

Dr. Jennifer Brandon

Encinitas, California

Telephone: (650) 224-4802 Email: jennibrandon24@gmail.com

PROFILE

PhD in Biological Oceanography seeks to apply extensive marine debris and climate expertise and communications experience to innovative sustainability and science consulting solutions.

CAREER EXPERIENCE

Science & Sustainability Consultant, Wild Beacon Consulting

Sept. 2023-Present

I have started my own consulting business, focused primarily on helping family offices and philanthropies donate to and invest in climate change solutions. In addition, I will help companies become more sustainable to reach their ESG goals, as well as conduct deep scientific research and due diligence for clients on a variety of topics.

Climate Scientist, King Philanthropies

March 2022-Sept. 2023

I was responsible for scientific due diligence for all impact investments and non-profit donations made by the foundation. KP exists to make impactful solutions at the intersection of climate and livelihoods.

- Assessed any potential investment or donation for its scientific robustness, its effect on the climate, and any potential negative consequences; called on fellow scientists and experts for my assessments
- Collaborated with KP's portfolio organizations to calculate their carbon footprints, helped them become more sustainable, and connect them with a network of environmental experts
- Built a network of stakeholders from potential portfolio organizations to co-investors to climate experts

Senior Scientist, Director of Communications

Applied Ocean Sciences, LLC

Oct. 2019-February 2022

As one of only two biologists at AOS, I was able to work on a variety of ecological, pollution, and outreach projects. AOS provides cutting-edge science to government, nonprofit, and academic partners.

- Lead PI on multiple government grants and proposals for various agencies
- Able to work with variety of NGOs, from Walter Munk Foundation for the Oceans to WWF-Canada
- As Director of Comms, took lead on much of AOS's social media, outreach, and development strategy, as well as led AOS's rebranding

Price Postdoctoral Fellow, Birch Aquarium, UCSD

Jan. 2018-June 2019

This postdoc, made possible by the Price Philanthropies Foundation, is designed to help Scripps PhD students become fluent in the world of science communication and informal education.

- Co-Lecturer for Communicating Science to the Public class to undergraduate and graduate students
- Coordinated and mentored graduate students communicating their science for Beach Science, a program teaching Next Generation Science Standards curriculum to sixth graders in under-served schools
- Translated and communicated Scripps science in various capacities and media around the Aquarium

PhD Candidate, Scripps Institution of Oceanography, UCSD

Aug. 2012-Dec. 2017

My research focused on quantifying the abundance, distribution, and ecological effects of microplastic pollution in the North Pacific.

- Designed and conducted my own experiments, including developing novel uses of methods to identify previously under-sampled nanoplastics and to determine age of marine microplastic
- Mentored four Master's students and supervised seven undergraduate students with their research

- Chief scientist of international cruise with Schmidt Ocean Institute where I developed new experimental method and wrote communications material for Schmidt's website

EDUCATION

Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA

Doctor of Philosophy, Biological Oceanography, December 2017

Master of Science, Marine Biology, March 2014

Duke University, Durham, North Carolina

Bachelor of Science, Biology, May 2011

Bachelor of Art, English, May 2011

Minor in Theater Studies, May 2011

Graduated Cum Laude and with Distinction, Biology

SCIENCE COMMUNICATION EXPERIENCE

Interviews

2012-Present

- Facebook Live interview with Sky News was seen by 28,000+ people internationally in 24 hours
- Interviewed for press articles by BBC, Popular Mechanics, The Guardian, Wired, LA Times and others
- Radio interviewed for KPBS, NPR, conservative Christian radio, and multiple podcasts
- Film interviewed for three documentaries, CBS National News, Turkish news, and CareerGirls nonprofit video series, among others

Teaching and speaking

2012-Present

- Invited to speak on marine debris panels by US Embassy in Brazil, Benioff Ocean Initiative, Pepsi Sustainability Office, Indonesian diplomatic envoy, Surfrider, and others
- Chaired panels at San Diego's Blue Tech Week, sponsored by The Maritime Alliance, and Plastic Awareness Global Initiative, sponsored by Wilsdorf Mettler Future Foundation
- Co-taught Communicating Science class for three quarters, to both graduate and undergraduate students
- Taught multiple teacher professional developments, with Birch and San Diego County Office of Education
- Educated about marine debris to dozens of schools and numerous stakeholders, including donor groups

Science Interpretation

2014-Present

- Spearheaded and implemented design of section of new Oddities exhibit at Birch Aquarium, helped with design and scientific interpretation throughout exhibit
- Project lead on all of World Oceans Day at Birch, themed around marine debris
- Co-wrote a chapter of *GIS for Science*, esri's third book edition, highlighting AOS's acoustic research
- Championed science translation and event planning of multiple educational events at Birch Aquarium

SELECTED RESEARCH EXPERIENCE

Underwater Noise Pollution from Shipping in the Arctic

- AOS modeled the increased underwater noise pollution from 2013-2019 due to increased shipping, and predicted underwater noise pollution out to 2030 based on predictions of decreased ice cover
- Contracted by WWF-Canada and Arctic Council's PAME (Protection of the Arctic Marine Environment) working group
- Managed the project and coordinated with multiple stakeholders; lead author of the report draft
- Phase I report published on PAME website in May 2021

Multi-Decadal Increase in Plastic Particles in Coastal Ocean Sediments

- Analyzed microplastics in anoxic sediments in the Santa Barbara Basin. Discovered an exponential increase in sediment from 1945-2010 that strongly correlates with trends in worldwide plastic production
- Published in September 2019 in *Science Advances*, garnered widespread international media attention

Patterns of suspended and salp-ingested microplastic debris in the North Pacific investigated with epifluorescence microscopy

- Developed novel sampling, imaging method for sampling smallest size class of microplastics (<333 um). Discovered standard methods were under sampling microplastics by ~5-7 orders of magnitude
- Dissected salps (plankton) at the base of the California Current food web; 100% of organisms dissected had microplastics in stomach
- Published in *Limnology and Oceanography Letters* in November 2019, garnered national media attention including NPR 5:00 news hour

Plastic Pollution in the Ocean: What we know and what we don't know about

- Asked to collaborate on a technical report authored by some of the leading experts in the field
- Published by the Plastic and Ocean Platform in March 2018

Long-Term Aging and Degradation of Microplastic Particles: Comparing Natural and Experimental Weathering Patterns

- Exposed 6 most common plastics to various weathering regimes; compared to marine debris collected from Pacific Ocean transect. Utilized FTIR spectroscopy to analyze chemical weathering/aging patterns
- Published in *Marine Pollution Bulletin* in July 2016

*Developmental Toxicity and DNA Damage from Exposure to Parking Lot Runoff Retention Pond Samples in the Japanese Medaka (*Oryzias latipes*)*

- Conducted research as a Bookhout Scholar at Duke Marine Lab; earned Honors Thesis in Biology
- Exposed Medaka embryos to varying concentrations of stormwater runoff; examined plant and animal abundance in commercial and residential runoff ponds; used microsatellites to analyze effects of pollution on population structure of *G.holbrooki* populations in three types of ponds.
- Published in *Marine Environmental Research* in August 2014