

Dongran Zhai

Ph.D. Candidate

Department of Ocean Sciences

University of Santa Cruz

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EDUCATION

- 2020-now** **University of California, Santa Cruz, CA**
Ph.D. Student in Ocean Sciences
- 2019-2020** **University of California, Santa Cruz, CA**
M.S.in Ocean Sciences
- 2017-2018** **National Taiwan Ocean University, Taiwan**
Exchange Student
- 2015-2019** **Nantong University, Nantong, China**
B.S. in Marine Technology
Thesis title: Study on the Influence of Concentration of Organic in Anode Area on the Power Generation Efficiency of Sediment Microbial Fuel Cell (in Chinese)

AWARDS AND FELLOWSHIP

- 2022-2023** **Graduate Dean's Research Travel Grant (x2)**
- 2021** **Graduate Student Cultivation Grant Award**
- 2020-2022** **Chinese Scholarship Council and UC Santa Cruz Joint scholarship (AEPsO) for Ph.D. student**
- 2019** Excellence in Exchange Study Scholarship
- 2016-2018** **Undergraduate scholarships (x3)**
- 2017** **Merit Student Award**, Nantong Education Bureau
- 2017** **Excellent Group Award**, Research Training and Development Competition
- 2016** **Excellent Student Cadre Award**, Student Union of Nantong University

ACADEMIC EXPERIENCE

- 2023-2024** **Graduate student research.**
Detection and attribution of anthropogenic climate change fingerprinting in ocean chlorophyll
- 2023** **Collaboration Research.**

The ocean as a classroom: Considering the roles of equity, diversity, and justice in oceanographic knowledge production to promote accessibility for future generations

- 2023 Collaboration Research.**
All aboard! Behind the scenes of a scientific research cruise
- 2022-2023 Graduate student research.**
Long-term trends in the distribution of ocean chlorophyll
- 2021-2023 Collaboration Research.**
Trends in sea surface temperature extremes over 1982-2021
- 2020-2024 Graduate student research.**
Detecting long-term trends in satellite ocean chlorophyll using Bayesian dynamic model.
- 2018-2019 Undergraduate Thesis.** Study on the Influence of Concentration of Organic in Anode area on the Power generation Efficiency of Sediment Microbial Fuel Cell
- 2018 Intern Assistant Researcher.** Marine biotechnology laboratory, Jiangsu Marine Fisheries Research Institute and Shanghai Marine Fisheries Research Institute
- 2017-2018 "Challenge Cup" National Science and Technology College of Extra-curricular Academic Competition Works----**System Design of CW-MFC and Application in Nitrogen-containing Sewage Treatment
- 2017 "Ocean Star" research fieldwork.** Nantong Fisheries Biology Condition Survey

MENTOR EXPERIENCE

- 2023-now Science Internship Program.** Mentoring three high school students insert into existing research projects in the Ocean and Climate field.
- 2022 High School Student Research Mentor.** Research about what is the current situation of ocean pollution and what can we do to protect the ocean
- 2021 Undergraduate Student Research Mentor.** Publish a research article based on the impact of increasing plastic straws on marine ecosystems

JOURNALS/PATENT

[8] **Zhai, D.**, Beaulieu, C., Hammond, M. L., Henson, S. A. (2024) Assessing long-term trends and uncertainty in ocean chlorophyll using Bayesian dynamic space-time model. Manuscript in preparation.

- [7] Beaulieu, C., **Zhai, D.**, Lopez, B., Giamalaki, K. (2024) Trends in sea surface temperature extremes over 1982-2021. Manuscript in preparation.
- [6] **Zhai, D.**, Beaulieu, C., Kudela, R. M. (2023) Long-term trends in the distribution of ocean chlorophyll. Manuscript submitted for publication.
- [5] Light T, Norris E, **Zhai D**, Varner R, Lanpher KB, Capone D, Erazo NG and Norris R (2024) All Aboard! Behind the Scenes of a Scientific Research Cruise. Front. Young Minds. 12:1184073. doi: 10.3389/frym.2023.1184073
- [4] Erazo, N.G., T. Light, D.A. Capone, A.L. Effinger, P.F. Erazo, L. Huang, A. Kannad, K.B. Lanpher, E. Norris, S.O. Perry, E. Romero, T.M. Russell, R.I. Varner, L. Wicker, A. Yu, **D. Zhai**, and R.D. Norris. 2023. The ocean as a classroom: Considering the roles of equity, diversity, and justice in oceanographic knowledge production to promote accessibility for future generations. Oceanography 36(4):160–161, <https://doi.org/10.5670/oceanog.2024.109>.
- [3] Zhang K, **Zhai D.** Are Paper Straws Friendly to the Marine Ecosystem?[J]. Scientific and Social Research, 2022, 4(1): 119-122.
- [2] Nantong University. The invention relates to a Coupling Device of an Ecological Floating Island and Microbial Fuel Cell[P]. Chinese invention patent, CN201810726051.0, 2018-07-04
- [1] Wenliang Yin, Fei Zhong, **Dongran Zhai**, et al. Countermeasure Analysis of Water Environmental Remediation in Small-Scale Urban Rivers; A Case Study of a College Campus River[J]. J. Nantong University (Natural Science Edition), 2018, 17(02):23-30

CONFERENCES & WORKSHOPS

Ocean Sciences Meeting (OSM), February 18-23, 2024, oral, Assessing long-term trends in ocean chlorophyll using a dynamic space-time model

The American Geophysical Union (AGU) Fall Meeting, December 11-15, 2023, poster, Long-term trends in the extremes and variability of global and regional ocean chlorophyll concentrations

University of Santa Cruz Postdocs Association (USPA) Postdoc Symposium, June 6, 2023, poster, Long-term trends in the distribution of ocean chlorophyll

Southern California Biogeochemical Ocean Observations and Models (SoCal BOOM) Symposium, March 26, 2022, poster, Detecting long-term trends in satellite ocean chlorophyll

Ocean Sciences Meeting (OSM), February 28 - March 4, 2022, poster, Detecting long-term trends in satellite ocean chlorophyll

Ocean Science Department Open House, February 11, 2022, Santa Cruz, USA, graduate student representative.

NOAA CoastWatch Satellite Course, February 24 - 28, 2022, participant

Machine Learning on Marine Biogeochemical (MLonMB), November 10, 2021, participant, held by Applied AI Initiative (AAIL) at UC Santa Cruz

TEACHING EXPERIENCES

Teaching Assistant

ESCI 100B: Fundamental Environmental Processes, UCSC, 2024

Teaching Assistant

ESCI167: Applied Environmental Time Series Analysis, UCSC, 2023

Teaching Assistant

ESCI 160: Data Analysis in the Environmental Sciences, UCSC, 2022

RELEVANT PROFESSIONAL COURSEWORK

OCEA 200 - Physical Oceanography

OCEA 220 - Chemical Oceanography

OCEA 230 - Biological Oceanography

OCEA 280 - Marine Geology

OCEA 213 - Biogeochemical Cycles

OCEA 241 - Dynamics of Marine Ecosystems

OCEA 260 - Introductory Data Analysis in the Ocean and Earth Sciences

OCEA 267 - Applied Environmental Time Series Analysis

OCEA 295 - How to Write a Scientific Article

OCEA 296 - Teaching in Ocean Sciences

STAT 206 - Applied Bayesian Statistics

EART 219 - Advanced Scientific Programming

EART 225 - Statistics and Data Analysis in the Geosciences

ESCI 160 - Data Analysis in the Environmental Sciences

GRAD 200 - Academic Writing for Graduate Students

GRAD 201 - Oral Communication for Graduate Students

GRAD 202 - Reading and Research Skills for Graduate Students
CAP 201A - Hacking for Oceans—Lean Design Methods
METX 206A - Advanced Microbiology

SERVICE TO THE UNIVERSITY & LEADERSHIP

2022 Contributed to RV Sally Ride Research Cruise in Pacific
2021-now **OS Peer Mentoring Program.** Helps first-year graduate students
accommodate to the academic and community life at the OS
Department
2018-2019 Vice-President of Nantong University Student Unions
2016-2017 Vice-President of Mo Wen-Sui Volunteers Association

Reviewer

Journals: Geophysical Research Letter
Proposals: Chinese Scholarship Council

Membership: American Geophysical Union (AGU)

Skills: Proficiency with Python, R, and MATLAB. Proficiency in dealing with and analyzing Earth System Model (ESM) and climate model simulations (CMIP). Have experience with Ocean Data View (ODV) and Panoply.