Travis Courtney

Assistant Professor, University of Puerto Rico Mayagüez
Email: travis.courtney@upr.edu, Web: www.traviscourtney.com, Twitter: @tacourtne

Appointments and professional experience:

2021–present **Assistant Professor**, University of Puerto Rico Mayagüez
2019–2021 **Postdoctoral Scholar**, Scripps Institution of Oceanography
2015–2019 **National Science Foundation Graduate Research Fellow**, Scripps Institution of Oceanography
2013–2014 **Visiting Scientist**, University of North Carolina at Chapel Hill
2013–2014 **Laboratory Technician**, Northeastern University
2010–2013 **Undergraduate Research Assistant**, University of North Carolina at Chapel Hill

Education:

2019 **Ph.D. Oceanography**, Scripps Institution of Oceanography
Thesis: "Quantifying the rates and drivers of coral and coral reef calcification in the Anthropocene"
Advisor: Dr. Andreas J. Andersson

2013 **B.S. Geological + Environmental Sciences**, University of North Carolina at Chapel Hill
Thesis: "Impact of atmospheric pCO_2 and seawater temperature on the stable isotopic composition ($\partial^{18}O$, $\partial^{13}O$) of echinoid calcite (*Echinometra viridis*)"
Research advisor: Dr. Justin B. Ries

Honors, scholarships, and awards:

2023 **Sloan Research Fellowship in Earth System Science**, Alfred P. Sloan Foundation
2020 **Chancellor's Dissertation Medal**, University of California San Diego
2019 **Graduate Student Excellence Research Award**, Scripps Institution of Oceanography
2019 **Travel Grant**, University of California San Diego Graduate Student Association
2018 **Graduate Student Excellence Travel Award**, Scripps Institution of Oceanography
2018 **Outstanding Mentor Award**, Scripps Graduate Peer Mentor Program
2016 **Outstanding Presentation Award**, Scripps Student Symposium
2016 **Scripps Fellowship**, Scripps Institution of Oceanography
2015 **Cody Fellowship**, Scripps Institution of Oceanography
2015 **Graduate Research Fellowship,** National Science Foundation
2013 **Graduated with Highest Honors and Distinction**, UNC at Chapel Hill
2013 **Environmental Excellence Award**, UNC at Chapel Hill Institute for the Environment
2013 **Carolina Research Scholar**, UNC at Chapel Hill Office of Undergraduate Research
2013 **1st Place Undergraduate Poster Award**, Anadarko Research Symposium
2012 **Roy L. Ingram Geology Fund Scholarship**, UNC at Chapel Hill Dept. of Geological Science
2012 **Judson Mead Geologic Field Station Scholarship**, Indiana University at Bloomington
2011 **Harrington Scholar**, UNC at Chapel Hill
2009 **Wrightsville Beach Longboard Association Scholarship**

Successful research grants and fellowships:

2024 United States Geological Survey $319,999
"Influence of coral reef restoration on reef-growth capacity, wave transformation, and shoreline protection in Puerto Rico"
PI: Dr. Andre Amador, **Dr. Travis Courtney**

2024 Sloan Research Fellowship in Earth System Science $75,000
PI: **Dr. Travis Courtney**

2023 Office of Naval Research $208,025
"Classification and structural complexity of marine substrates across spatial scales in Hawai'i using next-generation autonomous mapping vehicles"
PI: **Dr. Travis Courtney**

2022 Office of Naval Research Subaward from Purdue University $61,946
"Blue Integrated Partnerships (BIP): Mentoring the Medici Scholars to Solve Tomorrow's Big Challenges"
PI: Dr. Juan José Cruz Motta, **Dr. Travis Courtney**

2023 Schmidt Ocean Institute $4,536
"To support four students' participation in R/V Falkor (too)'s research expedition FKt230417"
PI: **Dr. Travis Courtney**

2022 Puerto Rico Department of Natural and Environmental Resources $1,324,698
"Development and Implementation of a Water Quality Monitoring Project in Shallow Coral Reef Areas Around Puerto Rico, and the Implementation of a 'BCG' Model"
PI: Dr. Juan José Cruz Motta, Dr. Ernesto Weil, **Dr. Travis Courtney**

2022 EcoEléctrica $94,925
"Quantifying net ecosystem metabolism and biogeochemical variability of seagrasses in Southwest Puerto Rico"
PI: **Dr. Travis Courtney,** Co-PI: Catherine Hernandez Rodriguez [MS student in lab of PI Courtney]

2019 National Oceanographic and Atmospheric Administration $249,055
"Quantifying coral reef net calcification capacity and vulnerability in the context of ocean acidification"
PI: Dr. Andreas Andersson [**Travis Courtney** contributed significantly to proposal]

2018 National Science Foundation Biological Oceanography $265,466
"Drivers of coral and reef-scale calcification in the North Atlantic"
PI: Dr. Andreas Andersson [**Travis Courtney** contributed significantly to proposal]

2016 Shepard Foundation Student Fieldwork $1,840
"Seasonal variability of net coral reef calcification in Kāne'ohe Bay, Hawai'i"
PI: **Travis Courtney**

2016 Shepard Foundation Student Fieldwork $1,985
"Impacts of widespread bleaching on net coral reef calcification in Kāne'ohe Bay, Hawai'i"
PI: **Travis Courtney**

2015 National Science Foundation Graduate Research Fellowship Program $138,000
PI: **Travis Courtney**

Peer-reviewed publications:

31. Toth LT, **Courtney TA**, Colella M, Ruzicka RR. 2023. Stony coral tissue loss disease accelerated shifts in coral composition and declines in reef accretion potential in the Florida Keys. Frontiers in Marine Science. https://doi.org/10.3389/fmars.2023.1276400

30. Mejias-Rivera CL, Armstrong RA, Balint S, García-Troche E, McKinney RA, Morell JM, Oczkowski A, **Courtney TA**. 2023. Localized inshore warming, acidification, and elevated particulate organic matter across a coupled mangrove, seagrass, and coral reef ecosystem in La Parguera, Puerto Rico. Coral Reefs. https://doi.org/10.1007/s00338-023-02435-y

29. Cornwall CE, Carlot J, Branson O, **Courtney TA**, Harvey BP, Perry CT, Andersson AJ, Diaz-Pulido G, Johnson MD, Kennedy E, Krieger EC, Mallela J, McCoy SJ, Nugues MM, Quinter E, Ross CL, Ryan E, Saderne V, Comeau S. 2023. Crustose coralline algae can contribute more than corals to coral reef carbonate production. Nature Communications Earth & Environment. https://doi.org/10.1038/s43247-023-00766-w

28. Pezner AK, **Courtney TA**, Barkley HC, Chou WC, Chu HC, Clements SM, Cyronak T, DeGrandpre MD, Kekuewa SAH, Kline DI, Liang Y-B, Martz TB, Mitarai S, Page HN, Rintoul MS, Smith JE, Soong K, Takeshita Y, Tresguerres M, Wei Y, Yates KK, Andersson AJ. 2023. Increasing hypoxia on global coral reefs under ocean warming. Nature Climate Change 13, 403–409 https://doi.org/10.1038/s41558-023-01619-2

27. Rintoul M, **Courtney T**, Dohner J, Giddings S, Inoha K, Kekuewa S, Mitarai S, Monismith S, Pezner A, Andersson A. 2022. The Effects of Light Intensity and Flow Speed on Biogeochemical Variability within a

Fringing Coral Reef in Onna-son, Okinawa, Japan. Journal of Geophysical Research – Oceans. https://doi.org/10.1029/2021JC018369

26. Kekuewa SAH, **Courtney TA**, Cyronak T, Andersson AJ. 2022. Seasonal nearshore ocean acidification and deoxygenation in the Southern California Bight. Scientific Reports. https://doi.org/10.1038/s41598-022-21831-y

25. Toth LT, **Courtney TA**, Colella MA, Kupfner Johnson SA, Ruzicka RR. 2022. The past, present, and future of coral reef growth in the Florida Keys. Global Change Biology. https://doi.org/10.1111/gcb.16295

24. **Courtney TA**, Barkley HC, Chan S, Couch CS, Kindinger TL, Oliver TA, Kriegman DJ, Andersson AJ. 2022. Rapid assessments of Pacific Ocean net coral reef carbonate budgets and net calcification following the 2014-2017 global coral bleaching event. Limnology and Oceanography. https://doi.org/10.1002/lno.12159

23. Elahi R, Edmunds PJ, Gates RD, Kuffner IB, Barnes BB, Chollett I, **Courtney TA**, Guest JR, Lenz EA, Toth LT, Viehman TS, Williams ID. 2022. Scale dependence of coral reef oases and their environmental correlates. Ecological Applications. https://doi.org/10.1002/eap.2651

22. Bresnahan P, Cyronak T, Brewin RJW, Andersson A, Wirth T, Martz T, **Courtney T**, Hui N, Kastner R, Stern A, McGrain T, Reinicke D, Richard J, Hammond K, Waters S. 2022. A High-Tech, Low-Cost, Internet of Things Surfboard Fin for Coastal Citizen Science, Outreach, and Education. Continental Shelf Research. https://doi.org/10.1016/j.csr.2022.104748

21. **Courtney TA**, Cyronak T, Griffin AJ, Andersson AJ. 2021. Implications of salinity normalization of seawater total alkalinity in coral reef metabolism studies. PLOS ONE. https://doi.org/10.1371/journal.pone.0261210

20. Kekuewa SAH, **Courtney TA**, Cyronak T, Kindeberg T, Eyre BD, Stoltenberg L, Andersson AJ. 2021. Temporal and Spatial Variabilities of Chemical and Physical Parameters on the Heron Island Coral Reef Platform. Aquatic Geochemistry. https://doi.org/10.1007/s10498-021-09400-7

19. **Courtney TA**, Guest JR, Edwards AJ, Dizon RM. 2021. Linear extension, skeletal density, and calcification rates of the blue coral *Heliopora coerulea*. Coral Reefs. https://doi.org/10.1007/s00338-021-02137-3

18. Pezner AK, **Courtney TA**, Page HN, Giddings SN, Beatty CM, DeGrandpre MD, Andersson AJ. 2021. Lateral, Vertical, and Temporal Variability of Seawater Carbonate Chemistry at Hog Reef, Bermuda. Frontiers in Marine Science. https://doi.org/10.3389/fmars.2021.562267

17. **Courtney TA**, Kindeberg T, Andersson AJ. 2020. Coral calcification responses to the North Atlantic Oscillation and coral bleaching in Bermuda. PLOS ONE. https://doi.org/10.1371/journal.pone.0241854

16. Kindeberg T, Bates NR, **Courtney TA**, Cyronak T, Griffin A, Mackenzie FT, Paulsen M-L, Andersson AJ. 2020. Porewater Carbonate Chemistry Dynamics in a Temperate and a Subtropical Seagrass System. Aquatic Geochemistry. https://doi.org/10.1007/s10498-020-09378-8

15. **Courtney TA**, Barnes BB, Chollett I, Elahi R, Gross K, Guest JR, Kuffner IB, Lenz EA, Nelson HR, Rogers CS, Toth LT, Andersson AJ. 2020. Disturbances drive changes in coral community assemblages and coral calcification capacity. Ecosphere. https://doi.org/10.1002/ecs2.3066

14. Cyronak T, Takeshita Y, **Courtney TA**, DeCarlo EH, Eyre BD, Kline DI, Martz T, Page H, Price NN, Smith J, Stoltenberg L, Tresguerres M, Andersson AJ. 2020. Diel temperature and pH variability scale with depth across diverse coral reef habitats. Limnology and Oceanography Letters. https://doi.org/10.1002/lol2.10129

13. Baumann JH, Ries JB, Rippe JP, **Courtney TA**, Aichelman HE, Westfield I, Castillo KD. 2019. Nearshore coral growth declining on the Mesoamerican Barrier Reef System. Global Change Biology, 25: 3932–3945. https://doi.org/10.1111/gcb.14784

12. **Courtney TA** & Andersson AJ. 2019. Evaluating measurements of coral reef net ecosystem calcification rates. Coral Reefs, 38(5):997–1006. https://doi.org/10.1007/s00338-019-01828-2

11. Page HN, **Courtney TA**, De Carlo EH, Howins NM, Koester I, Andersson AJ. 2019. Spatiotemporal variability in seawater carbon chemistry for a coral reef flat in Kāne'ohe Bay, Hawai'i. Limnology and Oceanography, 63:913–934. https://doi.org/10.1002/lno.11084

10. Guest JR, Edmunds PJ, Gates RD, Kuffner IB, Andersson AJ, Barnes BB, Chollett I, **Courtney TA**, Elahi R, Gross K, Lenz EA, Mitarai S, Mumby PJ, Nelson HR, Parker BA, Putnam HM, Rogers CS, Toth LT. 2018. A framework for identifying and characterising coral reef "oases" against a backdrop of degradation. Journal of Applied Ecology, 00:1-11. https://doi.org/10.1111/1365-2664.13179

9. **Courtney TA**, De Carlo EH, Page HN, Bahr KD, Barro A, Howins N, Tabata R, Terlouw G, Rodgers KS, Andersson AJ. 2018. Recovery of reef-scale calcification following a bleaching event in Kāne'ohe Bay, Hawai'i. Limnology & Oceanography Letters, 3:1–9. https://doi.org/10.1002/lol2.10056

8. **Courtney TA**, Lebrato M, Bates NR, Collins A, de Putron SJ, Garley R, Johnson, R, Molinero JC, Noyes TJ, Sabine CL, Andersson AJ. 2017. Environmental controls on modern scleractinian coral and reef-scale calcification. Science Advances, 3(11), p.e1701356. https://doi.org/10.1126/sciadv.1701356

7. Page HN, **Courtney TA**, Collins A, De Carlo EH, Andersson AJ. 2017. Net community metabolism and seawater carbonate chemistry scale non-intuitively with coral cover. Frontiers in Marine Science, 4:161. https://doi.org/10.3389/fmars.2017.00161

6. **Courtney TA**, Andersson AJ, Bates NB, Collins A, Cyronak T, de Putron SJ, Eyre BD, Garley R, Hochberg EJ, Johnson R, Musielewicz S, Noyes T, Sabine CL, Sutton AJ, Toncin J, Tribollet A. 2016. Comparing Chemistry and Census-based Estimates of Net Ecosystem Calcification on a Rim Reef in Bermuda. Frontiers in Marine Science, 3:181. https://doi.org/10.3389/fmars.2016.00181

5. Baumann JH, Townsend JE, **Courtney TA**, Aichelman HE, Davies SW, Lima FP, Castillo KD. 2016. Temperature Regimes Impact Coral Assemblages along Environmental Gradients on Lagoonal Reefs in Belize. PLoS ONE, 11(9): e0162098. https://doi.org/10.1371/journal.pone.0162098

4. Aichelman HE, Townsend JE, **Courtney TA**, Baumann JH, Davies SW, Castillo KD. 2016. Heterotrophy mitigates the response of the temperate coral *Oculina arbuscula* to temperature stress. Ecology and Evolution, 6(18): 6758-6769. https://doi.org/10.1002/ece3.2399

3. Horvath KM, Castillo KD, Armstrong P, Westfield IT, **Courtney T**, Ries JB. 2016. Next-century ocean acidification and warming both reduce calcification rate, but only acidification alters skeletal morphology of reef-building coral *Siderastrea siderea*. Scientific Reports, 6:29613. https://doi.org/10.1038/srep29613

2. **Courtney T** and Ries JB. 2015. Impact of atmospheric pCO_2, seawater temperature, and calcification rate on the $\delta^{18}O$ and $\delta^{13}C$ composition of echinoid calcite (*Echinometra viridis*). Chemical Geology, 411: 228-239. https://doi.org/10.1016/j.chemgeo.2015.06.030

1. **Courtney T**, Ries JB, Westfield I. 2013. Predicted end of 21st century CO_2-induced ocean acidification decreases calcification rates in the tropical urchin *Echinometra viridis*. Journal of Experimental Marine Biology and Ecology, 440: 169-175. https://doi.org/10.1016/j.jembe.2012.11.013

Computational tools and datasets:

3. **Courtney TA**, Andersson AJ (2021) Calcification Dissolution Potential Tool for Excel: Version 1. Zenodo. https://doi.org/10.5281/zenodo.7051628

2. Chan S, **Courtney TA**, Andersson AJ, Kriegman DJ. "CoralNet now estimates carbonate production rates." CoralNet, 30 July 2021, https://coralnet.ucsd.edu/blog/coralnet-now-estimates-carbonate-production-rates/

1. **Courtney TA**, Chan S, Lange ID, Perry CT, Kriegman DJ, Andersson AJ (2021) Area-normalized scaling of ReefBudget calcification, macrobioerosion, and microbioerosion rates for use with CoralNet Version 1.0. Zenodo. https://doi.org/10.5281/zenodo.5140477

Conference presentations and invited talks:

21. **Courtney TA**. 2023. Coral reef calcification and biogeochemistry under environmental change. University of Puerto Rico Mayagüez Department of Chemistry Seminar invited speaker.

20. **Courtney TA**. 2022. Blue carbon uptake and buffering against ocean acidification by seagrasses. EcoEléctrica invited talk.

19. **Courtney TA**. 2022. Benthic metabolism and buffering against ocean acidification. University of Puerto Rico Mayagüez – Purdue University Blue Initiative Partnership Meeting.

18. **Courtney TA** & Andersson AJ. 2021. Tools to assess coral reef calcification. NOAA Ocean Acidification Working Group Meeting.

17. **Courtney TA**. 2021. Coral reef calcification under rapid environmental change. AECiMA Outreach Talks: University of Puerto Rico, Mayagüez.

16. **Courtney TA**. 2021. Coral reef metabolism and biogeochemistry under rapid environmental change. University of Puerto Rico, Mayagüez.

15. **Courtney TA**. 2021. Rapid estimates of coral reef calcification. Guest presentation for SIO 119 Undergraduate Course.

14. **Courtney TA**. 2020. Disturbances drive changes in coral community assemblages and coral calcification capacity (and the development of tools to assess reef-scale calcification under OA). NOAA Ocean Acidification Community Meeting.

13. **Courtney TA**. 2019. Coral calcification and climate change. Scripps Education Association.

12. **Courtney TA** and Andersson AJ. 2019. Evaluating measurements of ecosystem-scale coral reef calcification under global environmental change. ASLO Aquatic Sciences Meeting.

11. **Courtney TA**. 2018. The science (and value) of coral reef calcification. San Diego State Environmental Business Society.

10. **Courtney TA**. 2018. Environmental controls on coral and reef-scale calcification. National Sun Yat-sen University lunch seminar.

9. **Courtney TA**, Lebrato M, Bates NR, Collins A, de Putron SJ, Garley R, Johnson, R, Molinero JC, Noyes TJ, Sabine CL, Andersson AJ. 2018. New insights into the drivers of coral and reef-scale calcification from Bermuda. Ocean Sciences Meeting.

8. **Courtney TA**. 2017. Environmental controls on coral and reef-scale calcification. San Diego Coral Club.

7. **Courtney TA**, Andersson AJ, De Carlo EH, Page HN, Koester I, Terlouw G, Tabata R, Bahr KD, Rodgers KS. 2017. Coral bleaching impacts on reef-scale net calcification and net community production in Kāne'ohe Bay, HI. ASLO Ocean Sciences Meeting.

6. **Courtney TA** and Andersson AJ. 2016. Seasonal patterns in calcium carbonate production of a Bermuda coral reef. Scripps Student Symposium.

5. **Courtney TA**, Andersson AJ, Cyronak T, Noyes T, Bates NR, Collins A, de Putron S, Garley R, Hochberg EJ, Johnson R. 2016. Comparing chemistry and census-based estimates of net ecosystem calcification on a rim reef in Bermuda. 13th International Coral Reef Symposium.

4. **Courtney T**, Baumann J, Foguel AD, Horvath K, Westfield I, Castillo KD, Ries JB. 2014. Characterizing 21st century growth trends of the scleractinian coral *Siderastrea siderea* throughout the Belize barrier reef and atoll system. Benthic Ecology Meeting.

3. **Courtney T**, Ries JB, Westfield I. 2013. Impact of atmospheric pCO_2 and seawater temperature on calcification rate and stable isotopic composition ($\delta^{18}O$, $\delta^{13}C$) of echinoid calcite (*Echinometra viridis*). UNC at Chapel Hill Anadarko Research Symposium.

2. **Courtney T**, Ries JB, Westfield I. 2012. *Echinometra viridis* exhibits seasonal response in calcification rates to predicted end of 21st century CO_2-induced ocean acidification. Geological Society of America Fall Meeting.

1. **Courtney T**, Ries JB, Westfield I. 2012. Effects of warming and CO_2-induced acidification on the tropical urchin *Echinometra viridis*. UNC at Chapel Hill Department of Marine Sciences Seminar Series.

Fieldwork experience:

2023 **Hawai'i**: E/V Nautilus Cruise NA 156 - Ocean Exploration Through Advanced Imagery
2023 **La Parguera, Puerto Rico**: Seagrass chemistry surveys, instrument deployments, cores, and productivity
2019 **Okinawa, Japan**: Chemistry surveys, instrument deployments, and lab experiments
2019 **Taiping Island, Taiwan (lead)**: Chemistry surveys, instrument deployments, and benthic surveys
2018 **Bermuda (lead)**: MAPCO2 buoy servicing
2018 **Dongsha Atoll, Taiwan**: Chemistry surveys, porewaters, instrument deployments, and coral coring
2017 **Bermuda**: MAPCO2 buoy servicing, seawater chemistry surveys, and instrument deployments
2017–2021 **La Jolla Bight, California:** Chemistry surveys and instrument deployments
2017–2018 **Mission Bay, California:** Chemistry surveys, porewaters, and instrument deployments

2017 **Kāne'ohe Bay, Hawai'i (lead)**: Chemistry surveys
2016 **Kāne'ohe Bay, Hawai'i**: Chemistry surveys, porewaters, and instrument deployments
2016 **Bermuda**: MAPCO2 buoy servicing and coral coring
2016 **Kāne'ohe Bay, Hawai'i**: Chemistry surveys, benthic surveys, and mesocosm experiments
2014 **Belize Barrier Reef System**: Coral reef community benthic surveys
2014 **Southern Outer Banks, North Carolina**: Coral sample collection for lab experiments
2013 **Southern Outer Banks, North Carolina**: Benthic habitat surveys
2012 **Belize Barrier Reef System**: Coral coring

Teaching experience:

2024 Spring **Instructor:** Chemical Oceanography, University of Puerto Rico Mayagüez
2023 Fall **Instructor:** Marine Pollution, University of Puerto Rico Mayagüez
2023 Spring **Instructor:** Chemical Oceanography, University of Puerto Rico Mayagüez
2023 Spring **Instructor:** Chemical Oceanography Data Analysis Laboratory, University of Puerto Rico Mayagüez
2022 Fall **Instructor:** Marine Pollution, University of Puerto Rico Mayagüez
2022 Spring **Instructor:** Chemical Oceanography, University of Puerto Rico Mayagüez
2022 Spring **Instructor:** Chemical Oceanography Data Analysis Laboratory, University of Puerto Rico Mayagüez
2021 Fall **Instructor:** Marine Pollution, University of Puerto Rico Mayagüez
2021 Fall **Instructor:** Professional Ethics in Marine Sciences, University of Puerto Rico Mayagüez
2021 **Virtual Teacher Certificate**: University of California Irvine
2021 **Guest lecture**: Ocean Briefs Feedback and Discussion for University of Montana Story Lab
2020 **Certificate of Completion**: Introduction to College Teaching
2020 **Guest lecture**: "Disturbances and coral reef calcification" for NSF REU
2020 **Guest lecture**: "The chemistry (and physics) of quantifying net coral reef calcification" for SIO 119
2019 **Guest lecture**: "Marine Chemistry Basics" for SIO Master of Advanced Studies
2018 **Instructor**: SIO 90 Perspectives on Ocean Science
2018 **Guest lecture**: "Paleoclimatology Lab" for SIO Master of Advanced Studies (with Dr. Art Miller)
2013 **Summer Education Intern**: NC Aquarium at Pine Knoll Shores
2013 **Teaching Assistant**: GEOL 101L Introductory Geology Lab, UNC

Working groups, workshops, and field courses:

2023 **Caribbean Carbon Accounting in Seagrass**, Florida International University and The Nature Conservancy
2023 **D-ENTERPRISE Conference to Increase Diversity in the Ocean Sciences**, Office of Naval Research
2022 **Will coral reefs become built by calcifying seaweed in the future?**, French Embassy in New Zealand
2017 **Local-scale coral reef resilience under global-scale ocean change**, USGS Powell Center
2017 **Coral In Situ MEtabolism (CISME) workshop**, Kāne'ohe Bay, Hawai'i Institute of Marine Biology
2016 **Natural History Below the Tides,** La Jolla, Scripps Institution of Oceanography
2012 **Field Geology in the Rocky Mountains**, Montana, Judson Mead Geologic Field Station
2011 **Human and Marine Ecology,** Galápagos Islands, Universidad San Francisco de Quito
2011 **Marine Resources Population Dynamics Workshop**, NOAA NMFS
2010 **Alternative Fall Break Environmental Trip Co-Leader**: UNC APPLES Service Learning

Graduate student committees:

2021–2023 **Leira Centeno Mejías**, UPRM MS Plan 2 in Marine Sciences (Committee Chair)
2022–present **Catherine Hernández Rodriguez,** UPRM MS Plan 2 in Marine Sciences (Committee Chair)
2022–present **Carla Mejías Rivera,** UPRM PhD in Marine Sciences (Committee Chair)
2022–present **Jose Martinez Ortiz,** UPRM MS in Marine Sciences (Committee Chair)
2022–present **Juanita Carballeira Martinez,** UPRM MS in Marine Sciences (Committee Chair)
2022–present **Irais Luquis Ramos,** UPRM MS Plan 2 in Marine Sciences (Committee Chair)
2023–present **Joseph Townsend,** UPRM PhD in Marine Sciences (Committee Chair)

2023–present **Carolina Melendez Declet,** UPRM MS in Marine Sciences (Committee Chair)
2023–present **Ignacio Rueda,** UPRM MS in Marine Sciences (Committee Chair)
2023–present **Jenniffer Perez Perez**, UPRM PhD in Marine Sciences
2022–present **Ana Medina Martinez**, UPRM MS in Marine Sciences
2022–present **Raymond Infante Rosa**, UPRM MS in Marine Sciences
2023–present **Adiana Bayo Torres**, UPRM MS in Marine Sciences

Graduate students mentored:

2023–present **Joseph Townsend,** Rates, drivers, and restoration of coral reef carbonate production
2023–present **Carolina Melendez Declet,** Mesophotic coral reef biogeochemistry
2023–present **Ignacio Rueda,** Benthic structural complexity from autonomous platforms
2022–present **Juanita Carballeira Martinez,** Depth profiles of coral reef biogeochemistry
2022–present **Jose Martinez Ortiz,** Drivers of coastal diel oxygen variability
2022–present **Irais Luquis Ramos,** Optimizing *Diadema* sea urchin restoration strategies
2022–present **Carla Mejías Rivera,** Coral reef physicochemistry variability in Puerto Rico
2022–present **Catherine Hernández Rodriguez,** Seagrass carbon cycling
2021–2023 **Leira Centeno Mejias**, MS, Water quality monitoring compliance project
2019–2021 **Ariel Pezner**, Impacts of hypoxia on coral reefs
2019–2021 **Sam Kekuewa**, Spatiotemporal variability of seawater chemistry in coastal ecosystems
2018–2019 **Thompson Banez**, SIO MAS in Marine Biodiversity and Conservation
2017–2018 **Emily Parker**, SIO MAS in Marine Biodiversity and Conservation
2017–2018 **Sam Kekuewa**, SIO Graduate Peer Mentor Program
2017–2018 **Wiley Wolfe**, SIO Graduate Peer Mentor Program

Undergraduate students mentored:

2023 Undergraduate Research Assistants
Victoria Reyes Claudio Claudia Lebron Moldanado

2023 Blue Integrated Partnerships Summer Internship Program:
Alexis Warnecke Victoria Reyes Claudio
*Awarded 1st Place for Best Presentation Award on Seagrass Oxygen Metabolism Study

2020–2021 **Seawater carbonate chemistry and inshore-offshore gradients of coral reef biogeochemistry (UCSD)**:
William Tallentire

Summer 2020 **Analysis of coral cover following coral bleaching, NSF Research Experiences for Undergraduates (UCSD):**
Audrey Ellias Zach Ferris

2013–2014 **Coral skeletal geochemistry, growth rate analysis, and marine aquarium facilities (UNC-CH)**:

Hannah Aichelman	Courtney Anderson	Madelyn Roycroft
Pualani Armstrong	Jessica Boulton	Joseph Townsend
Carissa Campbell	Kathryn Cobleigh	Vallari Eastman
Ashley Foguel	Hannah Knight	

Job related certifications:

2021–present Virtual Teacher Certificate, University of California Irvine
2020–present Freediving Instructors International Level 1 Freediver
2018–present California Boater License
2017–present Motorboat Operator Certification Course
2011–present AAUS Science Diver to 60 ft. + nitrox (>175 dives)
2011–present First Aid, CPR, Emergency O_2, and Diving Neurological Assessment Certified
2010–present North Carolina Boater Education Certified

Diversity, Equity, and Inclusion Trainings

2023 **Harassment and Discrimination Prevention for Non-Supervisors,** EasyLlama
2020 **Introduction to College Teaching,** UC San Diego Teaching + Learning Commons
2020 **Self-Guided Foundational Safe Zone Training**, Safe Zone Project
2020 **Transfer Ally Training**, UC San Diego
2020 **Undocu-Ally Training**, UC San Diego
2020 **Conflict de-escalation Training**, Hollaback!

Outreach and service:

2023 Ocean Exploration with Dr. Bob Ballard Livestream for University of Puerto Rico
2020 SciREN scientist participant, created lesson plan on coral reef growth for K-12 teachers
2020–2021 Mentor for Científico Latino Graduate Student Mentorship Initiative
2019 University of California delegate to the 25th United Nations Conference of Parties
2019–2021 Letters to a Pre-Scientist participant
2018 Panelist for San Diego State University Earth Week Chasing Coral screening
2018 Ocean Acidification lecture for UCSD Retirement Association
2018 Panelist for UCSD Retirement Association Chasing Coral screening
2017 Panelist for Citizens Climate Lobby Chasing Coral screening
2017 Panelist for Smartfin + Changing Tides Chasing Coral screening
2015–present Smartfin project surfboard fin sensors ß–tester
2015–2020 Scripps Community Outreach Program for Education (SCOPE) volunteer
2015–2016 Rosa Parks Elementary School volunteer tutor
2015-6, 2018 Ocean Discovery Institute volunteer scientist
2014 SciREN scientist participant, created lesson plan on ocean acidification for K-12 teachers
2012 NC Museum Natural Sciences Marine Mammal Day volunteer

Academic service:

2022–Present UPRM Department of Marine Sciences – Graduate Committee Chair
2021–Present UPRM Department of Marine Sciences – Valuation Committee Member
2021–Present UPRM Department of Marine Sciences – Diving Control Board Member
2022 National Science Foundation Review Panelist
2021 Sea Grant Puerto Rico Technical Review Panelist

Peer reviewer:

Global Change Biology	Nature Climate Change
Hydrobiologia	Limnology and Oceanography
Proceedings of the Royal Society B	Coral Reefs
Marine Environmental Research	Bulletin of Marine Science
Geophysical Research Letters	PLOS ONE
National Science Foundation	Marine Chemistry
Marine Ecology Progress Series	One Earth
Hawai'i Sea Grant	Marine Ecology
Communications Earth & Environment	Scientific Reports
Palaeogeography, Palaeoclimatology, Palaeoecology	PeerJ
Journal of Experimental Marine Biology and Ecology	Frontiers in Marine Science

2019 Session co-chair: Coral Reef Ecosystems, ASLO Aquatic Sciences Meeting
2017–2019 Treasurer + Operations, Scripps Academic Club