

## Meredith M. White, PhD

(Updated 18 July 2022)

Mook Sea Farm  
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Interim Director of Hatchery Operations & Director of Research and Development  
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### EDUCATION

- 2007-13 **Doctor of Philosophy:** Biological Oceanography, Massachusetts Institute of Technology/Woods Hole Oceanographic Institution (MIT/WHOI) Joint Program in Oceanography, Woods Hole, MA  
Dissertation: Growth and development of larval bay scallops (*Argopecten irradians*) in response to early exposure to high CO<sub>2</sub>  
Co-advisors: Dr. Lauren S. Mullineaux, Department of Biology, WHOI and Dr. Daniel C. McCorkle, Department of Geology and Geophysics, WHOI
- 2002-06 **Bachelor of Science, magna cum laude:** Biochemistry (minor: Environmental Science), Lafayette College, Easton, PA  
Research co-advisors: Dr. Bernard Fried, Department of Biology and Dr. Joseph Sherma, Department of Chemistry
- 2004 **Study Abroad,** Kwame Nkrumah Univ. of Science & Technology, Kumasi, Ghana
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### PROFESSIONAL APPOINTMENTS

- Jan 2022-pres **Interim Director of Hatchery Operations:** Mook Sea Farm, Walpole, ME
- Sep 2016-pres **Director of Research and Development:** Mook Sea Farm, Walpole, ME
- Jan 2020-pres **Adjunct Faculty:** School of Marine Sciences, University of Maine, Orono, ME
- Sep 2016-pres **Adjunct Scientist:** Bigelow Laboratory for Ocean Sciences, East Boothbay, ME
- Jul 2013-2021 **Guest Investigator:** Woods Hole Oceanographic Institution, Woods Hole, MA
- Mar '13-Aug '16 **Postdoctoral Research Scientist:** Bigelow Laboratory for Ocean Sciences, East Boothbay, ME. Dr. William 'Barney' Balch, advisor
- Jul '15-Jun '16 **Visiting Assistant Professor:** Department of Earth and Oceanographic Science, Bowdoin College, Brunswick, ME.
- Jun-Dec 2014 **Appointee:** State of Maine's Ocean Acidification Study Commission, Augusta, ME.  
**Chair:** State of the Science/Research & Monitoring Priorities Subcommittee
- Jan-Feb 2013 **Postdoctoral Investigator:** Woods Hole Oceanographic Institution, Woods Hole, MA.  
Dr. Lauren S. Mullineaux, advisor
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**PROFESSIONAL & SYNERGISTIC ACTIVITIES** As Interim Director of Hatchery Operations, I oversee all microalgae and oyster seed production at Mook Sea Farm, supervising eight technicians and assistants. As Director of Research & Development, I focus on improving hatchery and farm production by increasing resiliency to environmental change. This role also includes facilitating communication between the shellfish aquaculture industry and academic scientists, federal and state agencies, and others. I achieve this by serving in regional groups such as the Northeast Coastal Acidification Network and the Maine eDNA External Advisory Committee, as well as by serving on Federal Program Review Committees, and by facilitating academic research at MSF. I reach out beyond MSF to other shellfish growers and hatcheries to encourage collaboration and gain perspective on industry research needs.

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**PUBLICATIONS**

- Siedlecki S, Salisbury J, Bastidas C, Meseck S, McGarry K, Alexander M, Lavoie D, Scott J, Mlsna I, Azetsu-Scott K, **White MM**, Pershing AJ, Vandemark D, Cen C, Mook W, Morrison R, Gledhill DK, Hunt CW, Wang ZA, Brady DC, Liberti K, Melrose CD, Townsend DW. 2021. Projecting ocean acidification impacts for the Gulf of Maine to 2050: New tools and expectations. *Elementa: Science of the Anthropocene* **9**:1. doi: 10.1525/elementa.2020.00062
- White MM**, Waller JD, Lubelczyk LC, Drapeau DT, Bowler BC, Balch WM, Fields DM. 2018. Coccolith dissolution within copepod guts affects fecal pellet density and sinking rate. *Scientific Reports* **8**:9758. doi: 10.1038/s41598-018-28073-x
- White MM**, Drapeau DT, Lubelczyk LC, Abel VC, Bowler BC, Balch WM. 2018. Calcification of an estuarine coccolithophore increases with ocean acidification when subjected to diurnally fluctuating carbonate chemistry. *Marine Ecology Progress Series* **601**:59-76. doi: 10.3354/meps12639
- Gledhill DK, **White MM**, Salisbury J, Thomas H, Mlsna I, Liebman M, Mook B, Grear J, Candelmo AC, Chambers RC, Gobler CJ, Hunt CW, King AL, Price NN, Signorini SR, Stancioff E, Stymiest C, Wahle RA, Waller JD, Rebuck ND, Wang ZA, Capson TL, Morrison JR, Cooley S, Doney SC. 2015. Ocean and coastal acidification off New England and Nova Scotia. *Oceanography* **28**(2):182-197. doi: 10.5670/oceanog.2015.41
- Pfister CA, Esbaugh AJ, Frieder CA, Baumann H, Bockmon EE, **White MM**, Carter BR, Benway HM, Blanchette CA, Carrington E, McClintock JB, McCorkle DC, McGillis WR, Mooney TA, Ziveri P. 2014. Detecting the unexpected: A research framework for ocean acidification. *Environmental Science & Technology* **48**: 9982-9994. doi: 10.1021/es501936p
- White MM**, Mullineaux LS, McCorkle DC, Cohen AL. 2014. Elevated  $p\text{CO}_2$  exposure during fertilization of the bay scallop *Argopecten irradians* reduces larval survival but not subsequent shell size. *Marine Ecology Progress Series* **498**: 173-186. doi: 10.3354/meps10621
- White MM**, McCorkle DC, Mullineaux LS, Cohen AL. 2013. Early exposure of larval bay scallops (*Argopecten irradians*) to high  $\text{CO}_2$  causes irreversible decrease in shell growth. *PLoS ONE* **8**(4): e61065. doi: 10.1371/journal.pone.0061065
- White MM**, Fried B, Sherma J. 2007. Effects of aestivation and starvation on the neutral lipid and phospholipid content of *Biomphalaria glabrata* infected with *Schistosoma mansoni*. *Journal of Parasitology* **93**(1): 1-3. doi: 10.1645/GE-945R.1
- White MM**, Chejlava M, Fried B, Sherma J. 2007. The concentration of calcium carbonate in shells of freshwater snails. *American Malacological Bulletin* **22**: 139-142. doi: 10.4003/0740-2783-22.1.139
- White MM**, Fried B, Sherma J. 2006. Determination of the effects of estivation and starvation on neutral lipids and phospholipids in *Biomphalaria glabrata* (NMRI strain) and *Helisoma trivolvis* (Colorado strain) snails by quantitative high performance thin layer chromatography-densitometry. *Journal of Liquid Chromatography and Related Technology* **29**(14): 2167-2180. doi: 10.1080/10826070600760358
- White MM**, Chejlava M, Fried B, Sherma J. 2005. The effects of various larval digeneans on the calcium carbonate content of the shells of *Helisoma trivolvis*, *Biomphalaria glabrata*, and *Physa* sp. *Parasitology Research* **95**(4): 252-255. doi: 10.1007/s00436-004-1279-1

**MANUSCRIPTS IN PREPARATION**

- Fields DM, Waller JD, Vermont A, **White MM**, Lubelczyk LC, Drapeau DT, Bowler BC, Balch WM. Direct and indirect effects of  $p\text{CO}_2$  on the vital rates of the copepod *Acartia tonsa* grazing on the coccolithophore *Pleurochrysis carterae*. In prep.
- Takyi E, LaPorte J, Sohn S, Stevick R, Roberts E, Gregg L, Chesler A, Small J, **White MM**, Giray C, Rowley D, Nelson D, Gomez-Chiari M. Effect of a formulation of probiont *Phaeobacter inhibens* S4 on oyster larval performance in the hatchery. In prep.

**TECHNICAL REPORTS AND NON-PEER-REVIEWED ARTICLES**

- White MM.** 2021. Hatchery problems spawn call for collaboration. *East Coast Shellfish Growers Association Newsletter* October 4: 3,11,13.
- Johnson CK, Langley BD, Devin MG, Parry WR, Welsh JW, Arnold SN, Green MA, Lewis J, Leyden K, Mayer LM, Miller S, Mook W, Nelson R, Payne J, Salisbury JE, **White MM.** 2015. The Final Report of the Commission to Study the Effects of Coastal and Ocean Acidification and its Existing and Potential Effects on Species that are Commercially Harvested and Grown Along the Maine Coast. Augusta, ME. 122 pp. <http://www.maine.gov/legis/opla/Oceanacidificationreport.pdf>.

**GRANTS AND AWARDS**

- 2022 **NOAA Sea Grant** (with collaborators), ‘Cracking the Shell’: A collaborative approach to developing hatchery production of the Atlantic sea scallop, *Placopecten magellanicus* \$1,199,999
- 2022 **NOAA Saltonstall-Kennedy Grant** (with collaborators), Characterizing the role of toxic phytoplankton byproducts in shellfish hatchery failures \$299,934
- 2022 **Northeast Sustainable Agriculture Research and Education, Novel Approaches Grant;** Development of a rapid, inexpensive assay for farm-based detection of four pathogenic *Vibrio* strains linked to shellfish hatchery failures \$199,985
- 2021 **Maine eDNA, Commercialization Seed Grant**, In their own hands: Handheld eDNA toolkits for oyster hatcheries and growers \$20,000
- 2021 **The Nature Conservancy, SOAR’s Shellfish Growers Resiliency Funds;** Overwintering of hatchery oyster seed through cold storage to increase supply of early-season seed to oyster farms \$39,364
- 2020 **Maine Sea Grant, Buoy Maine;** Damariscotta River Oysters: Maine Fresh Brand Development \$12,000
- 2020 **Maine Sea Grant, Program Development Funds;** Identifying the cause of 2020 hatchery season larval production problems \$10,000
- 2020 **Bigelow Laboratory Center for Venture Research on Seafood Solutions;** Oyster seed production problems: Understanding the cause and developing solutions \$8,710
- 2020 **Aquaculture Research Institute, Rapid Response Funds;** Oyster seed production problems: Understanding the cause and developing solutions \$5,000
- 2019 **National Sea Grant;** An innovative bottom-culture cage to improve yield, manage biofouling, diversify crops and minimize social conflict as shellfish aquaculture expands \$116,000
- 2019 **SEANET, Research Mini-Grant;** Sensitivity of juvenile Eastern oyster calcification and gene expression to variable carbonate chemistry \$9,500
- 2018 **Maine Sea Grant, Program Development Funds;** Determining causes of replicate variability in levels of *Vibrio parahaemolyticus* in Eastern oysters in order to improve the efficacy of a cold water pathogen reduction process \$5,000
- 2017 **Marine Economy Capital Grants Program and Cluster Initiative Program** (with W Mook); A multipurpose oyster facility \$336,000
- 2017 **SEANET, Research Mini-Grant;** The role of feeding to enhance pathogen reduction of *Vibrio parahaemolyticus* from Eastern oysters ~\$12,000
- 2016 **Maine Sea Grant, Program Development Funds;** Cold water depuration of *Vibrio parahaemolyticus* in the Eastern oyster \$5,000
- 2016-17 **Maine Technology Institute Seed Grant** (with W Mook); Mixotrophic algae ~\$25,000
- 2012-14 **Woods Hole Sea Grant** (with LS Mullineaux); Transgenerational exposure of bay scallops to ocean acidification ~\$100,000

- 2011-13 **Mellon Joint Initiatives Award** (co-written by **MM White**, DC McCorkle, LS Mullineaux; awarded to DC McCorkle and LS Mullineaux); Direct and latent effects of exposure to ocean acidification in a marine bivalve *\$100,000*
- 2012 **Ocean Sciences Meeting Student Travel Award** *\$350*
- 2009-10 **Woods Hole Sea Grant, New Initiative Grant** (with LS Mullineaux); Effects of ocean acidification on the larval and juvenile development of the green urchin *Strongylocentrotus droebachiensis*, *~\$2,000*
- 2009 **WHOI, Coastal Ocean Institute, Student Research Funds**; Effects of ocean acidification on the larval and juvenile development of the green sea urchin *Strongylocentrotus droebachiensis* and the bay scallop *Argopecten irradians*, *~\$2,000*
- 2008 **Friday Harbor Laboratories Student Financial Assistance** *\$1,400*

#### FELLOWSHIPS AND SCHOLARSHIPS

- 2008-11 **National Defense Science and Engineering Graduate Fellowship**, The Department of Defense; three years full tuition and stipend support *~\$260,000*
- 2008 **National Science Foundation Graduate Fellowship**, Honorable Mention
- 2002-06 **Marquis Scholar**, Lafayette College's highest academic scholarship *~\$50,000*

#### TEACHING AND MENTORING EXPERIENCE

- 2021-pres **PhD Committee Member** for University of Maine PhD student.
- 2022 **Mentor** for Maine Careers Catalyst Aquaculture Pioneer intern from the College of the Atlantic at Mook Sea Farm
- 2022 **Mentor** for Aquaculture Research Institute Industry Internship student from the University of Connecticut at Mook Sea Farm
- 2021 **Mentor** for Aquaculture Research Institute Industry Internship student from the University of Maine at Mook Sea Farm
- 2020 **Guest Lecturer**, University of New England, School of Marine and Environmental Programs, Biddeford, ME. 'Farming for the future: How a Maine oyster farm uses scientific research to prepare for a changing environment'
- 2019-2020 **Honors Committee Member** for University of Maine School of Marine Science student
- 2019 **Co-Mentor** for Research Experience for Undergraduate student from the College of William and Mary working at Bigelow Laboratory for Ocean Sciences and Mook Sea Farm
- 2019 **Mentor** for Sustainable Ecological Aquaculture Network (SEANET) intern from Colby College at Mook Sea Farm
- 2019 **Mentor** for Sustainable Ecological Aquaculture Network (SEANET) intern from Bates College at Mook Sea Farm
- 2018 **Mentor** for Sustainable Ecological Aquaculture Network (SEANET) intern from the University of Maine at Mook Sea Farm
- 2018 **Mentor** for Sustainable Ecological Aquaculture Network (SEANET) intern from Mount Holyoke College at Mook Sea Farm
- 2018 **Mentor** for Colby College Jan Plan intern at Mook Sea Farm
- 2017 **Mentor** for Sustainable Ecological Aquaculture Network (SEANET) intern from Bowdoin College at Mook Sea Farm
- 2017 **Co-Mentor** for NOAA Hollings Fellow intern at Mook Sea Farm
- 2015-2016 **Visiting Assistant Professor**, Bowdoin Earth and Oceanographic Science Department, EOS 3625: Research in Oceanography: Physical and Biological Controls in Estuaries (Lab)  
EOS 2625: Ocean Acidification (Lab)  
EOS 2620: Topics in Gulf of Maine Oceanography
- 2015-16 **Co-Mentor** for Bowdoin Senior Honors Thesis in Oceanography student
- 2015-16 **Committee Member** for two Bowdoin Senior Honors Thesis in Oceanography students

2015-16	<b>Mentor</b> for Bowdoin Science Experience Student Research Assistant
2015	<b>Mentor</b> for Bowdoin College Intermediate Independent Study in Oceanography student
2015	<b>Instructor</b> for Bowdoin College Upward Bound Marine Science Course, Plankton module
2015	<b>Mentor</b> to Research Experience for Undergraduates (REU) student from Bowdoin College, Bigelow Laboratory for Ocean Sciences
2015	<b>Guest Lecturer</b> for EOS 2525: Marine Biogeochemistry, Bowdoin College, Brunswick, ME. ‘Coastal acidification: Processes and considerations.’
2014-15	<b>Mentor</b> to Woodbridge High School (Irvine, California) student for student research project
2014	<b>Instructor</b> for Keller BLOOM Program for Maine High School Juniors, Bigelow Laboratory for Ocean Sciences
2013	<b>Guest Lecturer</b> , Coastal Studies for Girls Science & Leadership School, Freeport, ME. ‘Effects of ocean acidification on larval bay scallops.’
2013	<b>Mentor</b> to Research Experience for Undergraduates (REU) student from Colby College, Bigelow Laboratory for Ocean Sciences
2011	<b>Teaching Assistant</b> for 7.435 Marine Invertebrates of Cape Cod, lecture and lab, Woods Hole Oceanographic Institution, Department of Biology
2010-11	<b>Mentor</b> to MIT/WHOI Joint Program graduate student, Woods Hole Oceanographic Institution, Department of Biology
2010	<b>Guest Lecturer</b> for Biology 179: Marine Biology Seminar, Tufts University, Medford, MA. ‘Ocean acidification: Chemistry, biology, and experiment planning.’
2010	<b>Mentor</b> to Falmouth High School student for science fair project, Woods Hole Oceanographic Institution, Department of Biology
2010	<b>Mentor</b> to High School Guest Student, Woods Hole Oceanographic Institution, Department of Biology
2009	<b>Teaching Assistant</b> for Ocean Carbon Biogeochemistry (OCB) & European Project on Ocean Acidification (EPOCA)’s Ocean Acidification Short Course in Woods Hole, MA
2009	<b>Guest Lecturer</b> for Woods Hole Partnership in Education Program (PEP), Woods Hole, MA. ‘Effects of ocean acidification on green sea urchin ( <i>Strongylocentrotus droebachiensis</i> ) larval development.’
2005-06	<b>Teaching Assistant</b> for General Chemistry II, Lafayette College, Department of Chemistry
2005	<b>Teaching Assistant</b> for General Chemistry I, Lafayette College, Department of Chemistry
2003-04	<b>Laboratory Assistant</b> for A Chemical Perspective (course for non-chemistry majors), Lafayette College, Department of Chemistry
2004	<b>Tutor</b> for General Chemistry II, Lafayette College, Department of Chemistry
2003	<b>Tutor</b> for General Chemistry I, Lafayette College, Department of Chemistry

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#### CONFERENCE PRESENTATIONS AND POSTERS – LEAD AUTHOR

Apr 2022	<b>White MM</b> , Stevenson A, Mook WH, Zimmerman S, Edwards B. Larval oyster hatchery production failure due to toxic impacts of oxidized algal byproducts. Northeast Aquaculture Conference and Exposition, Portland, ME. Oral presentation.
Apr 2022	St. Gelais A*, Pepperman K*, White MM*. A collaborative approach to investigate hatchery culture methods to produce commercial quantities of sea scallop, <i>Placopecten magellanicus</i> , spat for farmers in Maine. Northeast Aquaculture Conference and Exposition, Portland, ME. Oral presentation. *Co-lead authors.
Jan 2020	<b>White MM</b> . Ocean acidification impacts on oyster aquaculture. Maine Aquaculture Research, Development, and Education Summit, Belfast, ME. Oral presentation.
Jan 2019	<b>White MM</b> , Silva E, Chamberlin S, Chopin T, Machie S, Masters J, Mook WH, Morse D, Pearson H, Reitsma J, Smith T, Stancioff E, Tremblay I. Assessment of the aquaculture industry’s questions and priorities regarding ocean acidification research directions. Northeast Aquaculture Conference and Exposition, Boston, MA. Oral presentation.

- Jan 2017 **White MM**, Salisbury JE, Mook W, Stevenson A, Hunt CW. Determination of threshold carbonate chemistry parameters for juvenile Eastern oyster calcification. Northeast Aquaculture Conference and Exposition, Providence, RI. Oral presentation.
- Feb 2016 **White MM**, Waller JD, Lubelczyk LC, Drapeau DT, Bowler BC, Wyeth A, Fields DM, Balch WM. Calcium carbonate dissolution above the lysocline: Implications of copepod grazing on coccolithophores. Ocean Sciences Meeting, New Orleans, LA. Poster presentation.
- Jun 2015 **White MM**, Lubelczyk L, Waller, JD, Drapeau DT, Bowler BC, Fields DM, Balch WM. Calcite dissolution above the saturation horizon: *Pleurochrysis carterae* coccolith dissolution in *Acartia tonsa* guts. NSF Ocean Acidification Principle Investigators' Meeting, Woods Hole, MA. Oral Presentation.
- Feb 2015 **White MM**, Lubelczyk L, Waller JD, Drapeau DT, Bowler BC, Vermont A, Fields DM, Balch WM. Dissolution of *Pleurochrysis carterae* coccoliths in *Acartia tonsa* guts: Testing the Tums hypothesis. Aquatic Sciences Meeting, Granada, Spain. Oral presentation.
- Jan 2015 **White MM**, Candelmo AC, Chambers RC, Gobler CJ, King AL, Price NN, Wahle RA, Waller JD. The biological responses of multiple northeast taxa to ocean acidification. Northeast Aquaculture Conference and Exposition, Portland, ME. Oral presentation.
- Feb 2014 **White MM**, Drapeau DT, Lubelczyk LC, Bowler BC, Balch WM. Calcification of an estuarine coccolithophore increases under increased  $p\text{CO}_2$ . Ocean Sciences Meeting, Honolulu, HI. Oral presentation.
- Sep 2013 **White MM**, Drapeau DT, Lubelczyk LC, Bowler BC, Balch WM. Coccolithophore growth, photosynthesis, calcification, and culture dynamics in response to increased  $p\text{CO}_2$ . NSF Ocean Acidification Principle Investigators' Meeting, Washington, DC. Poster presentation.
- Feb 2013 **White MM**, McCorkle DC, Mullineaux LS, Cohen AL. Early exposure to high- $\text{CO}_2$  of bay scallop (*Argopecten irradians*) larvae has lasting effects on size. Aquatic Sciences Meeting, New Orleans, LA. Oral presentation.
- Feb 2012 **White MM**, Mullineaux LS, McCorkle DC, Cohen AL, Mills SM. Short term high  $\text{CO}_2$  exposure of larval bay scallops (*Argopecten irradians*) may show latent effects. Ocean Sciences Meeting, Salt Lake City, UT. Poster presentation.
- Apr 2006 **White MM**, Fried B, Sherma S. The effects of estivation on the survival and lipid composition of *Biomphalaria glabrata* infected with *Schistosoma mansoni*. 82<sup>nd</sup> Annual Meeting of the Pennsylvania Academy of Science, Grantville, PA. Oral presentation.

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#### INVITED SEMINARS AND PRESENTATIONS

- June 2022 White MM. Maine oyster hatchery production failure due to toxic impacts of oxidized algal byproducts. [National Harmful Algal Bloom Observing Network Webinar #4](#).
- Mar 2021 White MM. Toxic impacts of oxidized algal byproducts on oyster larval development at a Maine oyster hatchery. Gulf of Maine HAB Science Symposium, Virtual Meeting.
- Aug 2020 White MM. Stakeholder perspectives on harmful algal blooms and ocean acidification. OA & HABs: Defining a Research Agenda, NOAA Workshop, Virtual Workshop.
- Jul 2020 White MM. Ocean acidification impacts on aquaculture. Massachusetts Ocean Acidification Commission Working Group Meeting, Virtual.
- Jun 2020 Panelist, World Economic Forum 'Deep-dive on ocean acidification.'
- Mar 2020 White MM. Ocean acidification: Perspectives from Mook Sea Farm (Maine). Mid-Atlantic Coastal Acidification Network Webinar Series
- Feb 2020 White MM. Farming for the future: How a Maine oyster farm uses scientific research to prepare for a changing environment. Maine Maritime Academy Corning School of Ocean Studies Seminar. Castine, ME.

- Jan 2020 White MM. Ocean acidification and climate change impacts on aquaculture. Presentation to the Marine and Coastal Working Group of the Maine Climate Council, Augusta, ME.
- Nov 2019 White MM. Perspectives of an oyster hatchery and farm on ocean and coastal acidification: Research, engagement, and mitigation. Forum on Ocean Acidification: Understanding and Adapting Locally, Shippagan, New Brunswick, Canada.
- May 2019 White MM. Aquaculture in a changing environment: Stakeholder perspective. SEANET All Hands Meeting, University of Maine, Orono, ME.
- Feb 2019 White MM. Maine and Mook Sea Farm's proactive steps. Ocean Conservancy Shellfish Exchange Information Panel, Oyster South Symposium, Orange Beach, AL.
- Oct 2018 White MM. Aquaculture in changing waters: How an oyster farm leverages scientific research to prepare for environmental change. University of Maine School of Marine Science Seminar, Darling Marine Center, Walpole, ME.
- Sept 2018 White MM. Shellfish aquaculture: Environmental Impacts, Research and Development, Adaptive Strategies. Oyster Aquaculture Educational Night, Curtis Memorial Library, Brunswick, ME.
- Apr 2018 White MM. Shellfish industry needs for OCA research. Connecticut Sea Grant and NOAA's North Atlantic Regional Team Workshop: Coastal ocean acidification in the North Atlantic region, from science to outreach, Avery Point, CT.
- Dec 2017 White MM. Industry needs and capabilities for ocean and coastal acidification monitoring. Northeast Coastal Acidification Network/Northeast Regional Ocean Council Workshop: Monitoring Coastal Acidification: *Why, What, How?*, Portsmouth, NH.
- Oct 2017 White MM. Aquaculture in changing waters: An oyster farm relies on scientific research to prepare for environmental change. Dalhousie University Department of Biology, Halifax, Nova Scotia
- May 2016 White MM. Impacts of coastal acidification on early larval growth and development of bay scallops (*Argopecten irradians*). Mollusks in Peril Forum, Bailey-Matthews National Shell Museum, Sanibel, FL.
- May 2016 White MM. Impacts of ocean and coastal acidification on Maine fishery species. Fishing on Changing Waters, Maine Coast Fishermen's Association, Brunswick, ME.
- July 2015 White MM. Ocean acidification: Predator, prey, and policy impacts. Bigelow Laboratory for Ocean Sciences, East Boothbay, ME.
- Apr 2014 White MM. Effects of ocean acidification on phytoplankton and zooplankton physiology and nutrition in NE-CAN. Northeastern Coastal Acidification Network (NE-CAN) State of the Science Meeting, Rye, NH. Discussion panel leader.
- Mar 2014 White MM. Coastal ocean acidification: Impacts on bay scallop larvae and coccolithophores. Bates College Department of Biology, Lewiston, ME.
- Oct 2013 White MM. Critical high- $p\text{CO}_2$  exposure windows during early development of larval bay scallops. Bowdoin College Department of Biology, Brunswick, ME.
- Aug 2013 White MM. Critical high- $p\text{CO}_2$  exposure windows during early development of larval bay scallops. Bigelow Laboratory for Ocean Sciences, East Boothbay, ME.
- July 2012 White MM. Early short term high- $\text{CO}_2$  exposure of larval bay scallops (*Argopecten irradians*) causes negative latent effects. WHOI Department of Biology, Woods Hole, MA.

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#### CONFERENCE PRESENTATIONS – CONTRIBUTING AUTHOR

\*Denotes undergraduate mentee

- Apr 2022 Beal B, Davis C, Mook B, Pepperman K, **White MM**, St Gelais A, Wikfors G, Dixon M, Fitzgerald D, Langston Noll A. A collaborative approach to investigate hatchery culture methods to produce commercial quantities of sea scallop, *Placopecten magellanicus*, spat for farmers in Maine. Northeast Aquaculture Conference and Exposition, Portland, ME. Oral presentation.

- Apr 2022 Takyi E, Roberts E, Gregg L, Chesler-Poole A, Moss Small J, **White MM**, Hudson R, Giray C, Rowley D, Nelson D, Gomez-Chiarri M. Probiotics for Eastern oyster hatcheries: Commercial formulations and effect on microbial communities. Northeast Aquaculture Conference and Exposition, Portland, ME. Oral presentation.
- Apr 2022 Towne B, Takyi E, Hudson R, **White MM**, Gomez-Chiarri M. Effects of probiotic *Phaeobacter inhibens* S4 treatment on the bacterial communities of larvae raised in UV treated and non-UV treated water. Northeast Aquaculture Conference and Exposition, Portland, ME. Oral presentation.
- Aug 2021 \*Rand E, Fagan A, **White MM**, Tudor S. Does Eastern oyster (*Crassostrea virginica*) seed grow differently in OysterGro vs. Zapco cages and how does stocking density affect growth? SEA Fellows Symposium, Virtual.
- June 2021 Takyi E, Roberts E, Gregg L, Chesler-Poole A, Moss Small J, White M, Giray C, Rowley D, Nelson D, Gomez-Chiarri M. Effects of *Phaeobacter inhibens* S4 probiotic on larval oyster bacterial communities in the hatchery. World Microbe Forum, Virtual.
- Jan 2020 \*Wilhelm C, Price N, **White MM**, \*Houston T, Smith R, Honisch B, Bohlen C. Potential shell hash mitigation of coastal acidification for juvenile oysters reared in upwellers. Ocean Sciences Meeting, San Diego, CA.
- Jan 2020 Agüera García A, Dixon M, Veilleux D, **White MM**, Mook B, Meseck SL. Ocean acidification and the Eastern oyster, *Crassostrea virginica*, should hatcheries be concerned? Milford Aquaculture Seminar, Shelton, CT.
- Aug 2019 \*Christman EI, **White MM**, Smith R, Auger J. Effects of simulated cage-flipping on Eastern oysters and blue mussels in the Damariscotta River estuary. SEA Fellows Symposium, Darling Marine Center, Walpole, ME.
- Aug 2019 \*Houston T, \*Wilhelm C, **White MM**, Smith R, Price N, Harrington A, Hamlin H. The sensitivity of juvenile Eastern oyster calcification and gene expression to variable carbonate chemistry. SEA Fellows Symposium, Darling Marine Center, Walpole, ME.
- Aug 2019 \*Wilhelm C, Price N, **White MM**, \*Houston T, Smith R, Honisch B, Bohlen C. Can shell hash mitigate coastal acidification for juvenile oysters reared in upwellers? Bigelow Laboratory for Ocean Sciences REU Symposium, East Boothbay, ME.
- Feb 2018 \*Utrecht M, **White MM**, Turner EJ, Mook B. Oyster aquaculture in changing conditions: Influence of saturation state on juvenile calcification. Ocean Sciences Meeting, Portland, OR
- Nov 2017 \*Utrecht M, **White MM**, Turner E. Oyster aquaculture in changing conditions: Influence of saturation state on juvenile calcification. Coastal and Estuarine Research Federation Biennial Conference, Providence, RI.
- Jan 2017 Fernández Robledo JA, Gómez Chiarri M, **White MM**, Mook W. Acquiring molecular tools for advancing the oyster genetic system. Northeast Aquaculture Conference and Exposition, Providence, RI.
- Mar 2016 Price NN, Donham E, \*Fachon E, Honisch B, Arnold S, Record N, **White MM**, Doan M, Neckles H. Primary productivity of key New England macrophytes raise seawater pH in experimental and natural settings: Implications for coastal acidification. Benthic Ecology Meeting, Portland, ME.
- Mar 2016 \*Maine JE, LaVigne M, **White MM**, Mook W, Kingston SE. The bivalve breakdown: The effect of calcite saturation state on the elemental composition of juvenile Eastern oyster shells. Benthic Ecology Meeting, Portland, ME.
- Feb 2016 \*Maine JE, **White MM**, Balch WM, Milke LM. Effect of ocean acidification on the food quality of the coccolithophore *Emiliana huxleyi*. Ocean Sciences Meeting, New Orleans, LA.
- Oct 2014 Balch WM, Huntington T, Aiken G, Drapeau D, Bowler B, Lubelczyk L, **White MM**, Butler K. Coastal bio-optical changes in the Gulf of Maine during the Anthropocene. Ocean Optics XXII, Portland, ME.



- Aug 2014 Balch WM, Drapeau D, Bowler B, Lubelczyk L, **White MM**. Status of ocean acidification across the Gulf of Maine as observed from the Gulf of Maine North Atlantic Time Series (GNATS). Invited talk for the Maine Ocean Acidification Commission. Walpole, Maine.
- Feb 2014 \*Abel VC, Balch WM, **White MM**. Light dependency of calcification and impacts of varying the pH levels in the coccolithophorid *Pleurochrysis carterae*. Ocean Sciences Meeting, Honolulu, HI.

## MEDIA COVERAGE

- Ben-Achour, S. Ocean acidification raises economic concerns for shellfish hatcheries. [National Public Radio, Marketplace](#). 5 July 2022.
- Shell, ER. Innovative fish farms aim to feed the planet, save jobs and clean up an industry's dirty reputation. *Scientific American* **326**(5): 44-57. doi:10.1038/scientificamerican0522-44
- White MM. Career profiles – Options and insights. *Oceanography* **34**(2):186-187.
- Harder T. Countering threats to shellfish production. *The Fish Site*. 3 January 2020.
- Poppick L. Swapping academia for aquaculture. *Nature Career Q&A*. 19 November 2019. doi: 10.1038/d41586-019-03571-8.
- Maine Sea Grant. NOAA Sea Grant National Aquaculture Initiative awards \$1.6M to advance sustainable aquaculture in Maine. 19 September 2019.
- Worth P. The question of ocean acidification. *The Fishermen's Voice* **24**(8). August 2019.
- Rooks J. Warming waters: How does climate change affect the Gulf of Maine ecosystem and people? *Maine Calling, Maine Public*. 15 July 2019.
- Bisogno S. Gulf oyster farmers meet to discuss the threat of ocean acidification to their businesses. *The Ocean Conservancy*. 21 February 2019.
- Byers W. Mook Sea Farm builds resilience in changing waters with science and solar power. *Revision Energy Customer Profiles*. 5 December 2018.
- Hannon BPD. Oyster researcher speaks on aquaculture present and future. *The Free Press*. 18 October 2018.
- Healy L. Scientist to share an ecological perspective on aquaculture science at Darling Marine Center. *Wiscasset Newspaper*. 10 October 2018.
- Strout N. Experts pitch oyster aquaculture in Brunswick, but avoid discussion of proposed 40-acre lease. *The Times Record*. 28 September 2018.
- Cordes R. Coalition unveils blueprint for Maine's energy future. *Mainebiz*. 27 September 2018.
- Brogan B. Midcoast oyster farm plans major expansion. *The Bangor Daily News*. 24 September 2018.
- Strout N. Proposal for 40-acre oyster farm in Maquoit Bay draws opposition in Brunswick. *The Portland Press Herald*. 24 September 2018.
- Pols M. Chance meeting at Harpswell tidepool set Meredith White on a career path. *The Portland Press Herald*. 26 August 2018.
- Dequattro R. Oysters: Digging into Maine's very edible coastlines. *Edible Maine*. 01 June 2018.
- Benson J. Workshop focuses on messages about coastal ocean acidification. *Connecticut Sea Grant*. 16 April 2018
- Anderson J. Maine Technology Institute awards over \$1.7 million in grants for marine projects. *The Portland Press Herald*. 14 December 2017.
- Adams A. Oyster lovers lend palates to scientific taste test. *The Lincoln County News*. 10 January 2017.
- Kim A. Ocean acidification panel calls for action to address threat. *The Boothbay Register*. 15 March 2015.
- Moretto M. Lobsterman lawmaker \$3 million Maine bond to fight ocean acidity. *The Bangor Daily News*. 5 February 2015.
- Daniels S. White '06 named to Ocean Acidification Study Commission. *Lafayette Alumni Community*. 11 August 2014.
- Trew Crist D. Bigelow Laboratory scientist appointed to Ocean Acidification Study Commission. *The Boothbay Register*. 07 June 2014.
- Cairn N. Bill calls for Maine panel to study acid in Gulf. *The Portland Press Herald*. 13 January 2014.

McElvery R. Scallops under threat. *Bowdoin Daily Sun*. 18 October 2013.

Halliday E. 2013. Sassy scallops: How will shellfish fare as ocean conditions shift? *Oceanus Magazine* 50(2): 68-69.

## GUEST BLOG POSTS

Aug 2014 Cooley S, **White MM**. What does ocean acidification mean for our coasts? *The Blog Aquatic, Ocean Conservancy*

## WORKSHOPS AND SPECIALIZED COURSES

Aug 2020 **Ocean Acidification & Harmful Algal Blooms: Defining a Research Agenda**, Virtual  
 Mar 2018 **Gulf of Maine Regional HAB Stakeholders Meeting**, Portsmouth, NH  
 Sep 2016 **Joint DFO-NOAA Ocean Acidification Science Meeting**, St. Andrews, New Brunswick  
 Oct 2014 **Teaching at Teaching-Intensive Institutions**, Marlborough, MA  
 Organizer: Dr. Paula Krebs, Bridgewater State University  
 Jan 2011 **Field Course on Tropical Marine Biology and Ecology: Natural Stresses and Environmental Change**, Liquid Jungle Lab, Isla Canales de Tierra, Panama  
 Instructors: Dr. Jesús Pineda and Dr. Ann Tarrant, Department of Biology, WHOI  
 Nov 2009 **Ocean Acidification Short Course**, Woods Hole, MA  
 Co-Sponsors: Ocean Carbon & Biogeochemistry (OCB) Project Office; European Project on Ocean Acidification (EPOCA)  
 Jun-Jul 2008 **Comparative Invertebrate Embryology**, Friday Harbor Laboratories, WA  
 Instructors: Dr. Richard Strathmann, FHL; Dr. Sally Leys, University of Alberta, Edmonton  
 Jan 2008 **Science and Technology Policy Bootcamp, Massachusetts Institute of Technology**, Cambridge, MA Instructor: William Boone Bonvillian, Director, MIT Washington Office  
 Nov 2005 **Maintenance of *Schistosoma mansoni*, Biomedical Research Institute (BRI)**, Rockville, MD Instructor: Dr. Fred Lewis, BRI

## PROFESSIONAL DEVELOPMENT

2012 Center for Microbial Oceanography: Research and Education (C-MORE) Professional Development Training Program: **Outreach** and **Research Exchange** modules

## PROFESSIONAL SERVICE AND OUTREACH

### Professional Service

Feb 2022-pres Advisor, Seafood and Sustainability, Museum of Science, Boston  
 Jan 2018-2020 Member, Microplastics Working Group, East Coast Shellfish Growers Association  
 2020-pres Member, External Advisory Committee, Maine eDNA EPSCoR Grant  
 Oct 2021 External Reviewer, NOAA Ocean Acidification Program External Program Review  
 Sep 2016-21 Steering Committee, Northeast Coastal Acidification Network (NECAN)  
 Jan 18-Dec 19 Steering Committee, Maine Ocean and Coastal Acidification (MOCA) Partnership  
 Sep 16-Oct 19 Chair, Industry Working Group, Northeast Coastal Acidification Network (NECAN)  
 Jan 2019 Session Co-Chair, Ocean acidification session, Northeast Aquaculture Conference and Exposition, Boston, MA  
 2018 Co-Team Leader, Local Response and Action Team, Ocean Acidification Information Exchange  
 Mar 2016-18 Advisory Committee, Maine Ocean and Coastal Acidification (MOCA) Partnership  
 Apr 2014-17 Volunteer, Water Quality Monitoring, Friends of Casco Bay  
 2015-2016 Member, Science Subcommittee Northeastern Coastal Acidification Network (NECAN)

- June 2016 Facilitator, Impacts on commercially important species, Maine Ocean and Coastal Acidification Alliance (MOCA), Implementing the Maine OCA Commission's Recommendations: Current Progress and Future Actions, Portland, ME
- 2014-2015 Education Committee, Bigelow Laboratory for Ocean Sciences
- Jan 2015 Panelist, 'Speak Your Science: How to Engage with Policy Makers,' Public Affairs Committee Workshop, Society for Integrative and Comparative Biology Annual Meeting
- Sep 2014 Planning Committee, Bigelow Laboratory for Ocean Sciences Alternative PhD Career Day
- Jan 2014 Testified before the Maine State Joint Standing Committee on Marine Resources in support of LD 1602 'The Ocean Acidification Bill'

Journal Reviewer: Aquaculture Environment Interactions, Chinese Journal of Oceanology and Limnology, Journal of Marine Systems, Marine Biology, Marine Ecology Progress Series, Proceedings of the Royal Society B: Biological Sciences

#### Community Outreach

- Jan 2020 Guest speaker, 'Oyster aquaculture: How to grow oysters' presentation to third graders at Great Salt Bay School, Damariscotta, ME
- Aug 2019 Guest speaker, 'Oyster aquaculture: How to grow oysters' presentation at Spectrum Generations Lunch and Learn Series, Damariscotta, ME
- Nov 2018 Guest speaker, 'Oyster aquaculture: How to grow oysters' presentation to third graders at Great Salt Bay School, Damariscotta, ME
- May 2015 Caring for Our Earth event, Bristol Congregational Church, Bristol, ME
- July 2014 Storyteller, Story Collider (Stories about Science), 'On the Hook' Brunswick, ME
- May 2014 Coordinator, Children's Science Demonstration Activities for the conclusion of Weather Blur, co-hosted by the Island Institute and Bigelow Laboratory
- Feb 2014 Ocean acidification demonstration module, Maine School of Science and Mathematics, Limestone, ME
- Aug 2013 Coordinator, Children's Room Activities, at: Bigelow Lab for Ocean Sciences Open House
- Aug 2012 Invited poster presentation, Early CO<sub>2</sub> exposure in bay scallops, at: Ocean's Acid Test: Consequences of Rising CO<sub>2</sub> Emissions for Life in Our Ocean, Public Outreach Event, Woods Hole Oceanographic Institution, Woods Hole, MA
- 2009, 2010 Judge, Martha's Vineyard High School Science Fair

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#### **CRUISE EXPERIENCE**

- 2013-2015 Gulf of Maine North Atlantic Time Series (9 cruises, 19 days at sea)
- Jun-Jul 2007 Sea Education Association (SEA) MIT-WHOI Joint Program Cruise (10 days at sea)

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#### **PROFESSIONAL SOCIETY AFFILIATIONS**

- Member: East Coast Shellfish Growers Association (ECSGA); Association for the Sciences of Limnology and Oceanography (ASLO); American Geophysical Union (AGU); The Oceanography Society (TOS); Sigma Xi, Scientific Research Society; The Society for Integrative and Comparative Biology (SICB)

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#### **HONORS AND AWARDS**

- 2006 Phi Lambda Upsilon, National Chemistry Honor Society
- 2006 Phi Beta Kappa, National Academic Honor Society
- 2005 American Chemical Society Undergraduate Award in Analytical Chemistry, Lafayette College
- 2004-05 EXCEL Scholar, Lafayette College
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