

Ariel K. Pezner, Ph.D. (she/her)

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<https://profiles.uts.edu.au/Ariel.Pezner/about>

Research Interests

My research integrates biogeochemistry, oceanography, and ecophysiology to investigate the prevalence and impacts of deoxygenation on coastal systems from molecular- to ecosystem-scale. I am especially interested in using naturally variable habitats, such as seagrass meadows, kelp forests, and mangrove lagoons, as natural laboratories to examine how variable exposure to multiple stressors impacts organismal resilience. I also work internationally on global efforts to advocate for the recognition of deoxygenation as a key global ocean stressor alongside warming and acidification.

Education

- 2017 – 2022 **PhD in Oceanography**
MSc in Oceanography by coursework awarded 2020
Scripps Institution of Oceanography (SIO), University of California San Diego (UCSD)
Biological Oceanography Program
PhD Dissertation: *“Dissolved CO₂ and Oxygen Dynamics on Coral Reefs: from Natural Variability and Impacts on Calcification to Projections under Warming”*
Advisor: Professor Andreas J. Andersson
- 2013 – 2017 **BSc in Environmental Science** (*summa cum laude*)
University of California, Los Angeles
Minors: Conservation Biology, Atmospheric & Oceanic Sciences

Positions Held

- 2024 – Present **Chancellor’s Research Fellow, Lecturer**
University of Technology Sydney, Sydney, Australia
“Drivers of Low Oxygen Tolerance in Extreme Reef Habitats over Space and Time”
Conducting independent research while building a research group, supervising students, and teaching undergraduate courses.
- 2022 – 2024 **Smithsonian Institution/Link Foundation Postdoctoral Research Fellow**
Smithsonian Marine Station, Fort Pierce, Florida (FL), USA
“Experimental Impacts of Coral Reef Hypoxia: A Multi-Stressor Approach”
Conducted multiple mesocosm experiments to test the impacts of multiple stressors on Caribbean corals, supervised a team of 2, and mentored students.
- 2017 – 2022 **Graduate Student Researcher,**
U.S. National Science Foundation Graduate Research Fellow
Scripps Institution of Oceanography
University of California San Diego, La Jolla, California (CA), USA
Conducted PhD research on coral reef biogeochemistry and completed coursework.
- 2016 – 2017 **Senior Environmental Science Practicum Researcher**
University of California Los Angeles, Los Angeles, CA, USA
“Kelp forests and ocean acidification impact mitigation in Santa Monica Bay”
Advisor: Dr. Robert Eagle Tripati; Clients: The Bay Foundation, UC Davis
Conducted research on ocean acidification amelioration by kelp forests.
- Jun – Aug 2016 **Summer Undergraduate Research Fellow in Oceanography**
University of Rhode Island Graduate School of Oceanography, Rhode Island, USA

“Zooplankton biodiversity and community composition in response to environmental change in Narragansett Bay”
 Advisors: Prof. Tatiana A. Ryneerson, Dr. Gang Chen; Collaboration with U.S. National Oceanic and Atmospheric Administration Northeast Fisheries Science Center
Analyzed a zooplankton time series using a Benchtop Video Plankton Recorder

Spring 2016

Field Marine Biology Quarter

University of California Los Angeles, Los Angeles, CA, USA
 Richard B. Gump Research Station: Mo’orea, French Polynesia
 “Hiding behavior in Christmas tree worms on different time scales”
 “Nutrients and herbivory, but not sediments, have opposite and independent effects on the tropical macroalga *Padina Boryana*”
 Advisors: Prof. Daniel T. Blumstein, Prof. Peggy Fong
Led group research projects on animal behavior and marine ecology in the field.

Jun – Sep 2015

U.S. National Oceanic and Atmospheric Administration (NOAA) Pacific Islands Fisheries Science Center Young Scientist Opportunity Intern

NOAA Pacific Islands Fisheries Science Center, O’ahu, Hawaii, USA
 “Investigation of Micronekton Characteristics of the North Pacific Transition Zone”
Analyzed acoustic data from cruises to North Pacific transition zones.

2014 – 2017

Undergraduate Researcher in Terrestrial Biogeochemistry

University of California Los Angeles, Los Angeles, CA, USA
 “Linking chlorophyll fluorescence and plant water relations to assess the drought response of native CA plant species”
 Advisor: Prof. Ulli Seibt
Conducted independent research, lab, and field work.

Internal and External Service Positions

2026 – Present

Co-Lead Author

UNESCO Intergovernmental Oceanographic Commission (IOC), Global Ocean Observing System (GOOS), [Essential Ocean Variables \(EOV\)](#)
Contributing expertise and time re-evaluating and re-writing the EOV Spec Sheet for Oxygen, with input from stakeholder groups.

2025 – Present

Expert Member

UNESCO Intergovernmental Oceanographic Commission
[Global Ocean Oxygen Network \(GO₂NE\)](#)
Contributing expertise and time to advancing understanding of ocean deoxygenation globally as part of international working group via organizing summer schools for ECRs, writing collaborative papers, applying for funding, and hosting webinars.

2024 – Present

Memberships Officer

[Multicultural Women’s Network](#) – Core Committee
 University of Technology Sydney, Sydney, Australia
Tracking network membership and contributing to ongoing advocacy projects both within and outside of UTS by driving the strategic direction and priorities of the network.

2024 – 2025

Steering Committee Member

UTS Early Career Academic Network
 University of Technology Sydney, Sydney, Australia
Helped to plan and organize events as well as coordinate a mentorship scheme to assist with ECR career development across faculties at UTS.

Honors, Awards, and Grants

(total ~ USD\$ 684,000 / AUD\$ 975,000)

[Project Leader unless specified otherwise]

2026	UTS Collaboration Scheme – <i>MYCORAL: Proof of Concept for Bio-composites from Waste for Coral Reef Restoration</i> (co-PI) (AUD\$50,000)
2025	UTS Dean's Award "Going Above and Beyond the Call of Duty" Award (AUD\$200)
2024	Runner-Up: Short Talk at FOSTER Conference at UTS (AUD\$50)
2024	Chancellor's Research Fellowship, UTS (AUD\$550,000)
2023	Edward A. Frieman Prize for Excellence in Graduate Student Research (USD\$1,000)
2023	UCSD Chancellor's Dissertation Medal
2022 – 2023	Smithsonian Institution/Link Foundation Postdoctoral Fellowship (USD\$81,250)
2021	SIO Graduate Student Excellence Travel/Research Award (USD\$236)
2021 – 2022	Philanthropic Education Organization Scholar Doctoral Award (USD\$20,000)
2021	UCSD Inclusive Excellence Award (<i>awarded to student group Women and Minorities in Science during my tenure as co-Director</i>)
2021	Coral Bleaching Research Coordination Network Early Career Training Program Grant – Research Exchange with Dr. Sarah Davies (Boston University) to learn RNAseq laboratory methods and bioinformatics/transcriptomics (USD\$2,500)
2019	UCSD Academic Senate Marine Sciences Research Grant – <i>Physical and biogeochemical controls on seawater oxygenation on coral reefs in Okinawa, Japan: effects on coral calcification rates</i> (contributed significantly to proposal led by Prof. A Andersson; USD\$14,984)
2018	Precision Measurement Engineering MiniDOT Competition Winner
2017 – 2020	U.S. National Science Foundation Graduate Research Fellowship (USD\$138,000)
2017	UCLA Dean's Prize for Research
2017	Assoc. for the Sciences of Limnology and Oceanography Multicultural Program (USD\$4,000)
2015	UCLA Stunt Ranch Reserve Grant (USD\$1,085)
2015	American Geophysical Union Undergraduate Virtual Poster Showcase (3 rd Prize)
2014 – 2015	Grand Challenges Undergraduate Research Scholars Program at UCLA
2013 – 2017	UCLA Dean's Honors List (9 of 12 terms as a student; quarter system)

Peer-Reviewed Publications Citations: 189, H-Index: 7 (Google Scholar), FWCI: 2.75 (SciVal) [4 June 2026]

(Underlined names represent students)

17. Breitburg D, Garçon V, Oschlies A, Altieri AH, Gallo ND, Grégoire M, Gutiérrez D, Isensee K, Jacinto G, Levin L, Limburg K, Montes I, Meissner KJ, **Pezner AK**, Roman M, Rose K, Rummer J, Slomp CP, Yasuhara M. GO₂NE: International Scientific Collaboration to Understand and Restore the Ocean's Breath. *In Review at Environmental Research Letters (Deoxygenation Special Issue)*.
16. Ha J, **Pezner A**, Dougan C, Mason R, Sneed J, Demko A, Altieri AH, Paul VJ, Johnson MD. Deoxygenation has limited effects on coral settlement and early recruit survival. *In Review at Coral Reefs*.
15. **Pezner AK**. Interview for Special Issue: Complex Marine Ecosystems and the Planetary Boundary Framework. *In Review at National Science Review*.
14. Kekuwa S, Rintoul MS, Courtney TA, **Pezner AK**, Takeda T, Kayanne H, Mitarai S, Andersson AJ. Effects of seaweed cultivation on coral reef seawater CO₂ chemistry in Onna, Okinawa, Japan. *In Revision at Estuaries and Coasts*.
13. Wattle DPG, **Pezner AK**, Doheny A, England H, Anindilyakwa Land and Sea Rangers, Camp EF. Benthic baselines of the Groote Archipelago's key reefs in the wake of mass coral bleaching and Tropical Cyclone Megan. *In Revision at PLOS One*.
12. Ferrer EM, Eddebbar Y, Gangrade S, McCormick LR, **Pezner AK**, Robinson D, Levin LA. Deoxygenation within the Planetary Boundary Framework. *In Press at Limnology and Oceanography*.

11. Kekuewa S, **Pezner AK**, Courtney T, Wei Y, Rintoul M, Chou W-C, Soong K, Andersson A. Present and future seawater CO₂ chemistry across multiple coral reef habitats and scales at Dongsha Atoll and Taiping Island in the South China Sea. *Coral Reefs* (2026). <https://doi.org/10.1007/s00338-026-02868-1>
10. Reithmaier GMS, **Pezner AK**, Ulfso A, Melzner F, Santos IR. Climate change amplifies mangrove hypercapnic hypoxia and threatens fish habitat. *Geophysical Research Letters*, 53 (4), e2025GL119355 (2026). <https://doi.org/10.1029/2025GL119355>
9. Ferrer EM*, **Pezner AK***, Eddebbar Y, Breitburg D, Crowe S, Gregoire M, Jane S, Leavitt P, Levin L, Rose K, Wallace D, Garçon V. Why aquatic deoxygenation belongs in the planetary boundary framework. **PLOS Climate**, 4:e0000619 (2025) <https://doi.org/10.1371/journal.pclm.0000619> *Contributed equally
8. **Pezner AK**, Chou W-C, Chu H-C, Courtney TA, Frable B, Kekuewa SAH, Syu R-W, Wei Y, Soong K, Andersson AJ. Effects of Natural Variability in Temperature, Dissolved Oxygen, and pH on Massive Coral Growth in a Seagrass Meadow. **PLoS One**, 19: e0312263 (2024), <https://doi.org/10.1371/journal.pone.0312263>
7. Strader M, Wright R, **Pezner A**, Nuttall M, Aichelman H, Davies S. Intersection of coral molecular responses to a localized mortality event and ex situ deoxygenation. **Ecology and Evolution**, 14: e11275 (2024), <https://doi.org/10.1002/ece3.11275>
6. **Pezner AK**, Courtney TA, Barkley HC, Chou W-C, Chu H-C, Clements S, Cyronak T, DeGrandpre MD, Kekuewa SAH, Kline DI, Liang Y-B, Martz T, Mitarai S, Page HN, Rintoul MS, Smith JE, Soong K, Takeshita Y, Tresguerres M, Wei Y, Yates KK, Andersson AJ. Increasing hypoxia on global coral reefs under ocean warming. **Nature Climate Change**, 13:403-409 (2023), <https://doi.org/10.1038/s41558-023-01619-2> [FWCI 10.03, in top 10% globally, SciVal]
5. Rintoul MS, Courtney TA, Dohner JL, Giddings SN, Kekuewa SAH, Mitarai S, Monismith SG, **Pezner AK**, Andersson AJ. The effects of light intensity and flow speed on biogeochemical variability within a fringing coral reef in Onna-son, Okinawa, Japan. **JGR: Oceans**, 127:e2021JC018369 (2022), <https://doi.org/10.1029/2021JC018369>
4. **Pezner AK**, Courtney TA, Page HN, Beatty CM, DeGrandpre MD, Andersson AJ. Lateral, vertical, and temporal variability of seawater carbonate chemistry at Hog Reef, Bermuda. **Frontiers in Marine Science**, 8:562267 (2021), <https://doi.org/10.3389/fmars.2021.562267>
3. **Pezner AK**, Pivovarov AL, Sun W, Sharifi MR, Rundel PW, Seibt U. Plant functional traits predict the drought response of native California plant species. **International Journal of Plant Sciences**, 181:256-265 (2019), <https://doi.org/10.1086/706451>
2. Johnson GC*, **Pezner AK***, Sura SM, Fong P. Nutrients and herbivory, but not sediments, have opposite and independent effects on the tropical macroalga *Padina Boryana*. **Journal of Experimental Marine Biology and Ecology**, 507:17-22 (2018), <https://doi.org/10.1016/j.jembe.2018.07.004> *Contributed equally
1. **Pezner AK**, Lim AR, Kang JJ, Armenta TC, Blumstein DT. Hiding behavior in Christmas tree worms on different time scales. **Behavioral Ecology**, 28:154-163 (2017), <https://doi.org/10.1093/beheco/arw140>

Book Chapters

4. Oschiles A, Garçon V, Grégoire M, Isensee K, Karstensen J, Gallo N, **Pezner AK**. 'Oxygen' in Encyclopedia of Ocean Science (4th Edition), *In Review at Elsevier*.
3. Xirocostas ZA, Hitchcock J, Matthews J, Mitchell A, **Pezner AK**, Murray BR. 'Chapter 5: Impacts of biodiversity loss on climate mitigation and adaptation', in *Integrating Climate and Nature for a Sustainable Future*. *In Review at Elsevier*.

2. Camp EC, **Pezner AK**, Enochs I. 'Chapter 17: Mechanisms of coral persistence in extreme and marginal coral environments and the implications for conservation', in Soares M, Smith T, Schoepf V (eds.) *Extreme and Marginal Coral Reefs and Communities. In Press at Springer Nature*.
1. **Pezner A**, Logia J. 'A Discussion of Results and Recommendations from the 2014 UCLA Multiethnic Diversity Pilot Survey', in Chao Romero R, Ong J, Guillermo-Wann C, Logia J (eds.) *Mixed Race Student Politics: A Rising "Third Wave" Movement at UCLA*. Los Angeles: UCLA Asian American Studies Center, pp. 23-34 (2019).

Other Publications

3. Belgacem M, Telszewski M, **Pezner A**, Garçon V, Lønborg C, Rehder G, Janssens J. Gap assessment of current (2017) BGC EOVS Specification Sheets. BioGeoSea (European Commission) Milestone MS8, April 2026. [10.5281/zenodo.19387583](https://doi.org/10.5281/zenodo.19387583)
2. **Pezner AK**, Chen G, Rynearson TA. Zooplankton biodiversity and community composition in response to environmental change in Narragansett Bay. SURFO Technical Report No. 16-01: 67-81 (2016), http://digitalcommons.uri.edu/surfo_tech_reports/13
1. **Pezner, AK**. Climate change and the secret life of zooplankton. *Blog post* published on <https://oceanbites.org/undergrads-2016-part-ii/>, August 2016.

Contributions to Policy and White Papers

- Global reef deoxygenation research (Pezner et al., 2023 Nature Climate Change):
 - o Cited multiple times in Deoxygenation section of 2024 Great Barrier Reef Outlook Report (<https://www2.gbrmpa.gov.au/our-work/outlook-report-2024>)
 - o Cited on UNESCO Intergovernmental Oceanographic Commission Global Ocean Observing website for the Oxygen Essential Ocean Variable (<https://www.ioccp.org/themes/oxygen-information/oxygen-resources>)
 - o Cited in Minderoo Foundation Report *Ocean Oxygen Loss: If fish could talk*. Meissner, Barley, and Forrest (2024) (<https://cdn.minderoo.org/assets/new/documents/Ocean-Oxygen-Loss-Report.pdf>)

Conference Presentations

- 2026 **Pezner AK**, Bove C, Dougan C, Mason R, Langdon C, Davies S, Altieri A, Paul V, Johnson M. *Experimental Impacts of Coral Reef Deoxygenation: A Multi-Stressor Approach*. **Oral Presentation**. 6th Ocean in a High-CO₂ World Symposium. Wellington, New Zealand
- 2026 **Pezner AK**, Bove C, Dougan C, Mason R, Langdon C, Davies S, Altieri A, Paul V, Johnson M. *Experimental Impacts of Coral Reef Deoxygenation: A Multi-Stressor Approach*. **Oral Presentation**. International Coral Reef Symposium. Auckland, New Zealand
- 2026 **Pezner AK**, Cobleigh K, Grima A, Jiang Y, Roper C, Skeer A, Strudwick P, Camp E. *Drivers of Low Oxygen Tolerance in Extreme Reef Habitats over Space and Time*. **Poster**. International Coral Reef Symposium. Auckland, New Zealand
- 2024 **Pezner AK**, Kathryn Cobleigh, Yida Jiang, Christine Roper, Alexandra Skeer, Paige Strudwick, Emma Camp. *Drivers of Low Oxygen Tolerance in Extreme Reef Habitats over Space and Time*. **Oral Presentation**. Faculty of Science Transdisciplinary Early Career Researcher Retreat (FoSTER), UTS, Sydney, Australia.
- 2024 **Pezner AK**, Dougan C, Mason R, Pontes E, Langdon C, Altieri A, Paul V, Johnson M. *Experimental Impacts of Coral Reef Deoxygenation: A Multi-Stressor Approach*. **Poster**. Ocean Sciences Meeting, New Orleans, LA, USA.

- 2023 **Pezner AK**, Dougan C, Mason R, Ha J, Altieri A, Paul V, Johnson M. *Experimental Impacts of Coral Reef Deoxygenation: A Multi-Stressor Approach*. **Oral Presentation**. Benthic Ecology Meeting, Miami, FL, USA.
- 2022 **Pezner AK**, Charles C, Chou W-C, Chu H-C, Courtney TA, Frable B, Kekuewa SAH, Syu R-W, Wei Y, Soong K, Andersson AJ. *Effects of Natural Variability in Temperature, Dissolved Oxygen, and pH on Massive Coral Growth in a Seagrass Meadow*. **Poster**. International Coral Reef Symposium, Bremen, Germany.
- 2022 **Pezner AK**, Courtney TA, Barkley HC, Chou W-C, Chu H-C, Clements S, Cyronak T, DeGrandpre MD, Kekuewa SAH, Kline DI, Liang Y-B, Martz T, Mitarai S, Page HN, Rintoul MS, Smith JE, Soong K, Takeshita Y, Tresguerres M, Wei Y, Yates KK, Andersson AJ. Global coral reefs will experience moderate to severe hypoxia by the end of the century. **Oral Presentation**. 53rd International Colloquium on Ocean Dynamics, 3rd UNESCO IOC GO2NE Oxygen Conference, Liège, Belgium.
- 2022 **Pezner AK**, Courtney TA, Barkley HC, Chou W-C, Chu H-C, Clements S, Cyronak T, DeGrandpre MD, Kekuewa SAH, Kline DI, Liang Y-B, Martz T, Mitarai S, Page HN, Rintoul MS, Smith JE, Soong K, Takeshita Y, Tresguerres M, Wei Y, Yates KK, Andersson AJ. Global coral reefs will experience moderate to severe hypoxia by the end of the century. **Oral Presentation**. Ocean Sciences Meeting (virtual).
- 2021 **Pezner AK**, Chou W-C, Chu H-C, Courtney TA, Kekuewa SAH, Syu R-W, Wei Y, Soong K, Andersson AJ. *Effects of Natural Variability in Temperature, Dissolved Oxygen, and pH on Massive Coral Growth in a Seagrass Meadow*. **Poster**. International Coral Reef Symposium, Bremen, Germany (virtual).
- 2020 **Pezner AK**, Courtney TA, Page HN, Beatty CM, DeGrandpre MD, Giddings SN, Andersson AJ. *Lateral, vertical, and temporal variability of seawater carbonate chemistry at Hog Reef, Bermuda*. **Poster**. Ocean Sciences Meeting, San Diego, CA, USA.
- 2019 **Pezner AK**, Chou W-C, Chu H-C, Courtney TA, Huang W-J, Kekuewa SAH, Syu R-W, Wei Y, Soong K, Andersson AJ. *Effects of Natural Variability in Temperature, Dissolved Oxygen, and pH on Massive Coral Growth in a Seagrass Meadow*. **Oral Presentation**. Scripps Student Symposium, San Diego, CA, USA.
- 2019 **Pezner AK**, Chou W-C, Chu H-C, Courtney TA, Huang W-J, Kekuewa SAH, Syu R-W, Wei Y, Soong K, Andersson AJ. *Taking the Metabolic Pulse of Dongsha Atoll: From Seagrass to Corals*. **Poster**. UCSD/National Sun Yat-Sen University Bilateral Symposium, San Diego, CA, USA.
- 2017 **Pezner AK**, Johnson GC, Sura SM, Fong P. *Nutrients and herbivory, but not sediments, have opposite and independent effects on the tropical macroalga Padina Boryana*. **Poster**. UCLA Undergraduate Research Poster Day, Los Angeles, CA, USA.
- 2017 **Pezner AK**, Johnson GC, Sura SM, Fong P. *Nutrients and herbivory, but not sediments, have opposite and independent effects on the tropical macroalga Padina Boryana*. **Poster**. UCLA Ecology & Evolutionary Biology Research Symposium, Los Angeles, CA, USA.
- 2017 Ash R, Chang C, Lo K, **Pezner AK**, Rosas J, Wright K, Eagle R. *Kelp forests as a pH refugium: A chemical and spatial survey of a Palos Verdes restoration area*. **Poster**. UCLA Undergraduate Research Poster Day, Los Angeles, CA, USA.
- 2017 **Pezner AK**, Chen G, Ryneerson TA. *Zooplankton biodiversity and community composition in response to environmental change in Narragansett Bay*. **Poster**. Association for the Sciences of Limnology and Oceanography meeting, Honolulu, HI, USA.
- 2016 **Pezner AK**, Lim AR, Kang JJ, Armenta TC, Blumstein DT. *Two's company, tree's a crowd: Christmas tree worms are shy when grouped*. **Poster**. UCLA Undergraduate Research Poster Day, Los Angeles, CA, USA.

- 2016 **Pezner AK**, Lim AR, Kang JJ, Armenta TC, Blumstein DT. *Two's company, tree's a crowd: Christmas tree worms are shy when grouped*. **Poster**. UCLA Ecology & Evolutionary Biology Research Symposium, Los Angeles, CA, USA.
- 2015 **Pezner AK**, Coughlin SI, Seibt U. *Drought Influence on Chlorophyll Fluorescence in Evergreen and Drought Deciduous Plant Species of Southern California*. **Poster**. UCLA Undergraduate Research Poster Day, Los Angeles, CA, USA.
- 2015 **Pezner AK**, Coughlin SI, Seibt U. *Drought Influence on Chlorophyll Fluorescence in Evergreen and Drought Deciduous Plant Species of Southern California*. **Poster**. UCLA Stunt Ranch Reserve Grant Proposal Symposium, Los Angeles, CA, USA.
- 2015 **Pezner AK**, Coughlin SI, Seibt U. *Drought Influence on Chlorophyll Fluorescence in Evergreen and Drought Deciduous Plant Species of Southern California*. **Video poster presentation**. AGU's Undergraduate Virtual Poster Showcase Competition.

Invited Seminars, Panels, Lectures, and Workshops

- 2026 **Invited Speaker + Session Chair**, 6th International Science Symposium: The Ocean in a High-CO₂ World, Wellington, New Zealand
- 2026 **Invited Speaker**, Australian Coral Reef Society Seminar Series (virtual)
- 2026 **Invited Panelist**, UTS Science Postdoctoral Association Grant Writing Workshop, Sydney, Australia
- 2025 **Invited Seminar**, *Drivers of Low Oxygen Tolerance over Space and Time*, University of Wollongong, Wollongong, Australia
- 2025 **Invited Panelist**, *Decoding the Data Nature Provides*, Sydney Science Trail, National Science Week Botanic Gardens of Sydney, Sydney, Australia
- 2025 **Invited Panelist**, Sea Science Student Expo, Ocean Lover's Festival, Australian National Maritime Museum, Sydney, Australia <https://www.youtube.com/watch?v=KFD8ittkWGg>
- 2025 **Invited Panelist**, *Antarctica: The Giant Awakens* documentary screening, University of Technology Sydney, Sydney, Australia
- 2025 **Invited Webinar**, *Aquatic Deoxygenation and the Planetary Boundaries Framework*, UNESCO Intergovernmental Oceanographic Commission, Global Ocean Oxygen Network (virtual)
- 2025 **Invited Panelist**, *The Ocean and Planetary Boundaries: Unlocking a Deeper Vision for the Earth's Future* side event, 3rd United Nations Oceans Conference. Hosted by IOC-UNESCO, SOLAS, GOOD, OARS, OASIS, GOOS, Mercator Ocean International. Nice, France
- 2024 **Invited Guest Lecture**, *Coral Reef Deoxygenation*, Sea Education Association High School Program, Woods Hole, MA, USA (virtual)
- 2023 **Invited Seminar**, *Coral Reef Biogeochemistry: Applications and Opportunities*, International Workshop on Career Planning: Exploring the Recent Trends in the Ocean of Science, Gargaon College, India (virtual)
- 2023 **Invited workshop participant**, *Deoxygenation as an underestimated threat to tropical ecosystems*, King Abdullah University of Science and Technology, Thuwal, Kingdom of Saudi Arabia.
- 2023 **Invited Seminar**, *Hypoxia on Coral Reefs: Present-day exposure and projections under warming*, Smithsonian Marine Station, Fort Pierce, Florida, USA.
- 2023 **Invited Guest Lecture**, *Coral Reef Deoxygenation*, Sea Education Association High School Program, Woods Hole, MA, USA (virtual)

- 2022 **Invited Webinar**, *Hypoxia on Coral Reefs: Present-day exposure and projections under warming*, UNESCO Intergovernmental Oceanographic Commission, Global Ocean Oxygen Network (virtual), <https://www.youtube.com/watch?v=kPyiXuJyB9Q>
- 2022 **Invited Seminar**, *Hypoxia on coral reefs: Projections under warming and consequences for coral growth*, Department of Biological Sciences, University of Alaska Anchorage, Alaska, USA
- 2022 **Invited Speaker**, Story Lab – Science Journalism Class (Instructor: Katharine Gammon), University of Montana, Missoula, Montana, USA
- 2021 **Invited Seminar**, *Hypoxia on coral reefs: Projections under warming and consequences for coral growth*, Bedford Institute of Oceanography, Nova Scotia, Canada
- 2021 **Invited Seminar**, *Hypoxia on coral reefs: Projections under warming and consequences for coral growth*, Boston University, Biology Department, Boston, Massachusetts, USA
- 2020 **Invited Panelist**, Institute of the Environment and Sustainability Alumni Panel, University of California Los Angeles, Los Angeles, California, USA

Teaching Experience

- 2025 – 2026 **Skill Development Workshops** – Future Reefs Group
University of Technology Sydney, Sydney, Australia
- **Sensor Data Wrangling**: Workshop on common oceanographic sensor data output types, data organization, calibration, QA/QC, analysis in R (1 hour)
 - **R Workshop**: Advanced R Studio coding methods including use of lists, functions, and for loops (1 hour)
 - **Chamber Incubation Methods**: (2 hours, delivered twice) Demonstration of custom-built incubation chambers for measurement of organismal photosynthesis, respiration, calcification, and/or hypoxia response curves
- Autumn 2025, Autumn 2026 **Subject Coordinator** – 91126: Coral Reef Ecosystems (CRE)
University of Technology Sydney, Sydney, Australia
- Coordination of whole subject (~54 students per year), including delivery of 8 lectures and 2 workshops over Autumn semester, including an additional week-long field component at Heron Island Research Station on the Great Barrier Reef
 - Developed new teaching material including: addition of a comprehensive reading list, update of all lecture slides, introduction of geo-engineering climate solutions, addition of slides on seawater carbonate chemistry and deoxygenation, slides on scientific figure design, and development of a new practical, in-person final examination.
 - Significant travel interruptions in 2025 required me to develop new lecture material on tropicalisation and a new field component at Cabbage Tree Bay in Sydney for students who could not afford to reschedule travel dates to Heron Island (double lecture load)
 - Managed team of 4-6 teaching assistants to mark reports, conduct workshops, and ensure all field work (including snorkeling) was conducted safely
- Spring 2022 **Associate-In (Instructor of Record)** – SIO 90: Perspectives on Ocean Sciences
University of California, San Diego, USA
- Coordination of whole subject for first year undergraduates (55 students)
 - Delivered 1 seminar, organized 9 guest lecture seminars covering all aspects of ocean science research being conducted at SIO, marked responses
- Winter 2022 **Instructional Assistant** – SIO 119: Physics and Chemistry of the Ocean
University of California, San Diego, USA

- Delivered twice weekly, 1-hr lectures during discussion section reviewing topics covered during weekly lectures by subject coordinator
- Held weekly office hours to answer questions about problem sets
- Marked problem sets (bi-weekly)

2021 **Guest Lecture**, SIO 119: Physics and Chemistry of the Ocean
University of California, San Diego, USA

2020 **Guest Lecture** – SIO 90: Perspectives on Ocean Sciences
University of California, San Diego, USA

Students Supervised

PhD

- **Dane Wattle** (March 2025 – Present), UTS, co-supervised with Emma Camp, “Taxonomy, diversity, and biogeography of Northern Territory corals”
- **Maxine Mouly** (to start August 2026), UTS, co-supervised with Emma Camp, “Physiological, molecular, and holobiont responses to low salinity stress in “super corals” from mangrove lagoons”

MSc

- **Charlotte O’Neill** (May 2026 – Present), UTS, co-supervised with Jennifer Matthews, “Deoxygenation and Lipid Signalling in Reef-Building Corals: Linking Hypoxia to Stress Pathways and Symbiosis Stability”

Intern

- **Finnegan O’Hara** (to start Spring 2026), UTS, “*MYCORAL: Proof of Concept for Bio-composites from Waste for Coral Reef Restoration*”
- **Jessica Graham** (to start Spring 2026), UTS, “*MYCORAL: Proof of Concept for Bio-composites from Waste for Coral Reef Restoration*”
- **Liam Adams** (Spring 2025), UTS, “Effects of Changing Daintree River Flow and Temperature on Low Isles Coral Reef Health”
- **Hannah Harding** (Spring 2025), UTS and Sydney Institute of Marine Science, co-supervised with Janine Ledet, “Assessing Fish Community Responses to Eco-Engineered Habitat Modules attached to Wharf Pilings in Sydney Harbour”

Equity, Diversity, and Inclusion Work, Outreach, and Trainings

2026	Guest Lecture, Math for America ‘Crocheting Coral Reefs’ event (virtual)
2026	Paint and Sip – Ocean Lover’s Festival, “Painting the Reef”
2026	Expert Interview: Indiana University “Communicating Climate Change” class (virtual)
2025 – Present	Araceli Adams’ Natural History Ceramics Painting Classes (3 classes)
2025 – Present	UTS Mentor Science + supervisor for high school student researchers (2 students)
2024, 2025	National Science Week Science in the Swamp, Science in the Scrub ‘Meet a Scientist’
2025	Lecture: Introduction to Oceanography, middle school class (Kazakhstan, virtual)
2024	Interview and presentation with middle school group (Melbourne, Australia, virtual)
2024	Interview with middle school Robotics/STEM Team (Nebraska, USA, virtual)
2024	UTS Outreach Day at St. Edmunds School
2024	Aboriginal Cultural Awareness Training (UTS; May 2024)
	Leading the future for CARM women (UTS; July 2024)
	Navigating the system and finding your power (UTS; September 2024)
	Building authentic university and community partnerships (UTS; October 2024)

2024	Early Career Women Paper and Grant Writing Workshop, UNSW, Sydney, Australia
2021 – 2023	Científico Latino Graduate Student Mentorship Initiative Mentor (<i>Mentees: Winnie Chu - now at Princeton University; Alexandra Figueroa</i>)
2021 – 2022	SIO-ASK (Applicant Support and Knowledgebase) founding member and mentor to undergraduate student
2021, 2022	Vista Academy of Visual and Performing Arts – Coral Expert Interview (San Diego, CA, USA)
2021 – Present	Asian Americans and Pacific Islanders in Geoscience (AAPiG) member
2021	Woodland School: Interview with a Scientist (San Diego, CA, USA)
2021 – 2022	Research Mentor (<i>Mentee: Katelyn Meyer, SIO UCSD</i>)
2020 – Present	Skype a Scientist Guest Scientist/Lecturer (40+ classes, virtual)
2020	E3 Civic High School Career Panel (San Diego, CA, USA)
2019 – 2022	Women and Minorities in Science at SIO Co-Director
2019 – 2020	Birch Aquarium Beach Science Presenter (6 sessions) (San Diego, CA, USA)
2019 – 2022	SIO Graduate Student Mentor (<i>Mentee: Noreen Garcia</i>)
2018 – 2019	SIO Ecology Seminar Organizing Committee
2018 – 2019	Scripps Student Symposium Organizing Committee
2018	Scripps Student Symposium - Volunteer, Mentor to high school students
2018	Ocean Discovery Institute - Volunteer Scientist (San Diego, CA, USA)
2017 – 2022	Women and Minorities in Science at SIO – Member
2017 – 2020	Scripps Community Outreach Program in Education Tour Guide/Scientist (5+ tours)
2013 – 2017	Mixed Student Union at UCLA - Member, Director (2013-2016), Advisor (2016-17)
2013 – 2017	Environmental Science Student Network - Member and Mentor
2015, 2016	UCLA Exploring Your Universe Science Outreach Fair - Volunteer
2014, 2015, 2016	UCLA Bruin Day – Volunteer
2014 – 2015	Los Angeles Waterkeeper - Intern, Volunteer (Santa Monica, CA, USA)

Academic Service

Peer Reviewer: Biogeosciences, Bulletin of Marine Science, Coral Reefs, Current Biology, Frontiers in Marine Science, Global Biogeochemical Cycles, Limnology and Oceanography Letters, Marine Chemistry, Marine Environmental Research, Nature Communications in Earth & Environment, Nature Scientific Data, Nature Scientific Reports, PLOS One, ProcB, Science Advances, U.S. National Oceanic and Atmospheric Administration, U.S. National Science Foundation

Hiring Committee: Student member of Advancing Faculty Diversity Search Committee at Scripps Institution of Oceanography, UCSD, Summer 2021

Memberships: Association for the Sciences of Limnology and Oceanography, International Coral Reef Society

Guest Editor: Special Issue – “Focus on Breathless Oceans: Understanding and Addressing Marine Oxygen Loss Across Scales” at Environmental Research Letters (2026)

Conference Session Chair:

- “Out of breath: How does ocean deoxygenation drive changes in coral reef health from molecular to ecosystem scales?” (International Coral Reef Symposium, 2026, Auckland, New Zealand)
- “Ocean Deoxygenation: A Twin Threat to Ocean Health in a High-CO₂ World” (6th International Symposium: The Ocean in a High-CO₂ World, 2026, Wellington, New Zealand)

Research Cruises

August 16 – 18, 2015 SE 1504 – NOAA PIFSC Research Cruise

RV Oscar Elton Sette - Pearl Harbor, HI

Role: Scientist - Aided in deployment and calibrations of EK-60, acoustics instruments

Relevant Certifications/Courses

2021	Motorboat Operator Training Course (Scripps Institution of Oceanography)
2021	Fieldwork Leadership Toolkit Training (University of California)
2020 – 2020	Introduction to College Teaching Course at UCSD
2017 – Present	NAUI Advanced Diver, Rescue Diver, Nitrox Diver
2017 – Present	AAUS Science Diver
2017 – Present	HLTAID 015 First Aid, CPR, O ₂
2016 – Present	PADI Open Water Diver

Relevant Skills

- Proficiency in coding in R, MATLAB
- 250+ hours experience processing carbonate chemistry seawater samples (dissolved inorganic carbon, pH, total alkalinity)
- Deployment and recovery of autonomous oceanographic instruments (SeapHOx, SeaFET, Seabird CTD, IDRONAUT CTD, PME MiniDOT, Aquadopp ADCP, AquapHOx-L-O₂, Marotte Current Meters)
- Coral core collection, slabbing, and x-radiography methodology, CoralXDS
- Coral core stable isotope collection methods (¹³C/¹²C, ¹⁸O/¹⁶O), isotope ratio mass spectrometry
- Molecular laboratory techniques, RNAseq and transcriptomics experience, bioinformatics for gene expression data
- Coral aquarium/mesocosm cleaning and maintenance

Media Features

Mar 2025	UTS Science Instagram Post: Meet Dr. Ariel Pezner, https://www.instagram.com/reel/DHCligzq0L/?igsh=ejgybzB6dWNvZ2Nm
Aug 2023	An Ocean Heat Wave Reaches to the Seafloor. Smithsonian, https://ocean.si.edu/conservation/climate-change/ocean-heat-wave-reaches-seafloor
Mar 2023	New study provides first comprehensive look at oxygen loss on coral reefs. Scripps News, https://scripps.ucsd.edu/news/new-study-provides-first-comprehensive-look-oxygen-loss-coral-reefs
Feb 2021	<i>Women and Minorities in Science Group Honored for Contributions to Inclusive Excellence.</i> Scripps News. https://scripps.ucsd.edu/news/women-and-minorities-science-group-honored-contributions-inclusive-excellence
Sep 2020	<i>Students express concern over priority research areas for national fellowship program.</i> The Daily Bruin. https://dailybruin.com/2020/09/22/students-express-concern-over-priority-research-areas-for-national-fellowship-program
Feb 2019	<i>Scripps Student Spotlight: Ariel Pezner.</i> Scripps News. https://scripps.ucsd.edu/news/scripps-student-spotlight-ariel-pezner
July 2018	<i>Photo of the Week: A Certain Sensor.</i> Scripps News. https://scripps.ucsd.edu/news/photo-week-certain-sensor
Apr 2017	<i>UCLA students study acidification of kelp in Santa Monica Bay.</i> The Daily Bruin. https://new.dailybruin.com/post/ucla-students-study-acidification-of-kelp-in-santa-monica-bay
Apr 2016	<i>Mixed Heritage Conference to encourage students to embrace background.</i> The Daily Bruin. https://dailybruin.com/2016/04/29/mixed-heritage-conference-to-encourage-students-to-embrace-background