist. Funds contributed to physiological analysis of bonnethead shark digestion.
- 2016 **Society for Integrative and Comparative Biology Grant-in-Aid of Research: \$1,000**
Funds excellent research proposals in comparative biology fields. Contributed to physiological analysis of bonnethead shark digestion.

SELECTED FELLOWSHIPS, AWARDS, & HONORS

- 2019 **Teaching Excellence and Service to the University Award** (UC Irvine)
- 2018 **Abstract Award** (American Physiological Society)
A travel award for an early career researcher with the most well written abstract.
- 2018 **Dr. William F. Holcomb Scholarship: \$1,000** (UC Irvine)
Recognizes excellence in marine science research by a single student in the Biology Dept.
- 2018 **Best Overall Presentation** (Ecology & Evolutionary Biology Graduate Student Symposium)
Awarded to the graduate student who gives the best oral presentation out of all categories.
- 2018 **Best Oral Presentation Award** (SICB Division of Comparative Physiology & Biochemistry)
Presented to the graduate or undergraduate student who delivers the best oral presentation.
- 2018 **Pedagogical Fellowship Program:** (UCI Division of Teaching Excellence and Innovation)
A highly regarded "preparing future faculty" program; selection is competitive, based on a record of excellent teaching, promising scholarship, and service to the University, department, and professional community.
- 2018 **Broadening Participation Award: \$500** (Society of Integrative and Comparative Biology)
Defers travel costs to the annual meeting for exceptional applicants who demonstrate a commitment to increasing diversity in STEM fields.
- 2017 **Best Graduate Student Presentation (2nd place): \$35** (Southwestern Organismal Biologists)
Awarded to the best talk at the annual Southwestern Organismal Biology Meeting.
- 2017 **Samuel H. Gruber Outstanding Presentation Award: \$300** (American Elasm. Society)
Prestigious award given for the best oral presentation by a student at annual AES meeting.
- 2017 **Grover C. Stephens Excellence in Physiology Research Award: \$1,000** (UC Irvine)
Recognizes excellent physiological research by a single student in the Biology Dept.
- 2017 **Climate Action Training Program Fellow** (UC Irvine)
Students from interdisciplinary backgrounds are selected to take part in problem-based climate data science workshops, science communication seminars, and a 3-month internship experience with the goal of solving climate-related problems.
- 2016 **NSF GRFP: \$138,000**
Recognizes and supports three years of tuition and fees for outstanding graduate students in diverse STEM fields (~2,000 awardees are chosen out of over 13,000 applicants/year).
- 2016 **Friday Harbor Laboratories Fish Functional Morphology Course Fellow**
Selected students take part in a 5-week intensive course on fish biomechanics and are expected to complete a self-designed research project. Results are written in manuscript form and presented in an oral presentation at the conclusion of the program.
- 2015&16 **Ford Foundation Fellowship Honorable Mention**

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- Recognizes outstanding graduate students seeking to increase diversity in STEM.
- 2015 **GAANN Fellowship Award: \$7,500** (U.S. Department of Education)
Awarded to students who exhibit an outstanding capacity for teaching & research.
- 2014 **Provost PhD Fellowship Award: \$20,000** (UC Irvine)
Awarded to the top 5% of students admitted to UCI graduate programs school-wide.
- 2014 **Diversity Recruitment Fellowship Award: \$10,000** (UC Irvine)
Awarded to exceptional incoming graduate students with the goal of increasing diversity.
- 2014 **Competitive Edge Summer Research Fellowship Award: \$5,000** (UC Irvine)
Provides funding for motivated incoming graduate students to begin their research during the summer prior to their first official quarter. Students present at a symposium at the conclusion of the program.

INVITED SEMINARS

- 7) **S. Leigh.** (2019). Physiology Impacts Ecology: Sharks in their Habitats. *University of Southern California.*
- 6) **S. Leigh.** (2019). Predator vs Prey: How do sharks make a living? *Claremont McKenna Colleges.*
- 5) **S. Leigh.** (2018). The Resource Acquisition Strategies of Sharks. *University of California – San Diego.*
- 4) **S. Leigh.** (2018). JAWS on a Diet: An Omnivorous Predator. *Aquarium of the Pacific.*
- 3) **S. Leigh.** (2018). The Nutritional Physiology of Sharks. *The University of Utah.*
- 2) **S. Leigh.** (2017). The Resource Acquisition Strategies of Sharks. *McDaniel College.*
- 1) **S. Leigh.** (2016). Pursuing a PhD: Research, Teaching, Mentoring, & Learning. *University of Southern California: Wrigley Institute for Environmental Studies Career Symposium.*

PRESENTATIONS & PUBLISHED ABSTRACTS

- 21) **S. Leigh** and D. German (2019) The role of microbial symbionts in bonnethead shark seagrass digestion. *Society for Integrative and Comparative Biology.* Oral Presentation.
- 20) **S. Leigh** and D. German (2018) The role of microbial symbionts in bonnethead shark seagrass digestion. *American Physiological Society Conference.* Oral Presentation.
- 19) **S. Leigh.** (2018). Omnivorous predators: seagrass digestion in the bonnethead shark. *Newkirk Center for Science and Society.* Oral Presentation.
- 18) **S. Leigh.** (2018). Omnivorous predators: seagrass digestion in the bonnethead shark. *Ecology & Evolutionary Biology Graduate Student Symposium.* Oral Presentation.
- 17) **S. Leigh.** (2018). An Omnivorous Shark? *UCI Grad Slam Symposium.* Oral Presentation.
- 16) **S. Leigh,** Y. Papastamatiou, & D. German. (2018). Omnivorous sharks? Analysis of bonnethead shark digestive physiology provides evidence for seagrass digestion and assimilation. *Society for Integrative and Comparative Biology.* Oral Presentation.
- 15) **S. Leigh,** S. Brodie, E. Hazen, B. Muhling, T. Garfield, & H. Dewar. (2017). Analysis of Opah (*Lampris sp.*) Distribution Along the Pacific US Coast. *Environmental Research Symposium.* Poster.
- 14) **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.
- 13) S. Hoffmann, C. Donatelli, **S. Leigh,** E. Brainerd, & M. Porter. (2017). Functional ecomorphology of shark pectoral fins. *Florida SeaGrant Coastal Science Symposium.* Poster.
- 12) **S. Leigh,** S. Hoffmann, A. Summers, & D. German. (2017). Spiraling into Control: The function of the spiral intestine in Elasmobranchs. *Joint Meeting of Ichthyologists and Herpetologists.* Oral Presentation.
- 11) S. Hoffmann, **S. Leigh,** C. Donatelli, E. Brainerd, & M. Porter. (2017). Three-dimensional movements of the pectoral fin during routine turns in the Pacific Spiny Dogfish (*Squalus suckleyi*). *Joint Meeting of Ichthyologists and Herpetologists.* Oral Presentation.
- 10) **S. Leigh,** Y. Papastamatiou & D. German. (2017). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks. *Joint Meeting of Ichthyologists and Herpetologists.* Poster.
- 9) **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.
- 8) S. Hoffmann, **S. Leigh,** C. Donatelli, E. Brainerd, & M. Porter. (2017). Three-dimensional movements of the pectoral fin during routine turns in the Pacific Spiny Dogfish (*Squalus suckleyi*). *Society for Integrative and Comparative Biology Conference.* Oral Presentation.
- 7) **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.
- 6) **S. Leigh & D. German.** (2016). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks. *Society for Integrative and Comparative Biology Conference.* Poster.
- 5) **S. Leigh & D. German.** (2016). The Resource Acquisition Strategies of Seagrass-eating Bonnethead Sharks.

- Ecology & Evolutionary Biology Graduate Student Symposium*. Oral Presentation.
- 4) **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.
 - 3) **S. Wright** & D. German. (2014). The Role of Diet Type on the Gut Size and Function of Zebrafish. *Southwestern Organismal Biology Conference*. Oral Presentation.
 - 2) **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.
 - 1) **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.

TEACHING & MENTORING EXPERIENCE

1) Instructor of Record, California State University Fullerton

- a) *Human Anatomy and Physiology* (Spring 2019): I was responsible for creating the syllabus and student learning outcomes, making the lectures, as well as designing the active learning activities, assignments, and assessments.
- b) *Southern California Ecosystems Research Program* (SCERP: Summer 2019): A 3 week long intensive course for undergraduates. I was a co-leader for a week long session on microplastics in ocean ecosystems. I was responsible for creating lesson plans, helping the students develop and test their research questions, as well as reviewing their final paper and presentation.
- c) *Elements of Biology* (Fall 2019): Starting soon.

2) Pedagogical Fellowship Program, UCI Division of Teaching Excellence and Innovation (2018)

- a) A highly regarded "preparing future faculty" program; selection is competitive, based on a record of excellent teaching, promising scholarship, and service to the University. It consists of three courses focusing on both general and discipline-specific pedagogical theory, observing and implementing evidence-based teaching practices, and developing and leading the UCI TA Training Workshops.
- b) Culminates in the Certificate of Teaching Excellence.

3) Teaching Assistant, UCI Ecology and Evolutionary Biology Department

- a) DNA to Organisms (Fall 2014)
- b) Human Physiology Laboratory (Winter 2015, Fall 2015, Winter 2016, Spring 2016)

4) Guest Lecturer, UCI

- a) Processes in Ecology and Evolution, Topic: Predation (Spring 2018)
- b) Organisms to Ecosystems, Topic: Intro. to Ecology (Winter 2018)

5) Tutoring

- a) **The College Trail** (2014-2015): Weekly, I tutored middle and high school students in various subjects, including biology, earth system science, algebra, statistics, and calculus.
- b) **Coastal Carolina University Writing Center** (2010-2013): I tutored undergraduate students in every aspect of the writing process, from brainstorming to proof-reading. I also lead monthly writing workshops and specialized in ESL students and student athletes. Work resulted in publication in *Southern Discourse* (see teaching publications list above).

6) Mentoring (* = published during mentorship, ^ = went on to graduate/medical school)

- a) **University of California, Irvine**: Quang Nguyen^{*}, Caitlyn Catabay[^], Cam Vandenakker[^], Siyan Chen[^], Emily Urena[^], Chloe Richards, Nicole Dwyer, Eleazar Paniagua[^]
- b) **Florida International University**: Maria Sabando, Sarah Sisco
- c) **California State University Fullerton**: Newton Hood[^] (TA), Robert Courville (TA)

PROFESSIONAL & LEADERSHIP SERVICE

9) Loh Down on Science (2018-2019)

Invited by Sandra Tsing Loh, Executive Producer and Host of the "Loh Down on Science" radio show to research, write, and edit scripts for the show. The show is broadcast 5x per week to over 4 million listeners on 150 public radio stations across the country. Our goal is to make science fun and accessible to all.

8) UC Graduate Research Advocacy (2018)

I was one of two students selected by UCI Vice Provost Dr. Frances Leslie to represent UCI graduate students at UC Graduate Research Advocacy Day in Sacramento. I met with California senators and assembly members to discuss my research and advocate for UC graduate program funding.

7) UCI Climate Solutions Summit (2018)

Co-organizer of summit with the goal of facilitating interactions among UC Irvine researchers, community leaders, stakeholders, and policy makers in order to identify socially meaningful research priorities,

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important climate problems and solutions, as well as ways to improve public communication with the local community and government officials.

6) UCI Evolutionary Genetics Hiring Committee (2018)

Represented graduate student interests on the hiring committee for an assistant professor position. My role was to contribute to reading, discussing, and voting on applications, as well as organizing interview schedules and selecting the final hire.

5) Graduate Student Representative (2017-2018)

Responsible for representing the graduate students in the UCI Ecology and Evolutionary Biology Department during monthly faculty meetings, organizing new student orientation and quarterly graduate student meetings, and assigning and communicating with student-run committees.

4) UCI Policy Prep (P3) Program (2017-2018)

Three-tiered program which fuses learning workshops/seminars focused on public policy processes with practical experience related to advocacy and science policy. I am co-organizing the UCI Climate Solutions Summit (see below) as my science policy project.

3) NOAA Southwest Fisheries Science Center (2017)

As a Climate Action Training Program Fellow, I 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.

2) 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."

1) Winter Ecology and Evolutionary Biology Graduate Student Symposium (2017)

Co-organizer of departmental symposium event featuring oral presentations from graduate students.

OUTREACH PROJECTS

10) UCI Homecoming Festival (2019)

I set up a booth at the event to discuss my research and the importance of shark and marine habitat conservation with alumni and other visitors. I used a multi-media approach with photos and videos as well as shark artifacts (shark skin, jaws, egg cases, etc.) that visitors could touch and explore.

9) Targeted Instruction Generating Excitement about Research and Science (TIGERS: 2014-2019)

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) Art in the Park: Crystal Cove State Park Community Outreach (2018)

In collaboration with UCI art graduate student Lauryn Moles, I created a walk-through art installation of a shark digestive system. Community members who visited the exhibit were given an ipad containing a video that would guide them through the digestive processes occurring in each stage of the digestive system that they walked through. This ipad video can be found here: <https://youtu.be/TGQSR9G1R5g>

7) Downey High School Career Mentoring (2018)

I met one-on-one with high school students interested in pursuing STEM career paths and provided guidance for accomplishing their goals.

6) 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.

5) Gills Club Science Mentor (2017-2018)

Using social media, I answer questions about my research experiences and interact with the younger club members in order to empower girls and young women to pursue leadership positions in science and to expose them to ocean-related conservation issues.

4) California State Science Fair (2016 & 2017)

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

3) "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: <https://goo.gl/STvx2C>.

2) 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.

1) 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.

SELECTED SCIENCE COMMUNICATION AND MEDIA ATTENTION

19) The New York Times (2018): “The Omnivorous Sharks That Eat Grass,” by Veronique Greenwood

<https://www.nytimes.com/2018/09/06/science/omnivorous-sharks-seagrass.html>

18) Newsweek (2018): “Vegetarian Sharks? World’s First Omnivorous Sea Beasts...,” by Hannah Osborne

<https://www.newsweek.com/vegetarian-omnivorous-shark-bonnethead-discovered-seagrass-1103831>

17) The Guardian (2018): “First known omnivorous shark species identified,” by Ian Sample

<https://www.theguardian.com/environment/2018/sep/05/bonnethead-omnivorous-shark-species-identified>

16) USA Today (2018): “The bonnethead is the first known plant-eating shark, scientists say,” by Brett Molina

<https://www.usatoday.com/story/news/nation-now/2018/09/06/bonnethead-shark-scientists-reveal-first-known-plant-eating-shark/1213376002/>

15) ABC News (2018): “Side of seagrass please: Scientists find omnivorous shark,” The Associated Press

<https://abcnews.go.com/Technology/wireStory/side-sea-grass-scientists-find-omnivorous-shark-57652873>

14) Fox News (2018): “Vegetarian shark discovery,” by James Rogers

<http://www.foxnews.com/science/2018/09/05/vegetarian-shark-discovery-first-omnivorous-species-sea-predator-stuns-scientists.html>

13) NBC (2018): “Researchers Find First Known Plant-Eating Shark,” by Andrew Johnson

<https://www.nbcsandiego.com/news/local/First-Omnivorous-Shark-Discovered-UCI-492560841.html>

12) Scientific American (2018): “Bonnethead Sharks Are Underwater Lawnmowers,” by Christopher Intagliata

<https://www.scientificamerican.com/podcast/episode/bonnethead-sharks-are-underwater-lawnmowers/>

11) Nature (2018): “The world’s first flexitarian shark grazes like a cow”

<https://www.nature.com/articles/d41586-018-06173-y>

10) The OC Register (2018): “Omnivore sharks?”, by Laylan Connelly

<https://www.oregister.com/2018/09/05/omnivore-sharks-uci-scientists-find-bonnetheads-digest-greens-as-well-as-meat/>

9) UCI News (2018): “Shaking Up the Shark’s Image,” by Roy Rivenburg

<https://news.uci.edu/2018/10/29/shaking-up-the-sharks-image/>

8) KUCI: Ask a Leader (2018): “Climate Solutions Summit: Live at the Beckman,” hosted by Claudia Shambaugh

<http://askaleader.com/?p=1336>

7) Popular Science (2018): “This tiny shark eats seagrass and is doing just fine,” by Kate Baggaley

<https://goo.gl/RieXqA>

6) Science Magazine (2018): “Meet the world’s first salad eating shark,” by Elizabeth Pennisi

<https://goo.gl/yrtkus>

5) National Geographic Society (2017): “This shark eats grass and no one knows why,” by Hannah Lang

<https://goo.gl/9ARDDb>

4) SciComm Mondays (2017): “A shark that eats plants?” hosted by Nicole Wood

<https://goo.gl/YycRSN>

3) Brews and Brains (2017): “Beyond the jaws: shark digestive physiology,” hosted by Sarah Cross

<https://goo.gl/8kSm1E>

2) Earth Touch News (2017): “This shark has an appetite for...grass?” by David Moscato

<https://goo.gl/7LPi15>

1) Keys News (2017): “Study: Bonnethead sharks dine on seagrass,” by Theresa Java

<https://goo.gl/dPwcWz>

RECENT RESEARCH EXPERIENCE

California State University Fullerton: Dr. Misty Paig-Tran’s laboratory

Title: Postdoctoral Researcher (June 2019-present)

Projects: 1) Investigating the trophic uptake of microplastics into commercially important fish species.

2) NSF funded project focusing on manta ray filtration mechanisms.

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University of California, Irvine: Dr. Donovan German Laboratory

Title: PhD Student/ Teaching Assistant and Pedagogical Fellow (June 2014-June 2019)

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 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: 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: 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: 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.

PEER REVIEWS

Journal of Experimental Biology
Journal of Fisheries Biology
Public Library of Science (PLoS ONE)
Oecologia
Croatian Journal of Fisheries (CJF)
Ecology and Evolution
Integrative and Comparative Biology

AFFILIATIONS

American Physiological Society (2018-present)
American Elasmobranch Society (2016-present)
American Society of Ichthyologists and Herpetologists (2016-present)
Society for Integrative and Comparative Biology (2014-present)
Southwest Organismal Biology Division (2014-present)
Ecological Society of America (2017)