

Curriculum Vitae

Ann Marie Hulver

Address and Contact Information

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Research Interests

- Effects of climate change (i.e., temperature and ocean acidification) on coral physiology, ecology, and resilience
- Biogeochemistry of coral trophic ecology
- 3D modelling of coral reef ecosystems using photogrammetry
- Effects of local pollution on benthic ecosystem dynamics

Education

The Ohio State University

School of Earth Sciences
Columbus, OH
PhD Candidate [GPA 4.0]

August 2020 – August 2024

Advisor: Dr. Andréa Grottoli

Dissertation Title: Heterotrophy promotes coral resilience to ocean acidification and ocean warming

King Abdullah University of Science and Technology (KAUST)

Thuwal-Jeddah, Kingdom of Saudi Arabia
M.S. in Marine Science [GPA: 3.84]

Aug. 2017 – Dec. 2018

Advisor: Dr. Michael Berumen

Thesis Title: Multiple stressor interaction of nutrient enrichment and crude oil pollution on benthic recruitment on a Red Sea coral reef

Northeastern University

Boston, Massachusetts
B.S. in Marine Biology [GPA: 3.617]

Aug. 2012 – Dec. 2016

Positions Held

2024 – Postdoctoral Researcher, The Ohio State University (co-advised by Dr. Andréa Grottoli and Dr. Rob Toonen at University of Hawai'i)
2023 – 2024 Presidential Fellow
2021 – 2023 Graduate Student Research Assistant
2020 – 2023 Graduate Student Teaching Assistant

Peer-Reviewed Publications

- 2024 (6) **Hulver AM**, Carbonne C, Teixidó N, Comeau S, Kemp DW, Keister EF, Gattuso J-P, Grottoli AG (2024) Elevated heterotrophic capacity as a strategy for Mediterranean corals to cope with low pH at CO₂ vents. *PLOS ONE* 19:e0306725
- 2023 (5) Chapron L, Kuffner IB, Kemp DW, **Hulver AM**, Keister EF, Stathakopoulos A, Bartlett LA, Lyons EO, Grottoli AG (2023) Heterotrophy, microbiome, and location effects on restoration efficacy of the threatened coral *Acropora palamata*. *Commun Earth Environ* 4:1-12
- 2022 (4) **Hulver AM**, Steckbauer A, Ellis JI, Aylagas E, Roth F, Kharbatia N, Thomson T, Carvalho S, Jones BH, Berumen ML (2022) Interaction effects of crude oil and nutrient exposure on settlement of coral reef benthos. *Marine Pollution Bulletin* 185:114352
- 2022 (3) van Woesik R, Shlesinger T, Grottoli AG, Toonen RJ, Vega Thurber R, Warner ME, **Marie Hulver A**, Chapron L, McLachlan RH, Albright R, Crandall E, DeCarlo TM, Donovan MK, Eirin-Lopez J, Harrison HB, Heron SF, Huang D, Humanes A, Krueger T, Madin JS, Manzello D, McManus LC, Matz M, Muller EM, Rodriguez-Lanetty M, Vega-Rodriguez M, Voolstra CR, Zaneveld J (2022) Coral-bleaching responses to climate change across biological scales. *Glob Chang Biol* 28:4229–4250
- 2020 (2) Tietbohl MD, Hardenstine RS, Tanabe LK, **Hulver AM**, Berumen ML (2020) Intentional partial beaching in a coral reef fish: a newly recorded hunting behaviour of titan triggerfish, *Balistoides viridescens*. *J Fish Biol* 97:1569–1572
- 2020 (1) Arrigoni R, Berumen ML, Mariappan KG, Beck PSA, **Hulver AM**, Montano S, Pichon M, Strona G, Terraneo TI, Benzoni F (2020) Towards a rigorous species delimitation framework for scleractinian corals based on RAD sequencing: the case study of *Leptastrea* from the Indo-Pacific. *Coral Reefs* 39:1001–1025

Manuscripts in Preparation

Submitted

Grottoli AG, Dixon S, **Hulver AM**, Bardin C, Lewis CJ, Suchocki CR, Toonen RJ. UZELA (Underwater Zooplankton Enhancement Light Array): a technology solution to enhance zooplankton abundance and coral feeding in bleached and non-bleached corals. *Submitted to Limnology and Oceanography Methods*

Hulver AM, Teixidó N, Kemp DW, Keister EF, Gattuso J-P, Grottoli AG. High heterotrophic capacity underlies success of Mediterranean corals under ocean acidification conditions at CO₂ vents. *Submitted to Nature Communications*

In preparation

Hulver AM, Bèraud E, Dixon S, Moya A, Alderdice R, Muñoz-Garcia A, Voolstra Cr, Ferrier-Pagés C, Grottoli AG. Chronic elevated baseline temperature negatively impacts growth and metabolism of the Red Sea coral *Stylophora pistillata*

Hulver AM, Watson Z, McLachlan R, Grottoli AG. Relationship between Symbiodiniaceae chlorophyll a and cell density in scleractinian corals across regions, species, and health status.

Grottoli AG, **Hulver AM**, Vega Thurber R, Toonen R, Schmeltzer ER, Kuffner IB, Barrott K, Baums I, Castillo K, Donahue M...Wu C. Perspective on the Future Direction of Coral Bleaching Research and the Coral Bleaching Research Coordination Network.

Grants and Awards

Grants

2023	Friends of Orton Hall , The Ohio State University School of Earth Sciences, \$3,025
2023	Presidential Fellowship , OSU Dissertation-year Fellowship, \$36,000
2022	Friends of Orton Hall , The Ohio State University School of Earth Sciences, \$1,060
2022	Early Career Training Program , Coral Bleaching Research Coordination Network, \$2,500
2021	NOSAMS Graduate Student Internship , Woods Hole Oceanographic Institution, \$15,000
2021	Friends of Orton Hall , The Ohio State University School of Earth Sciences, \$2,900

Awards

2024	Spieker Book Award , The Ohio State University School of Earth Sciences
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Conference Presentations

American Geophysical Union

December 2023

Hulver A.M., Carbonne, C., Teixido, N., Comeau, S., Kemp, D., Keister E., Gattuso, J-P., Grottoli, A. Increased heterotrophic capacity of two Mediterranean corals at volcanic CO₂ vents. OS22A-02 presented at AGU23, 11-15 Dec.

15th International Coral Reef Symposium

July 2022

Hulver A.M., Carbonne, C., Teixido, N., Comeau, S., Gattuso, J-P., Grottoli, A. Acclimation potential of Mediterranean corals to pH levels expected later this century, 15th International Coral Reef Symposium, Bremen Germany, Oral Presentation Abstract A-1599

14th International Coral Reef Symposium

July 2021

Hulver A., Carbonne C, Teixido N, Comeau S. Gattuso JP, Grottoli A. Mediterranean coral *Cladocora caespitosa* exposed to future ocean acidification conditions, 14th International Coral Reef Symposium (virtual), 19-23 July, Oral presentation ICRS2021-2325

Red Sea Research Center Open Science Conference

November 2018

Oral Presentation: Multiple stressor interaction effects of nutrient enrichment and oil pollution on Red Sea benthic recruitment

RISE Northeastern University

December 2016

Poster Presentation: Flow dynamics, dissolved oxygen, and pH levels above coral reef systems in Bocas del Toro, Panama shows fine scale fluctuations and concentrations correlated to substrate composition

Teaching Experience

Graduate Teaching Associate

The Ohio State University, School of Earth Sciences, 2020 – 2023

Spring 2023	Stable Isotope Biogeochemistry Lab [ES5622, 10 students]
Fall 2021	Coral Biology Guest Lecture in Principles of Oceanography (ES2206)
Fall 2021	Introduction to Earth Science Laboratory (ES 1200) [4 students]

Fall 2020 Planet Earth: How It Works (ES1100) [4 sections, up to 30 students each]

Guest Lecturer

The Ohio State University, School of Earth Sciences

Fall 2024 Paleooceanography in Corals and carbonates, Advanced Oceanography [ES5206]

Fall 2024 Benthos Lecture, Advanced Oceanography [ES5206]

Spring 2023 Paleooceanography Lecture, Stable Isotope Biogeochemistry [ES5622]

Fall 2021 Coral Reefs Lecture, Principles of Oceanography [ES2206]

Mentorship

Graduate Students

Shannon Dixon, PhD Candidate (August 2022 – present)

Undergraduate Students

Abby Smith (August 2024 – present)

Jacbo Welter (September 2022 – May 2024)

Zoë Watson (May 2021 – May 2023)

Sam Nortz (May 2021 – May 2022)

Synergistic Activities

Workshops

2024 How to Write a Compelling Grant Proposal – Butler Scientific Communications

2022 Organizer: Future of Coral Bleaching Research, Coral Bleaching Research Coordination Network

2021 Organizer: Data Assimilation in Coral Bleaching Research, Coral Bleaching Research Coordination Network

Departmental Service

2021-2022 Graduate Student Club Vice President (The Ohio State University)

Scientific Meeting Co-chair

2023 AGU 2023 Session OS22A Co-chair

2022 15th International Coral Reef Symposium Session Chair

Journal Reviewer

2024 – present Coral Reefs

2024 – present Conservation Letters

Outreach

2024 SELF (Stem Emerging Leaders Fellows) Intro to Earth Science Research Program

2023 Resume and CV workshop for undergraduate Geology Club

2022 GRHO Girls in STEM Outreach Day

2022 - present Skype a Scientist

2017 – 2018 Community Outreach (Thuwal, Saudi Arabia)

Professional memberships

2023 – present American Geophysical Union
2020 – present International Coral Reef Society

Publicity and Media Outreach

2023 Hulver featured in Ohio State News (October) "[Ohio State scientists connect with students of all ages through virtual program](#)"
2021 Hulver featured in SES Alumni News Notes (November) "[Alumni Changes Lives featuring Ann Marie Hulver](#)"
2021 Grottoli and Hulver featured in SES Alumni News Notes (October) "[Professor Grottoli and her graduate student conduct fieldwork in Ischia](#)"
2020 Fieldwork featured in SES Alumni News Notes (November) "[Professor Andrea Grottoli and her team conduct fieldwork in the Florida Keys to study endangered Elkhorn corals](#)"

Certifications

Scuba Diving: SSI Open Water Scuba Diving Instructor (Dive Pro: 77310)
SSI Specialty Instructor: Dry Suit Diving
SSI Specialty Instructor: Enriched Air Nitrox
SSI Specialty Instructor: Navigation
SSI Specialty Instructor: Night and Limited Visibility
SSI Specialty Instructor: Perfect Buoyancy
SSI Specialty Instructor: Search and Recovery
SSI Specialty Instructor: Diver Stress and Rescue
SSI Specialty Instructor: Deep Diving
DAN Diving First Aid for Professional Divers (expires 08/2026)

Software Proficiencies

- R Statistical Programming (MixSIAR, SIBER, ggplot)
- Microsoft Products (Word, Excel, Powerpoint)
- PRIMER v6 (with PERMANOVA+ add-on)
- ArcGIS Pro
- Arduino
- SigmaPlot
- OriginPro
- Photogrammetry
- Agisoft Metashape