

EMILY E. BOCKMON

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Department of Chemistry
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EDUCATION

Ph.D. Chemical Oceanography, Scripps Institution of Oceanography, UC San Diego, 2014
M.S. Earth Science, Scripps Institution of Oceanography, UC San Diego, 2012
B.A. Chemistry, Pomona College, 2008

PROFESSIONAL BACKGROUND

Visiting Assistant Professor of Chemistry, Pomona College, 2014–present

Collaboration with Masha Prokopenko examining the coupling of upwelling with horizontal circulation and the extent of the OMZ in the ETSP.

Graduate Research Assistant, Scripps Institution of Oceanography, UC San Diego, 2012–2014

Advisor: Professor Andrew G. Dickson, Marine Physical Laboratory

Dissertation: *Carbon manipulations and measurements for a changing ocean*

California Sea Grant Graduate Traineeship, Scripps Institution of Oceanography, 2009–2012

Ocean Acidification Exacerbated by Coastal Upwelling

Undergraduate Researcher, Pomona College, Jan 2007–May 2008

Advisor: Professor Charles J. Taylor, Department of Chemistry

Senior Thesis: *Lead Concentration at Lake Hood and Lake Spenard in Anchorage, AK*

PUBLICATIONS

E.E. Bockmon and A.G. Dickson. An inter-laboratory comparison assessing the quality of seawater carbon dioxide measurements. *Marine Chemistry*, 171: 36–43, doi:10.1016/j.marchem.2015.02.002, 2015.

C.A. Pfister, A.J. Esbaugh, C.A. Frieder, H. Baumann, **E.E. Bockmon**, M.M. White, B.R. Carter, H.R. Benway, C.A. Blanchette, E. Carrington, J.B. McClintock, D.C. McCorkle, W.R. McGillis, T.A. Mooney, P. Ziveri. Detecting the Unexpected: A Research Framework for Ocean Acidification. *Environmental Science & Technology*, doi:10.1021/es501936p, 2014.

M.O. Navarro, **E.E. Bockmon**, C.A. Frieder, J.P. Gonzalez, and L.A. Levin. Environmental pH, O₂ and Capsular Effects on the Geochemical Composition of Statoliths of Embryonic Squid *Doryteuthis opalescens*. *Water*, 6: 2233–2254, doi:10.3390/w6082233, 2014.

E.E. Bockmon & A.G. Dickson. A seawater filtration method suitable for total dissolved inorganic carbon and pH analyses. *Limnology and Oceanography: Methods*, 12: 191–195, doi:10.4319/lom.2014.12.191, 2014.

C.A. Frieder, J.P. Gonzalez, **E.E. Bockmon**, M.O. Navarro, and L.A. Levin. Can variable pH and low oxygen moderate ocean acidification outcomes for mussel larvae? *Global Change Biology*, 20: 754–764, doi:10.1111/gcb.12485, 2014.

E.E. Bockmon, C.A. Frieder, M.O. Navarro, L.A. White-Kershek, and A.G. Dickson. Technical Note: Controlled experimental aquarium system for multi-stressor investigation of carbonate chemistry, oxygen saturation, and temperature. *Biogeosciences*, 10, 5967–5975, doi:10.5194/bg-10-5967-2013, 2013.

TEACHING EXPERIENCE

Professor of Chemistry, Pomona College, 2014–present

General Chemistry 1A & 1B Lecture and Laboratory

Advanced Analytical Laboratory, Instructor with Professor Charles Taylor

CIRTL Network Second Tier Preparation Fellow, Fall 2013

The College Classroom, Center for Teaching Development, University of California, San Diego

Teaching Assistant, CHEM 174/SIO 141: Chemical Principles of Marine Systems, Spring 2013

University of California, San Diego

Guest Laboratory Instructor, SIO 269: Marine Chemistry Ocean Acidification Seminar, Winter 2012

Scripps Institution of Oceanography

RESEARCH MENTORING

Student (Major, Class, Institution)

Terms

Pomona College

Morgan McCracken

Undeclared '18, Pomona College

Summer 2015

Sean Wake

Chemistry '17, Pomona College

Summer 2015

Scripps Institution of Oceanography

Erica Fung

Chemical Engineering '14, UC San Diego

Sept 2013–May 2014

Britain Richardson

Psychology '13, UC Santa Barbara

Aug 2012–June 2013

Lauren Kennedy

Biology '13, California Lutheran University

May 2011–Aug 2012

Moira Pryhoda

Chemistry '12, Colorado School of Mines

Summer 2011

Matthew Goldklang

High School '12, San Diego Jewish Academy

June 2010–Jan 2011

Abigail Koss

Chemistry, Earth, Atm & Plan Sci '12, MIT

Summer 2009

PROFESSIONAL SERVICE

Reviewer for Proceedings B of the Royal Society; NSF OCE Fellowship (2014–present)

Women and Minorities in Science Officer, Scripps Institution of Oceanography (2010–2013)

Students at SIO Chair (2010–2011), Vice-Chair (2009–2010)

SIO Graduate Student Representative to University of California, San Diego (2009–2010)

Sigma Xi Selection and Membership (2008–present)

FELLOWSHIPS AND AWARDS

Wig Teaching Innovation Grant, Pomona College (2015)

Outstanding Graduate Student Award Finalist, University of California, San Diego (2014)

Ocean Science Meeting Student Travel Award Recipient (2014)

SIO Department Graduate Student Excellence Award (2013)

California Sea Grant Graduate Traineeship (2009–2012)

Ocean Carbon & Biogeochemistry Travel Award (2011)

T.R. and Edith Folsom Fellowship (2008–2009)

A.W. Mellon Environmental Research Fellowship (2007)

SELECTED CONFERENCE PRESENTATIONS

Bockmon, E.E. & A.G. Dickson. A global inter-laboratory comparison assessing the quality of seawater carbon dioxide measurements. ASLO/AGU Ocean Sciences Meeting, Honolulu, HI, February 23–28, 2014. *Poster Presentation*

Bockmon, E.E. & A.G. Dickson. Sample filtration method for carbonate chemistry analysis of coastal & estuarine seawater. Conference of the Coastal and Estuarine Research Federation (CERF), San Diego, CA, November 3–7, 2013. *Oral Presentation*

Bockmon, E.E. Certified reference materials for oceanic CO₂ analysis: Use and evaluation of the HydroCO₂ flow through p(CO₂) sensor. ADCPs in Action: Teledyne RD Instruments, Coronado, CA, September 29–October 2, 2013. *Oral Presentation*

Bockmon, E.E. Sampling method of coastal and estuarine water for C_T and pH. Oceans '13 IEES/MTS Meeting, San Diego, CA. September 23–26, 2013. *Oral Presentation*

Navarro, M.O., M. Tresguerres, C.A. Frieder, J. Gonzalez, **E.E. Bockmon**, and L.A. Levin. Consequences of chronic environmental exposure to elevated CO₂ and decreased dissolved O₂ on the protein concentration on N⁺/K⁺ and V-H⁺ ATPases and morphology of the market squid, *doryteuthis opalescens*, during embryogenesis. Cephalopod International Advisory Council Conference, Florianópolis, Brazil, October 27–November 2, 2012. *Poster Presentation*

Bockmon, E.E. & A.G. Dickson. An Experimental Aquarium System with Carefully Controlled Carbonate Chemistry, Oxygen Levels, and Temperature, for Multi-Stressor Investigation of the Impacts of Oceanic Climate Change. The Ocean in a High-CO₂ World, Monterey, CA, September 24–27, 2012 and ASLO/AGU Meeting, Salt Lake City, UT, 2012 *Poster Presentation*

Frieder, C.A., M.O. Navarro, J. Gonzalez, **E.E. Bockmon** and L.A. Levin. The dynamic vulnerability of *Mytilus californianus* larvae to low oxygen and high pCO₂. The Ocean in a High-CO₂ World, Monterey, CA, September 24–27, 2012. *Poster Presentation*

Navarro, M.O., C.A. Frieder, **E.E. Bockmon**, J. Gonzalez, and L.A. Levin. Low Level Dissolved Oxygen and pH effects on the early development of market squid, *doryteuthis opalescens*. The Ocean in a High-CO₂ World, Monterey, CA, September 24–27, 2012. *Poster Presentation*

Bockmon, E.E., A.G. Dickson & V.J. Fabry. Effects of Increased pCO₂ on Marine Organisms: Design of an Aquarium System. ClimECO2 Summer School, Brest, France, August 23–27, 2010. *Poster Presentation*

Bockmon, E.E. & Y. Takeshita. Carbon Chemistry on CLIVAR A13.5. University of Ghana Symposium, Accra, Ghana, April 23, 2010. *Oral Presentation*

FIELD EXPERIENCE

R/V *Melville* San Diego Coastal Expedition Student-led research cruises, Dec 8–10, 2012

R/V *Robert Gordon Sproul* Del Mar Mooring Near-shore Multidisciplinary Observations, Recovery May 25, 2012 & Deployment Jun 19, 2012

U.S. Climate Variability & Predictability Research Program (CLIVAR)

R/V *Atlantis* CLIVAR A20, Apr 18–May 18, 2012

R/V *Nathanial B. Palmer* CLIVAR S4P, Feb 11–May 1, 2011

R/V *Ronald H. Brown* CLIVAR A13.5, Mar 6–Apr 20, 2010

Friday Harbor Laboratories, University of Washington, *Experimental Approaches to Understanding Ocean Acidification*, Jun 19–Jul 22, 2011

R/V *Brooks McCall* HYFLUX Remote Sensing and Sea-truth Measurements of Methane Flux to the Atmosphere, July 1–15, 2009

COMMUNITY INVOLVEMENT

Difficult Dialogues Interactive Workshop & Diversity Reading Group, Claremont Colleges (2014)

Scripps Community Outreach Program for Education: Pier & Aquarium Tour Guide (2009–2014)

La Jolla High School Volleyball Coach (2009–2014)

Citizen's Climate Lobby Member, La Jolla Chapter (2010–2014)

Mentoring & Community Development, Arroyo Paseo High School, San Diego, CA (2010–2011)

Women in Science and Technology Conference, Association for Women in Science (May 2013)

National Ocean Sciences Bowl Volunteer (Feb 2013)

Environmental Science and Policy Club Organizer, Scripps Institution of Oceanography (2012)

Center for Marine Biodiversity & Conservation's Summer Course Assistant (2012)

Expanding Your Horizons San Diego Workshop Leader: *Chemistry of Climate Change* (Mar 2012)