

# DR. KIRA TREIBERGS

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## EDUCATION

**Harvard University** Cambridge, MA

*Ph.D., Organismic & Evolutionary Biology, Advisor Dr. Robert Woollacott*

2013–2019

Dissertation: “How does a polymorphic colony divide labor among its modules? Colonial development in the marine invertebrate, *Bugulina stolonifera*” (Focus Area: Marine Invertebrate Zoology, Ecology, Evolution, Developmental Biology)

**University of Oregon, Oregon Institute of Marine Biology**

Charleston, OR

*MS., Biology, Advisor, Dr. Richard Emlet*

2009–2012

Thesis: “Settlement and growth of the marine bryozoan *Schizoporella japonica*, and epifaunal development in the South Slough Estuary” (Focus Area: Marine Ecology, Larval Biology)

**Wellesley College**

Wellesley, MA

*Bachelor of Arts, Major in Biological Sciences, Minor in Music*

2005–2009

## CURRENT POSITION

**Wheaton College, Professor of the Practice in Biology, Department of Biology, Chemistry and Environmental Science**

Norton, MA

June 2024 to Present

- Design and lead undergraduate courses in Biology and Environmental Science major:
  - Fall 2024: Introductory Biology lecture and laboratory (BIO 114)
  - Spring 2025: Environmental Science (BIO 201), Marine Ecology: Plankton to Penguins lecture and laboratory (BIO 398)
- Implement innovative pedagogical approaches to enhance engagement and learning outcomes for all levels and class sizes
- Foster inclusive learning environments that support students from diverse backgrounds and encourages their success in STEM

## TEACHING AND RESEARCH EXPERIENCE, HIGHER EDUCATION

**Cornell University, Postdoctoral Associate in the Department of Ecology and Evolutionary Biology, Advisor Dr. Michelle Smith**

Ithaca, NY

August 2022 to Present

- Project title: “Evaluating how open educational resources facilitate the implementation of NSF Vision and Change Principles across diverse institutions” National Science Foundation DUE-2125990, DUE-2126110, and DUE-2125998
- Advised undergraduate researchers and facilitated their collaboration and co-authorship of peer-reviewed research: Sanah Ahmed (2022-2023), Tiffany Adjei-Opong (2022-2024), Raudiyat Onimode (2023-2024), and Afsheen Alvi (2024)

**Bamfield Marine Science Center**

Bamfield, British Columbia, CA

*Marine Invertebrate Zoology Course Instructor, Undergraduate Program*

April 2023 to July 2023

- Taught 400-level, 6-week intensive field, laboratory, and research-based class for 24 undergraduates from the University of Victoria, University of British Columbia, Simon Fraser University, University of Calgary, and University of Alberta
- Led field trips to nearby intertidal habitats for field observations and organism collecting, led labs focused on intensive observation, experimental techniques, and biological illustration, coordinated and advised student independent research

**Cornell University, Department of Natural Resources and the Environment**

Ithaca, NY

*Active Learning Initiative Postdoctoral Fellow in the Department of Natural Resources and the Environment*

July 2019 to July 2022

- Teaching and curriculum design in ‘Introductory Field Biology’ and Environment and Sustainability Capstone Courses
- Advised undergraduate honors thesis students in education research on the affective outcomes of field biology:
  - Jeannie Yamazaki, Spring 2021, Thesis title: “Learning where you live: Sense of place in a campus-based field biology course”
  - Ella De Bruijn, Spring 2022, Thesis title: “Exploring Student Motivation in Field Biology: Field journal reflections shed light on what influences students’ desire to learn”

## SELECTED PUBLICATIONS

- Manuscript “Published lesson plans as artifacts of pedagogical transformation: documenting two decades of change in undergraduate biology education resources” in preparation for submission to *Science Advances* (Fall 2024)
- Noyes K, **Treibergs KA**, Burbach SM#, Stetzer MR, Smith MK, Couch BA. 2024. How and why instructors use open access lessons, *Frontiers in Education*, **accepted for publication November 2024**.
- Flowers S, Hazlett ZS, Ramirez M, **Treibergs KA**, Vinson E, Smith M, and Knight JK. 2024. Understanding how professional development opportunities affect open educational resource sharing. *Frontiers in Education*, 9, 1422383. <https://doi.org/10.3389/feduc.2024.1422383>
- Ahmed S#, Adjei-Opong T#, Noyes K, Schmid K, Couch BA, Stetzer MR, Smith MK, **Treibergs KA**. Using Open Educational

Resources to Teach the Life Sciences: A Resource List for Educators, *Journal of Microbiology & Biology Education*, 0:e00203-23. <https://doi.org/10.1128/jmbe.00203-23>

- **Treibergs KA**, Esparza D, Yamazaki J#, & Smith MK. 2022. Journal reflections shed light on challenges students face in an introductory field biology course, *Ecosphere*, 14(4): e4509. <https://doi.org/10.1002/ecs2.4509>
- **Treibergs KA**, Esparza D, Yamazaki J#, Goebel M, & Smith MK. 2022. How do introductory field biology students feel? Journal reflections provide insight into student affect, *Ecology & Evolution*, 12(1): E9454. <https://doi.org/10.1002/ece3.9454>
- Shinbrot XA\*, **Treibergs KA\***, Arcila Hernández LM, Esparza D, Ghezzi-Kopel K, Goebel, M, Graham, OJ, Heim, AB, Smith JA, & Smith, MK. 2022. The impact of field Courses on undergraduate knowledge, affect, behavior, and skills: A scoping review, *BioScience*, biac070. <https://doi.org/10.1093/biosci/biac070>
- Arcila Hernández LM\*, Chodkowski N\*, & **Treibergs KA\***. 2022. A guide to implementing inclusive and accessible conference virtual poster sessions, *Journal of Microbiology & Biology Education*, 23(1): 1-9. <https://doi.org/10.1128/jmbe.00237-21>
- Ward EG, O'Connell KB, Race A, Alwin A, Alwin, A, Cortijo-Robles K, Esparza D, Jolley A, McDevitt A, Patel M, Prevost LB, Shaulskiy S, Shinbrot X, **Treibergs KA**, Alvaro M, & Sea W. 2021. Affective Outcomes in the Field: A Review of the 2021 Undergraduate Field Experiences Research Network Meeting, *Bulletin of the Ecological Society of America*. 00(00):e01920. <https://doi.org/10.1002/bes2.1920>
- **Treibergs KA**, Giribet G. 2020. Differential Gene Expression Between Polymorphic Zooids of the Marine Bryozoan *Bugulina stoloniifera*. *G3*, 10(10):3843-3857. <https://doi.org/10.1534/g3.120.401348>

## LEADERSHIP, MENTORSHIP & SERVICE

### Wheaton College

Norton, MA

- Developing a departmental writing plan to identify and scaffold skills-based outcomes for Biology, Chemistry and Environmental Science students (Fall 2024)
- Implemented survey to gauge first-year student advising needs for MAP Day (Fall 2024)

### Cornell University, Department of Natural Resources and the Environment

Ithaca, NY

- Research mentor to four undergraduate thesis students: Tiffany Adjei-Opong (2022-2024), Sanah Ahmed (2022-2023), Raudiyat Onimode (2023-2024), Afsheen Alvi (2023-2024)

### Cornell University, Department of Natural Resources and the Environment

Ithaca, NY

- Research mentor for two undergraduate thesis students: Jeannie Yamazaki (2020-2022) and Ella DeBruijn (2021-2022)
- Thesis committee member for MS student, Anna Melhorn (2024-present)
- Seminar facilitator for seminar series: "Conservation Justice Seminar and Discussion Series: Recognizing the past, forging the future in our teaching and scholarship" ( Summer 2021 - Spring 2022)
- "Anti-racist Teaching Interventions: Insights from developing and implementing an anti-racist classroom intervention in the Introductory Field Biology classroom", seminar leader and discussion leader (December 2021)
- "Field Work Culture, Safety & Inclusivity", seminar leader and discussion leader (November 2021)

### Society for the Advancement of Biology Education Research (SABER)

- Conceptualized, organized and co-led the virtual poster session for the Society for the Advancement of Biology Education Research Annual Meeting (Spring - Summer 2020, Spring - Summer 2021)

## LEADERSHIP EXPERIENCE & FELLOWSHIPS

- Ethics Network for Course-based Opportunities in Undergraduate Research Fellowship-University of Texas El Paso, 2020-2021
- Postdoctoral Leadership Program- participant. Cornell University, 2019-2020
- OEB Graduate Student Professional Development Program- program leader. Harvard University, 2018- 2019
- OEB Mentorship Program- pedagogy mentor. Harvard University, 2016-2018
- Oregon Marine Students Association- director. University of Oregon, 2010-2012
- Club Sailing Team- president. Wellesley College, 2005-2008
- Sailing Instructor: Great Harbor Yacht Club, Nantucket MA, 2007, Duxbury Bay Maritime School, Duxbury MA, 2001-2006

## AWARDS & CERTIFICATES

- Wheaton Inclusive STEM Excellence - received funding for Inclusive Pedagogy, 2024
- Certificate in Excellence in Teaching, Derek Bok Center for Teaching and Learning. Harvard University, 2017
- Certificate of Distinction in Teaching. Harvard University, Fall 2016, Spring 2016, Fall 2017, Fall 2018, Spring 2018, Fall 2018

- Simmons Award at the Harvard Center for Biological Imaging. Harvard University, 2016, 2017, 2018
- National Estuarine Research Reserve Graduate Research Fellowship, University of Oregon, 2011

## SKILLS & OTHER INTERESTS

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**Pedagogy:** Backwards design, inclusive teaching, active learning in large lecture classrooms, fostering equitable student teamwork, implementing course-based undergraduate-research experiences (CURES), field course pedagogy

**Qualitative Research:** inductive and deductive coding using *nVivo* software, framework analysis, analysis of student reflections and interview data, scoping review methodology, survey development and design using *Qualtrics* software

**Computing & Software:** R, Unix, Microsoft Office, Canvas, Padlet, Jamboard, Slack, Trello, iNaturalist, eBird, Covidence

**Scientific/Technical:** micro-dissection, light microscopy, confocal imaging, RNA isolation, culturing of microalgae and bryozoan colonies, field identification and collection of marine invertebrates, transcriptomics/big data analysis, text analysis

**Language:** intermediate Latvian, beginner French

**Marine:** 20+ years sailing and coastal boating experience, Canadian Boating/Marine Safety Licenses (April 2023): Small Vessel Operator's Permit; Marine Basic First Aid; Small Domestic Vessel Basic Safety; Restricted Operator Certificate- Maritime

**Other:** Co-creator of the design "Octopi Wallstreet," artwork and internet meme that highlights the fact that invertebrates are 97% of animal diversity (2011). Image published in the book "Staying with the Trouble" by Donna Haraway (Duke University Press, 2016).