

Jacoby Baker

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Education

- Fall 2017 –** M.S. Marine Sciences – Moss Landing Marine Laboratories, CSU
Fall 2020 Monterey Bay
- 2016** B.S. Biological Sciences, Conc. Marine Biology – San Jose State University

Professional Experience

- November 2020 –** Research Assistant – Monterey Bay Aquarium Research Institute (MBARI)
Present Works with the Biological Oceanography Group studying spatial and temporal shifts in the marine ecosystem of Monterey Bay. Duties include collection and filtering of water samples, DNA extractions, PCR, and bioinformatic workflows.
- May 2017 –** Graduate Research Assistant – Marine Environmental Physiology Lab – CSU,
November 2020 Monterey Bay
Conducted research on the molecular physiology of fishes, including RNA extractions, cDNA library preparations, quality control of samples, data management, statistical analysis, bioinformatics, and mentored undergraduate students in the lab.
- June 2017 –** Graduate Student Assistant – NSF Polar ICE Sci-I Project and CSU Monterey Bay
August 2018 Research Experience for Undergraduates (REU)
Facilitated and coordinated teacher training workshops and student research symposiums, developed the Sci-I How-To Manual, managed and assessed the Sci-I project, and provided feedback and mentorship to students. Mentored REU students, organized and facilitated events, and advertised the program.
- September 2015 –** Early Life History Lab Assistant – NOAA National Marine Fisheries
April 2018 Services, Fisheries Ecology Division
Trained and supervised interns, organized and led dissection teams, ran climate change related experiments investigating the effects of high pCO₂ and low dissolved oxygen on the physiology and behavior of juvenile and larval rockfishes.

Additional Research Experience

- March 2018** Marine Environmental Studies of the Gulf of California – Isla Natividad, BCS, Mexico
Studied how MPAs influence the size and abundance of invertebrate fishery species.
- September 2015 –** Ichthyology Lab Intern – Moss Landing Marine Laboratories
January 2017 Assisted students on various projects including fish dissections, data collection on SCUBA, and fish collections with hook-and-line fishing techniques.
- August 2016** Research Assistant, Whale Shark Research – Bahia de los Angeles, Baja Mexico
Collected data and collaborated with local authorities.

Publications

- 2019 Hunter-Thomson, K., **Baker, J.** Polar ICE Sci-I Project Development & Implementation Manual. Retrieved August 29, 2019, from <https://bookdown.org/kristin/sci-i-guide/>

Manuscripts in Preparation

- Baker, J.**, Saksa, K., Heard, Hamilton, S., Logan, C. (In preparation). Maternal environment drives larval gene expression patterns in gopher rockfish (*Sebastes carnatus*). *Mol. Ecol.*

Oral Presentations

- 2020 Guest Lecture – CSU, Monterey Bay, Adventures in Marine Science Course
- 2018 Western Society of Naturalists – Tacoma, WA *
- *Received best student presentation award in organismal/population biology
- 2018 Guest Lecture – CSU, Monterey Bay, Marine Experimental Physiology Course

Posters Presented

- 2017 Western Society of Naturalists – Pasadena, CA
- 2017 Society for Advancing Chicanos and Native Americans in Science – Salt Lake City, UT

Teaching Experience

- Sp. 2020 Marine Experimental Physiology, Dep. of Natural Sciences, CSUMB
- Fa. 2018 Marine Experimental Physiology, Dep. of Natural Sciences, CSUMB
- Sp. 2018 Marine Experimental Physiology, Dep. of Marine Science, CSUMB

Events Facilitated

- 2018 NSF Polar ICE Sci-I Project – Student Polar Research Symposiums
- Planned, coordinated, and facilitated three 4-hour research symposiums in Missouri, Ohio, and California where students of 6th – 9th grade presented their research from the Polar ICE Sci-I project.
- 2017 NSF Polar ICE Sci-I Project – Teacher Workshop
- Facilitated a week-long workshop for 6th – 9th grade teachers. Provided instructional information on the scientific process, how to formulate and test hypotheses based on already collected data, and present results in a visual format.

Professional Development

- 2018 National Center for Genome Analysis Support
- NSF sponsored, two-day workshop on high performance computing usage and *de novo* transcriptome assembly.
- 2017 Data Intensive Biology Summer Institute at UC Davis – Non-Model Organism RNAseq

This large data workshop provided an excellent foundation and workflow for the bioinformatics data management and analysis of non-model organism RNA sequencing.

2017 American Academy of Underwater Sciences (AAUS) Dive Certification
Specialized training in SCUBA research

Awards

2018 Best student presentation award in organismal/population biology – Western Society of Naturalists

Funding

2019 Simpkins Family Marine Science Scholarship (\$1,000)

2018 CSU Program for Education & Research in Biotechnology (\$750)

2018 Dr. Earl H. Myers & Ethel M. Myers Oceanographic & Marine Biology Trust (\$1,000)

2018 National Center for Genome Analysis Support (\$500)

Outreach

2019 Marine Science Rotating Research Panel – UROC, CSUMB
Participated in a research panel to help inform undergraduate students of potential career paths.

2017 - 2018 NSF Polar ICE Sci-I Project
Outreach to science teacher of 6th-9th grade to educate them on how to access polar data sets, formulate testable questions, create representative figures, and present their results so they can bring these skills to their classroom for their students.

2017 – 2018 Regional Ocean Sciences Research Experience for Undergraduates (REU)
Brings undergraduates from across the nation to Monterey Bay, CA to work with a mentor in the ocean sciences. During the program the student worked on an independent project with the guidance of their mentor. At the end of the program the students produce written work and an oral presentation.

2016 – 2019 Moss Landing Marine Laboratories – Open House
Invitation to the public to explore the MLML campus and learn about the research that students and faculty are conducting.

Skills

- Experience in fish husbandry and cultivating rotifer cultures for food
- Experience of computer systems controlling nitrogen and carbon dioxide gases to adjust and maintain treatment levels in experimental tanks
- Experience conducting behavioral and physiological trials on fishes
- Practiced in dissections and tissue collection of fishes
- Experienced in RNA isolation and cDNA library preparations
- Programming in Python

- Experience in bioinformatics
- AAUS Scuba Certified