Kenneth D. Hoadley
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Education

Ph.D in Marine Studies at the University of Delaware (UD).	Grad. Aug 2016.
M.S. in Marine Biology at the University of North Carolina (Wilmington).	Grad. Dec 2010.
B.S. in Biological Sciences at the University of North Carolina (Chapel Hill).	Grad. May 2007.

Appointments

Assist. Prof in the Dept. of Biological Sciences at the University of Alabama.	Aug 2019 – present
Senior Marine Scientist at the Dauphin Island Sea Lab (DISL).	Aug 2019 – present
Postdoctoral Researcher at the Helmholtz Centre for Ocean Research.	Jan 2019 – Aug 2019
Postdoctoral Fellow at the Monterey Bay Aquarium Research Institute.	Aug 2016 – Jan 2019

Publications

1. Wilken S, Yung C, Hamilton M, **Hoadley K**, Nzongo J, Eckmann C, Corrochano Luque M, Poirier C, Worden A. **2019**: Accounting for cell biology in identifying predatory mixotrophs in aquatic environments. *Philosophical Transactions B.* doi:10.1098/rtsb.2019.0090.
2. **Hoadley KD**, Lewis A, Wham D, Pettay DT, Grasso C, Smith R, Kemp D, Lajeunesse T, Warner ME. **2019:** Specific host–symbiont combinations dictate the response of reef-building corals to thermal stress. *Scientific Reports***,** doi:10.1038/s41598-019-46412-4
3. Yuan X, Cai WJ, Meile C, Hopkinson BM, Ding Q, Schoepf V, Warner ME, **Hoadley KD**, Chen B, Liu S, Huang H, Ye Y, Grottoli AG. **2018**. Quantitative interpretation of vertical profiles of calcium and pH in the coral coelenteron. *Marine Chemistry,* 204, 62-69.
4. Grottoli AG, Martins PD, Wilkins MJ, Johnston MD, Warner ME, Cai WJ, Melman TF, **Hoadley KD**, Pettay DT, Hu X, Levas S, Schoepf V. **2018**. Coral physiology and microbiome dynamics under combined warming and ocean acidification. *PloS one*, 13(1). doi:10.1371/journal.pone.0191156.
5. **Hoadley KD**, Warner ME. **2017**. Use of open source hardware and software platforms to quantify spectrally dependent differences in photochemical efficiency and functional absorption cross section within the dinoflagellate *Symbiodinium* spp. *Frontiers in Marine Science, Special Issue: Coral Ecophysiology.* doi:10.3389/fmars.2017.00365.
6. Schoepf V, Hu X, Holcomb M, Cai WJ, Li Q, Wang Y, Xu H, Warner ME, Melman TF, **Hoadley KD**, Pettay DT, Matsui Y, Baumann JH and Grottoli AG. **2017**. Coral calcification under environmental change: A direct comparison of the alkalinity anomaly and buoyant weight technique. *Coral Reefs,* 36(1), 13–25.
7. **Hoadley KD**, Pettay DT, Grottoli AG, Cai W, Melman TF, Levas S, Schoepf V, Hu X, Li Q, Xu H, Wang Y, Matsui Y, Baumann J, Warner ME. **2016**. High-temperature acclimation strategies within the thermally tolerant endosymbiont *Symbiodinium trenchii* and its coral host, *Turbinaria reniformis*, differ with changing pCO_2 and nutrients. *Marine Biology,* 163(6), 1–13.
8. Hawkins TD, Hagemeyer J, **Hoadley KD**, Marsh AG, Warner ME. **2016**. Partitioning of respiratory demand in a model animal-algal symbiosis is determined by the interaction of symbiont species and biomass. *Frontiers in Physiology,* 128(7). doi:10.3389/fphys.2016.00128

9. **Hoadley KD,** Vize P, Pyott SJ. **2016.** Current understanding of the molecular mechanisms behind cnidarian behavioral and physiological responses to natural light cycles. In: Goffredo S, Dubinsky Z. (eds) The Cnidaria, Past, Present and Future. Springer, pp511–520.
10. Cai WJ, Ma Y, Hopkinson B, Grottoli AG, Warner ME, Ding Q, Hu X, Yuan X, Xu H, Han C, Schoepf V, Melman T, **Hoadley KD**, Pettay DT, Matsui Y, Baumann JH, Levas S, Ying Y, Wang Y. **2016**. Microelectrode characterization of coral interior pH and carbonate chemistry. *Nature Communications,* (7). doi:10.1038/ncomms11144.
11. Marsh AG, **Hoadley KD,** Warner ME. **2016.** Distribution of CpG motifs in upstream gene domains in a reef coral and sea anemone: Implications for epigenetics in cnidarians. *PLoS One* 11(3). doi:10.1371/journal.pone.0150840.
12. Russell B, Dierssen H, Lajeunesse T, **Hoadley KD,** Warner ME, Kemp DW, Bateman T. **2016**. Spectral reflectance of palauan reef-building coral with different symbionts in response to elevated temperature. *Remote Sensing,* 8(3). doi:10.3390/rs8030164.
13. **Hoadley KD**, Pettay DT, Dodge D, Warner ME. **2016**. Contrasting physiological plasticity in response to environmental stress within different cnidarians and their respective symbionts. *Coral Reefs,* 35(2), 529–542.
14. **Hoadley KD**, Pettay DT, Grottoli AG, Cai W, Melman TF, Schoepf V, Hu X, Li Q, Xu H, Wang Y, Matsui Y, Baumann J, Warner ME. **2015**. Physiological response to elevated temperature and pCO2 varies across four Pacific coral species: Understanding the unique host+symbiont response. *Scientific Reports,* doi:10.1038/srep18371.
15. **Hoadley KD**, Rollison D, Pettay DT, Warner ME. **2015**. Differential carbon utilization and asexual reproduction under experimental ocean acidification in the model anemone, *Exaiptasia pallida*, hosting different symbionts. *Limnology and Oceanography,* doi:10.1002/lno.10160.
16. Leal MC, **Hoadley KD**, Pettay DT, Grajales A, Calado R, Warner ME. **2015**. Symbiont type influences trophic plasticity of a model cnidarian-algal symbiosis. *Journal of Experimental Biology,* 218(6), 858-863.
17. Tilney C, **Hoadley KD**, Warner ME. **2015**. Comparing the diel vertical migration of *Karlodinium veneficum* (dinophyceae) and *Chattonella subsalsa* (Raphidophyceae): PSII photochemistry, circadian control, and carbon assimilation. *Journal of Photochemistry and Photobiology B: Biology,* 143, 107–119
18. Levas S, Grottoli AG, Warner ME, Cai W, Bauer J, Schoepf V, Baumann JH, Matsui Y, Gearing C, Melman TF, **Hoadley KD**, Pettay DT, Hu X, Li Q, Xu H, Wang Y. **2015**. Organic Carbon Fluxes Mediated by Corals at Elevated pCO_2 and Temperature. *Marine Ecology Progress Series, 519:153-164.*
19. Schoepf V, Grottoli AG, Warner ME, Cai W-J, Melman TF, **Hoadley KD**, Pettay DT, Hu X, Li Q, Xu H, Wang Y, Matsui Y, Baumann JH. **2013**. Coral energy reserves and calcification in a high-CO_2 world at two temperatures. *PLoS One,* 8(10), *doi:*10.1371/journal.pone.0075049.
20. **Hoadley KD**, Szmant A, Pyott S. **2011**. Circadian clock gene expression in the coral *Favia fragum* over diel and lunar reproductive cycles. *PLoS One,* 6(5), doi: 10.1371/journal.pone.0019755.

Publications (in Prep – to be submitted within next 6 months)

Hoadley KD, Lewis A, Wham D, Pettay DT, Grasso C, Smith R, Kemp D, Lajeunesse T, Warner ME. Matching phenotype to genotype: Physiological variability but thermal stability characterize *Symbiodinium C15* species across Palauan reef corals. *In Prep*

Hoadley KD, Poirier CL, Choi CJ, Yung CM, Worden AZ. Coral clearance rates reveal picoplankton selective size barrier. *In Prep*

Kemp DW, Allgeier J, Warner M, **Hoadley KD**, Lewis A, LaJeunesse T. Surviving climate change: Organismal, Population and Community responses of reef-building corals. *In Prep*

Jiménez V, **Hoadley KD**, Sudek S, Kunde-Ramamoorthy G, Wei CL, Goodenough UW and Worden AZ. Growth and transcriptional transitions of the green alga *Micromonas* to generalized nutrient limitation and acute nitrogen deprivation. *In Prep*

Hoadley KD, Sudek L, Klimov D, Handler E, Hamilton M, Worden AZ. Using high frequency measurements to characterize photochemical response under nitrate limitation across two functionally distinct *Micromonas* species. *In Prep*

Invited Talks:

Nov, 2019 University of New Orleans; Nov 11th. Understanding Ecophysiology of Important Marine Phytoplankton.

Feb, 2017 **Hoadley KD**, Worden AZ. Establishing baselines for phytoplankton in the world oceans. Global Biodiversity Genomics Conference (Invited talk): *Washington DC.*

Research Presentations at Conferences

July 2020 Lipscomb D, **Hoadley K**, Szmant A. Recruitment limitation in corals: New species of ciliate that preys on newly settled coral polyps. *International Coral Reef Symposium (Oral): Bremen; Germany*

July 2020 Lewis A, **Hoadley K**, Wham D, Pettay D, Smith R, Kemp D, Warner M, LaJeunesse T. Reef-building corals exhibit few trade-offs in growth when co-adapted to thermally tolerant symbionts. *International Coral Reef Symposium (Oral): Bremen; Germany*

July 2020 Dobson K, Levas S, Schoepf V, Warner M, Cai Wei-Jul, **Hoadley K**, Yuan X, Matsui Y, Melman T, Grottoli A. Moderate nutrients mitigate the negative effects of elevated temperature and pCO2 in some corals. *International Coral Reef Symposium (Oral): Bremen; Germany*

July 2020 Bergauer K, Worden AZ, **Hoadley, KD**, Poirier C. The microbial inventory of Caribbean and Polynesian coral reef ecosystems. *International Coral Reef Symposium (Poster): Bremen; Germany*

Dec, 2017 **Hoadley KD**, Sudek LA, Klimov D, Handler E, Hamilton MM, Worden AZ. Using high frequency FRRf measurements to characterize the response to elevated CO_2 and nitrate limitation across two functionally distinct Micromonas species. *Aquatic Fluorescence II (talk)*: *Sydney; Australia.*

Dec, 2017 Warner ME, **Hoadley KD**, LaJeunesse TC, Kemp DW, Suggett DJ. Teasing apart the complexity of chlorophyll a fluorescence in coral reef research: Discoveries and Future Challenges. *Aquatic Fluorescence II (talk): Sydney; Australia.*

June, 2016 **Hoadley KD**, Marsh AM, Warner ME. Epigenetic modification of an anemone genome through cytosine methylation reveals plasticity in response to temperature stress. *International Coral Reef Symposium (talk): Waikiki; Hawaii.*

June, 2016 Russell BJ, Dierssen HM, LaJeunesse TC, **Hoadley KD**, Warner ME, Kemp DW, Bateman TG. Spectral reflectance of Palauan reef-building coral with different symbionts in response to elevated temperature. *International Coral Reef Symposium (talk): Waikiki; Hawaii.*

June, 2016 Grottoli, AG, Martins PD, Wilkins MJ, Johnston MD, Warner ME, Cai WJ, Melman TF, **Hoadley KD**, Pettay DT, Schoepf V. Combined responses of the coral microbiome and coral physiology to elevated temperature and pCO_2. *International Coral Reef Symposium (talk): Waikiki; Hawaii.*

June, 2016 Cai WJ, Ma Y, Hopkinson BM, Grottoli AG, Warner ME, Ding Q, Hu X, Yuan X, Schoepf V, Xu H, Han C, Melman TF, **Hoadley KD**, Pettay DT, Matsui Y, Baumann JH, Levas S, Ying Y, Wang Y. Coral interior carbonate chemistry measured with pH and carbonate microelectrodes suggests that the chemistry of the calcifying fluid affects resilience of OA. *International Coral Reef Symposium (talk): Waikiki; Hawaii.*

June, 2016 Hawkins TD, Hagemeyer JC, **Hoadley KD**, Marsh AG, Warner ME. Partitioning of respiration in an animal-algal symbiosis: implications for different aerobic capacity between symbiodinium spp. *International Coral Reef Symposium (talk): Waikiki; Hawaii.*

June, 2016 Kemp DW, Allgeier J, **Hoadley KD**, Lewis A, Wham F, Warner ME, LaJeunesse TC. Extreme functional differences amoung palauan reef corals and their symbiotic algae. *International Coral Reef Symposium (talk): Waikiki; Hawaii.*

Feb, 2016 **Hoadley KD**, Lewis A, Wham D, Pettay DT, Grasso C, Smith R, Kemp D, Lajeunesse T, Warner ME. Differential thermal response within inshore vs. offshore congeneric scleractinian species in Palau. *American Society of Limnology and Oceanography (talk): New Orleans; Louisiana.*

Dec, 2013 **Hoadley KD**, Pettay DT, Dodge D, Warner ME. Differential Bio-physical Strategies and Productivity Rates Within Various Anthozoan Symbioses: Understanding the unique symbioses Inherent to Each Host/Symbiont Combination. *Symbiofest, a small locally held conference on symbiont specific research (talk): Lewes; Delaware.*

July, 2012 **Hoadley KD**, Pettay DT, Grottoli AG, Cai W, Melman TF, Schoepf V, Hu X, Li Q, Xu H, Wang Y, Matsui Y, Baumann J, Warner ME. CO_2 and temperature effects on coral photophysiology and symbiont stability. *International Coral Reef Symposium (talk): Cairns, Australia.*

July, 2012 Verena S, Grottoli AG, Warner ME, Cai WJ, Melman T, Matsui Y, Baumann J, Pettay T, **Hoadley KD**, Wang Y, Xu H, Qian L, Hu X. Interactive effects of elevated pCO_2 and temperature on coral calcification and energy reserves. I*nternational Coral Reef Symposium (talk): Cairns, Australia.*

March, 2010 **Hoadley KD**, Pyott SJ, Szmant AM. Regulation of the Lunar Reproductive Cycle in the Coral Favia fragum: Possible role of Cryptochrome Photoreceptors. *Benthic Ecology Meeting (talk): Wilmington; North Carolina.*

Jan, 2010 **Hoadley KD**, Pyott SJ, Szmant AM. Diel and lunar changes in cryptochrome (cry1 and cry2) transcript abundances in the brooding coral *Favia fragum*. *Society for Integrative and Comparative Biology (poster): Seattle; Washington.*

Research Grants, Fellowships and Awards

2019 Alabama Water Institute: instrument grant ($5,380)
2019 University of Alabama Office of Research and Economic Development Small Grant ($5,770)
2018 NASA Travel Award ($1,000)
2016 MBARI Postdoctoral Fellowship Award ($115,000)
2016 Frances Severance Academic Council Award for dissertation with distinction ($500)
2009 PADI Project AWARE grant ($1,930)

Teaching Experience

2019	Helmholtz Centre for Ocean Research: Coral Reef Research Study Abroad (Instructor)
2015	University of Delaware: Field Ecology Course (TA)
2014	University of Delaware: Scientific Diving Study Abroad Program (TA)
2009-2010	UNC Wilmington Introduction to Biology (TA: 3 semesters)
2009	UNC Wilmington: Coral Reef Research Study Abroad (TA)

Outreach and Mentoring

2016, 2017	MBARI Coast Day: open house for public engagement in research
2017	Eleanor Handler, Summer research intern at MBARI
2013, 2015	UD Coast Day: Marine Research Campus open house In Lewes, DE
2014-2015	Blair Felker, Middle-School Science Project
2012, 2014-2015	Chris Grasso, Undergraduate Semester In Residence
2012	Dana Rollison, Undergraduate Summer REU

Professional Development

2016 **Microbial Genomics and Metagenomics Workshop**
Course on analysis of microbial datasets. Walnut Creek, California

2016 **NSF-Biological Oceanography Coral Bleaching Workshop**
Consensus meeting for current state of coral bleaching research. Honolulu, Hawaii

2012 **Coral Reef Photobiology Field Course**
Postgraduate research course on coral photobiology. Puerto Morelos, Mexico

Reviewing and Referee

Scientific Reports, Biological Bulletin, PeerJ, Symbiosis, Journal of Marine Science and Engineering, National Science Foundation - Biological Oceanography, Estuarine Coastal and Shelf Science, ISME-International Society for Microbial Ecology, European Research Council

Memberships and Additional Skills

- American Association of Underwater Scientists (AAUS, 500+ dives)
- Bilingual: Spanish and English
- Coding languages: R, Perl, Arduino IDE, Python