

# M. Kelsey Lane

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## EDUCATION

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<b>Oregon State University Corvallis, OR</b>	Ph.D. Ocean Ecology & Biogeochemistry Dissertation: “From Marine Heatwaves to Microbiomes: Multiscale Oceanographic Variability and Molecular Insights Inform Modern Planktic Foraminifera Ecology”	2024
	Minor: Graduate Certificate in College & Undergraduate Teaching	2023
	M.S. Marine Resource Management Thesis: “A New Record of Planktic Foraminifera Community Response to Marine Heatwaves in the Northeast Pacific”	2018- 2020
<b>Sea Education Association Woods Hole, MA</b>	SEA Semester on Sustainability in Polynesian Islands, Cultures and Ecosystems	Spring 2011
<b>Brown University Providence, RI</b>	B.A. Geology-Biology	2010

## TEACHING EXPERIENCE

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<b>Oregon State University Oceanography Instructor</b>		2024 - present
	<ul style="list-style-type: none"><li>• OC340: Biological Oceanography (including a field trip on a research vessel)</li><li>• OC103: Exploring the Deep</li><li>• OC333: Oceans, Coast and People (e-campus and on-campus)</li><li>• OC201: Oceanography (e-campus)</li><li>• Director: Summer Research Experience for Undergraduates in Ocean and Climate Science</li><li>• Students on Ships Experiential Learning Coordinator</li></ul>	
<b>Oregon State University Teaching Assistant</b>		2020-2024
	<ul style="list-style-type: none"><li>• OC333: Oceans, Coast and People (e-campus): Instructor of Record</li><li>• OC295/296: Introduction to Field Oceanography (including two 5-day research cruises)</li><li>• eOC103: Exploring the Deep/Geography of the World Oceans (e-campus)</li><li>• eOC201: Oceanography (e-campus)</li><li>• Guest Lectures in on-campus OC201 and OC103 on “The Great Pacific Garbage Patch”</li></ul>	
<b>Terra.do Climate School, Palo Alto, CA</b>		2020 – 2022
	<ul style="list-style-type: none"><li>• <b>Climate Instructor:</b> Online instructor for three cohorts of Learning for Action, a 12-week program for adult learners transitioning into the climate sector. Lead weekly climate labs for ~25 fellows. Taught climate science sessions for larger cohort ~150 fellows.</li></ul>	

**Sea Education Association, Woods Hole, MA** 2021, 2023

- **Visiting Oceanography Faculty:** Instructor for two 300-level and one 200-level, 4-credit courses in oceanographic research and ocean science with 17 undergraduate students. Chief Scientist over 6-week cruise: planned cruise track, science plan and mentored student projects. Supervised three Assistant Scientists.
- **Seascope Chief Scientist:** Led non-credit earning two-week high-school summer program

**Sea Education Association, Woods Hole, MA** 2013 – 2018

- **Assistant Scientist:** Taught oceanography, sailing, watch operations to undergraduates during six-week sea semester programs aboard the *SSV Robert C. Seamans & Corwith Cramer*. Taught 12 semester programs: Ocean Exploration, Oceans & Climate, Sustainability in Polynesian Islands & Ecosystems, Colonization to Conservation in the Caribbean, Global Oceans, Phoenix Islands Protected Area Expedition, and Marine Biodiversity & Conservation.
- **Teaching Assistant:** Assisted in classroom Marine Biodiversity and Conservation program, including lecturing and advising. Provisioned and ran the molecular lab.

**Camp Orkila Teen Leadership Program, Orcas Island, WA** Summer 2013

- **Sailing Instructor:** Led 5–10-day teen sailing expeditions focused on leadership development.

**Salish Sea Expeditions, Bainbridge Island, WA** Sept 2012 – Jun 2013

- **Program Coordinator:** Managed and delivered a ship and classroom-based watershed science curriculum in ten local schools culminating in a regional science symposium.

**Sound Experience aboard the *Schooner Adventuress*, Puget Sound, WA** Mar – Jul 2012

- **Deckhand/Educator:** Taught environmental science and sailing during 3-6 day trips.
- **Relief Program Coordinator:** Facilitated the educational program 6-8 days a month.

## RESEARCH EXPERIENCE

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**Oregon State University Research Assistant** 2018 – 2024

- **Graduate Fellow:** Studied modern planktic foraminifera assemblages and microbiome associations using geochemical and molecular techniques in the North Pacific Ocean.
- **Mentoring:** Mentored and supervised 2-3 undergrad research assistants.
- **Fieldwork:** Conducted independent research on multiple research cruises (~50 days at sea) and during two month-long field seasons in Taiwan and Catalina Island, CA.

**Sea Education Association, Woods Hole, MA** 2013 – 2018

- **Assistant Scientist:** Supervised and facilitated oceanographic deployments, training, processing, lab operations and maintenance during at-sea watches.
- **Interim Science Coordinator:** Managed the science staff hiring and scheduling. Responsible for research clearances and reporting. Coordinated oceanographic equipment maintenance.

**NOAA *Okeanos Explorer* Explorer-in-Training Internship** Aug, Nov 2017

- **Intern:** Operated and processed data from sonar systems: multibeam, EK60, subsonar.
- **Watch stander:** Participated in two cruises; one via telepresence and one on the ship.

**The SAPPHIRE Project**, Kona, HI Spring 2011

- **Research Assistant:** Boat-based surveys, focal follows, acoustic logs and analysis of spinner dolphin populations studying impacts of tourism industry.

**NOAA Rocky Intertidal Biodiversity Survey**, Homer, AK Summer 2009

- **Hollings Intern:** Conducted biodiversity surveys of intertidal algal and invertebrate biodiversity. Presented results to the research reserve and NOAA Science Symposium.

**Dr. Mark Bertness Lab**, Brown University. Summer 2008

- **Research Assistant:** Studied herbivory-driven marsh die-offs; extensive fieldwork.

**DolphinSMART, Dolphin Ecology Project**, Key West, FL Summer 2007

- **Research Assistant:** Boat-based surveys, focal follows of local dolphin population.

## PUBLICATIONS & PRESENTATIONS

**Lane, M.K.**, Fehrenbacher, J.S., Bird, C., Crump, B.C., (in prep.) “Bacterial associations of planktonic foraminifera in the subtropical Pacific.”

**Lane, M.K.**, Fehrenbacher, J.S., Hönlisch, B., Haynes, L. Crump, B.C. (2024). “Advancing individual foraminifera analysis by combining molecular, morphometric, and trace element geochemistry.” *Journal of Foraminiferal Research* (accepted).

**Lane, M.K.**, Fehrenbacher, J.S., Hönlisch, B., Haynes, L. Crump, B.C., “Pairing molecular, morphometric and geochemical analysis for a single foraminifera shell: a promising workflow for species with cryptic diversity,” PP43E-1724. Poster. AGU Fall Conference. 11-15 December 2023.

**Lane, M.K.**, Fehrenbacher, J.S., Hönlisch, B., Haynes, L. Crump, B.C., “Genotypic and geochemical variability of a planktonic spinose foraminifera species, *G. bulloides*, across the Northeast Pacific,” Oral presentation. FORAMS Conference. 26-30 June 2023.

**Lane, M.K.**, Fehrenbacher, J.S., Bird, C., Crump, B.C. “Planktonic foraminifera microbial associations in the subtropical Pacific,” Poster. FORAMS Conference. 26-30 June 2023.

**Lane, M.K.**, Fehrenbacher, J.S., Fisher, J.L., Fewings, M.R., Crump, B.C., Risien. “Seasonal changes in modern foraminiferal assemblages associated with recent Northeast Pacific marine heatwaves.” Poster. 5<sup>th</sup> International Symposium on the Effects of Climate Change on the Ocean. 16-21 April 2023.

**Lane, M.K.**, Fehrenbacher, J.S., Fisher, J.L., Fewings, M.R., Crump, B.C., Risien, C.M., Meyer, G.M.L., Schell, F. (2023). “Planktonic foraminiferal assemblages reflect warming during two recent mid-latitude marine heatwaves.” *Frontiers in Marine Science*: 10. DOI: [10.3389/fmars.2023.1155761](https://doi.org/10.3389/fmars.2023.1155761)

**Lane, M.K.**, Fehrenbacher, J.S., Fisher, J.L., Fewings, M.R., Crump, B.C. “A new record of planktic foraminifera community response to marine heatwaves in the Northeast Pacific.” Poster. Geological Society of America. Virtual. 26-30 October 2020.

**Lane, M.K.**, Fehrenbacher, J.S., Fisher, J.L. “A Tropical Tale: Influence of the Warm Blob on the Planktic Foraminifera Community off the Oregon Coast.” OB53A-05A. Oral presentation. Ocean Sciences Meeting. San Diego, CA. 16-21 February 2020.

**Lane, M.K.**, Fehrenbacher, J.S., Fisher, J.L. “The return of the marine heatwave and the impacts on the plankton community off the Oregon Coast.” Poster. State of the Coast. Salishan, OR. 9 November 2019.

**Lane, M.K.** “Telepresence Mapping: A model for training and outreach in ocean mapping.”  
308749. Poster. Ocean Sciences Meeting. Portland, OR. 11-16 February 2018.

**Lane, M.K.** (2017), Final report for SEA Cruise C270D. Sea Education Association, Woods Hole, MA. Available at [www.sea.edu](http://www.sea.edu).

## AWARDS AND HONORS

- Warren W. Denner Memorial Graduate Fellowship 2024
- Murray Levine Teaching Assistantship Award (\$5,000) 2023
- Ocean Ecology of Nekton Research Award (\$2,250) 2023
- Grad Research Photo Competition – 1<sup>st</sup> Place (\$500) 2023
- Loeblich and Tappan Student Research Grant (\$3,000) 2022
- ORSEA Science Communication Scholar (\$1,500) 2021-2022
- The Kenneth & Adrienne Sexton Graduate Student Scholarship (\$1,000) 2020
- ARCS Foundation Scholar (\$18,000) 2019 - 2022
- National Science Foundation Graduate Research Fellowship (\$138,000) 2018 - 2023
- Oregon State University Provost’s Distinguished Fellowship (\$24,000) 2018 - 2019
- Sea Education Association Presidential Scholarship (\$5,000) 2011
- 1<sup>st</sup> place Presentation, NOAA Summer Science Symposium (\$500) 2009
- NOAA Ernest F. Hollings Scholar (\$30,000) 2008 - 2010

## SERVICE AND OUTREACH

- Session Convener, American Geophysical Union Fall Conference 2023  
PP10: ‘Biomineralizers as Proxies: Insights for Paleooceanography (one oral & one poster session)
- Invited speaker: CEOAS Association of Graduate Students RESET Seminar May 2023  
“Reimagining field experiences: discussing accessibility in ocean sciences” ~50 attendees.
- DEI Committee Member, CEOAS Association of Graduate Students 2022 – 2023
- Inspiring Girls Expeditions, Volunteer 2022 – 2023
- Scientist, Oregon Marine Scientist and Educator Alliance, STEM Hub 2021 – 2022
- Co-Founder and Organizer, CEOAS Chronicles Blog 2020 – 2022
- Keynote Speaker, OSU Salmon Bowl National Ocean Science Bowl 2022
- Outreach Chair, CEOAS Association of Graduate Students 2020 – 2021
- Co-President, Womxn in Science, Oregon State University 2019 – 2021
- Participant in the NSF URGE (Unlearning Racism in the GEosciences) Initiative 2021
- Outreach Chair, CEOAS Association of Graduate Students 2020 – 2021
- National Ocean Science Bowl Volunteer Game Official 2018 – 2021
- OSU Social Justice Education Initiative Training 2020
- MRM Discipline Representative, CEOAS Association of Graduate Students 2019 – 2020
- Newsletter Co-Editor, Womxn in Science, Oregon State University 2018 – 2019

## LEADERSHIP

- **Mentorship:** Mentored and managed three undergraduate researchers in the lab and in the field, including them as co-authors on publications, writing recommendation letters, and sharing research opportunities. Also mentored and written letters of recommendation for 20+ students from SEA Semester programs.

- **Program Management:** Managed lab operations, reporting, troubleshooting, training. Supervised 3-5 employees and 15-24 undergraduate students. Instructor on record for three semester long courses. At educational non-profits, coordinated programs and ran science and educational programming in classrooms and on ships.
- **Expedition Leadership:** Led outdoor, experiential education programs ranging from sailing in the San Juan Islands, WA to backpacking in the White Mountains, NH. Over 1000 days at sea: mostly oceanographic research cruises on research vessels, tall ships & sail boats in the Atlantic, Pacific, and Mediterranean Ocean. Participated in marine field seasons in Catalina Island, CA, Green Island, Taiwan, Cape Cod, MA, Kachemak Bay, AK, and Florida Keys, FL involving culturing plankton, driving skiffs, water sampling, plankton sampling, SCUBA diving, intertidal surveys, and marine mammal observations.
- **Medical Officer:** Primary caregiver and designated medical person-in-charge for 10-30 person crews in the backcountry and offshore. Coordinated with contracted medical services to administer prescription medicines, antibiotics, and other advanced care under the direction of remote physicians.

## RELEVANT SKILLS

**USCG Merchant Mariner Credential Reference # 3610383:** 100-Ton Inland Master, 200-Ton Near Coastal Mate, Able Seaman, Sail Endorsement, STCW. Capable at watch standing, boat handling, coastal navigation, rules of the road and sail handling.

**Technical:** Certified: AAUS Scientific Diver (certified 2021-2022), PADI Rescue Diver, PADI Advanced & Open Water SCUBA, Wilderness First Responder (WFR, expired but maintained from 2010-2020), *Leave No Trace* Instructor, Swiftwater Rescue, Basic Safety Training, Leadership and Managerial Skills.

**Computer:** Proficient with: R Studio, Primer-e +PERMANOVA, Ocean Data View, Seabird SBE Data Processing, Adobe Photoshop, Adobe Illustrator, Canvas SMS, Zotero, Microsoft Office Suite. Some experience with: Python, GitHub, Bioinformatics pipeline (Command Line, BASH, Qiime2, Geneious Prime, GIS ArcMap, QGIS, WinADCP, VmDas, Fledermaus, Qimera, Knudsen Software, Scientific Computer System (SCS) software.