

Katlin L. Bowman

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Education

- 2014 Ph.D. Environmental Sciences, Earth & Environmental Science Department, Wright State University, Dayton, OH
- 2010 B.S. Environmental Sciences, Honors Diploma, Earth & Environmental Sciences Department, Wright State University, Dayton, OH

Current positions

- 2019-Present Research Fellow, Ocean Sciences Department University of California Santa Cruz, Santa Cruz, CA
- 2019-Present Research Associate, Chemical Oceanography Department, Moss Landing Marine Laboratories, Moss Landing, CA
- 2018-Present Part-time Instructor, Physical Sciences Department, West Valley College, Saratoga, CA
- 2019-Present Part-time Instructor, Biology & Chemistry Department, California State University Monterey Bay, Seaside, CA
- 2017-Present Adjunct Lecturer, Ocean Sciences Department, University of California Santa Cruz, Santa Cruz, CA

Recent positions

- 2018-2019 Visiting Scientist, Chemical Oceanography Department, Moss Landing Marine Laboratories, Moss Landing, CA
- 2015-2018 Postdoctoral Research Scholar, Ocean Sciences Department, University of California Santa Cruz
- 2019-2020 Content Developer – Biology, Course Hero, Redwood City, CA

Peer-reviewed publications

- Charette, M.A., Kipp, L. E., Dabrowski, J.S., Jensen, L., Fitzimmons, J., et al. 2020. The transpolar drift as a source of riverine and shelf-derived trace elements to the central Arctic Ocean. *Journal of Geophysical Research: Oceans* (accepted).
- Bowman, K.L.**, Lamborg, C.H., Agather, A.M. 2020. A global perspective on mercury cycling in the ocean. *Science of the Total Environment* 710, 136166.
- Bowman, K.L.**, Collins, R.E., Agather, A.M., Lamborg, C.H., Hammerschmidt, C.R., Kaul, D., Dupont, C.L., Christensen, G. A., Elias, D.A. 2019. Distribution of mercury-cycling genes in the Arctic and equatorial Pacific Oceans and their relationship to mercury speciation. *Limnology & Oceanography* 9999, 1–11.

- Agather, A.M., **Bowman, K.L.**, Lamborg, C.H., Hammerschmidt, C.R. Distribution of mercury species in the western Arctic Ocean (U.S. GEOTRACES GN01). 2019. *Marine Chemistry* 216, 103686.
- Schiltzer, R. Anderson, R.F., Masferrer, D.W., et al. 2018. The GEOTRACES Intermediate Product 2017. *Chemical Geology* 493, 210–223.
- Mason, R., Swarr, G., **Bowman, K.**, Lamborg, C., Hammerschmidt, C. 2017. The air-sea exchange of mercury in the low-latitude Pacific and Atlantic Oceans. *Deep Sea Research Part 1*. DOI10.1016/j.dsr.2017.01.015.
- Bowman, K.L.**, Hammerschmidt, C.R., Swarr, G., Lamborg, C.H. 2016. Distribution of mercury species across a zonal section of the Eastern Tropical South Pacific. *Marine Chemistry* 186, 156–166.
- Lamborg, C.H., Hammerschmidt, C.R., **Bowman, K.L.** 2016. An examination of the role of particles in oceanic mercury cycling. *Philosophical Transactions of the Royal Society A* DOI: 10.1098/rsta.2015.0297.
- Swarr, G., Kading, T., Lamborg, C., Hammerschmidt, C., **Bowman, K.** 2016. Dissolved low-molecular weight thiol concentrations from the US GEOTRACES North Atlantic zonal transect. *Deep Sea Research I* 116, 77–87.
- Bowman, K.L.**, Hammerschmidt, C.R., Lamborg, C.H., Swarr, G. 2015. Mercury in the North Atlantic Ocean: The U.S. GEOTRACES zonal and meridional sections. *Deep Sea Research II* 116, 251–261.
- Buck, C., Hammerschmidt, C., **Bowman, K.**, Gill, G., Landing W. 2015. Flux of total and methyl mercury to the northern Gulf of Mexico from U.S. estuaries. *Environmental Science and Technology* 49, 13992–13999.
- Lamborg, C., **Bowman, K.**, Hammerschmidt, C., Gilmour, C., Munson, K., Selin, N., Tseng, C.-M. 2014. Mercury in the anthropocene ocean. *Oceanography* 27, 76–87.
- Lamborg, C.H., Hammerschmidt, C.R., **Bowman, K.L.**, Swarr, G.J., Munson, K.M., Ohnemus, D.C., Lam, P.J., Rijkenberg, M.J.A., Saito, M.A. 2014. A global ocean inventory of anthropogenic mercury based on water column measurements. *Nature* 512, 65–69.
- Nogaro, G., Burgin, A.J., Schoepfer, V.A., Konkler, M.J., **Bowman, K.L.**, Hammerschmidt, C.R. 2013. Aluminum sulfate (alum) application interactions with coupled metal and nutrient cycling in a hypereutrophic lake ecosystem. *Environmental Pollution* 176, 267–274.
- Hammerschmidt, C.R., **Bowman, K.L.** 2012. Vertical methylmercury distribution in the subtropical North Pacific Ocean. *Marine Chemistry* 132, 77–82.
- Bowman, K.L.**, Hammerschmidt, C.R. 2011. Extraction of monomethylmercury from seawater for low-femtomolar detection. *Limnology and Oceanography Methods* 9, 121–128.
- Hammerschmidt, C.R., **Bowman, K.L.**, Tabatchnick, M.D., Lamborg, C.H. 2011. Storage bottle material and cleaning for determination of total mercury in seawater. *Limnology and Oceanography: Methods* 9, 426–431.
- Cloran, C.E., Burton, G.A., Hammerschmidt, C.R., Taulbee, W.K., Custer, K.W., **Bowman, K.L.** 2010. Effects of suspended solids and dissolved organic carbon on nickel toxicity. *Environmental Toxicology and Chemistry* 29, 1781–1787.

Manuscripts in progress

- Bowman, K.L.**, Agather, A.M., Lamborg, C.H. Adsorption and chemical transformations of mercury and methylmercury on microplastics from Lake Erie and San Francisco Bay. *Will be submitted to Environmental Science & Technology*.

Selin, N. Schartup, A., Soerensen, A. **Bowman, K.** What are the likely changes in mercury concentration in the Arctic atmosphere and ocean under future emissions scenarios?
Chapter in preparation for the 2020 Assessment Report of the Arctic Monitoring and Assessment Programme (AMAP)

Grants and scholarships

- 2018–2019 National Geographic Society Changing Planet grant (lead investigator), Mercury chemistry on the surface ocean plastisphere (\$26,005)
- 2019 National Geographic Society Support for Women and Dependent Care grant, for participation in the International Conference on Mercury as a Global Pollutant in Krakow Poland (\$4,900)
- 2018–2019 National Geographic Society Planetary Stewards grant (team leader with lead investigator Jim Bentley), Mapping plastic from suburb to sea (\$5,000)
- 2015–2017 National Science Foundation division of Chemical Oceanography grant (co-author with lead investigator Carl Lamborg), GEOTRACES Arctic Section: Mercury speciation and cycling in the Arctic Ocean (\$234,000)
- 2012-2014 Yellow Springs Instruments Environmental Ph.D. Fellowship
- 2012 Great Lakes STEM Scholarship
- 2011 Professional Development Grant, Wright State Graduate Student Assembly
- 2008-2013 Choose Ohio First STEM Scholarship
- 2009 College of Science and Math Research Grant, Wright State University
- 2009 Honors Program Research Grant, Wright State University
- 2009 Environmental Science and Engineering Scholarship, Ohio Academy of Science
- 2009 Melinda Hennings Environmental Science Scholarship
- 2006-2010 Ohio State Science Fair Full Tuition Scholarship, Wright State University

Teaching experience

West Valley College, Saratoga, CA

- Fall 2018-Spring 2020 OCEA010: Introduction to Oceanography (lecture & lab)
Spring 2019 & 2020 GEOL012: Earth Science (lecture)

California State University Monterey Bay, Seaside, CA

- Fall 2019-Spring 2020 CHEM110L: Chemistry 1 Lab (lab)
Fall 2019 BIO211L: Ecology, Evolution, Biodiversity, and Plants Lab (lab)
Fall 2017 CHEM109: Introductory Chemistry (discussion sections)

University of California Santa Cruz, Santa Cruz, CA

- Summer 2020 OCEA1: The Oceans (lecture)
Fall 2018 OCEA80A: Life in the Sea (lecture & lab)
Fall 2017 OCEA1: The Oceans (lecture)

Oceanographic research expeditions

- R/V *Endeavor* (2008) Mercury biogeochemistry, northwest Atlantic continental shelf
- R/V *Endeavor* (2009) Mercury biogeochemistry, northwest Atlantic continental shelf
- R/V *Oceanus* (2010) Mercury biogeochemistry, northwest Atlantic continental shelf
- R/V *Knorr* (2010) U.S. GEOTRACES North Atlantic zonal transect (Meridional section)
- R/V *Knorr* (2011) U.S. GEOTRACES North Atlantic zonal transect (Zonal section)
- R/V *Thompson* (2013) U.S. GEOTRACES Eastern Pacific zonal transect
- USCGC *Healy* (2015) U.S. GEOTRACES Arctic transect
- R/V *Atlantis* (2016) UNOLS Deep Submergence Chief Scientist Training Cruise
 - Alvin Dive 4830 scientific observer
- R/V *Endeavor* (2016) Transient Oxygen Radicals in the Cycling of Mercury
- R/V *Anthedon II* (2017) International Hg Intercalibration Cruise, Mediterranean Sea
- R/V *Endeavor* (2017) Transient Oxygen Radicals in the Cycling of Mercury

Outreach activities

Media publications

Bowman, K., Saito, E. (2016) *To the top of the world: One scientist's expedition to the North Pole*. Self Published (NSF funded outreach project; <http://www.healycruisebook.com/>)

Bowman, K. (2015). Journey to the North Pole. *Times Publishing Group*.

<http://www.tpgonlinedaily.com/journey-to-the-north-pole/>

Bowman, K. (2018–2019) Mercury and microplastic pollution. Open Explorer Blog

<https://openexplorer.nationalgeographic.com/expedition/mercuryandmicroplastics>

Bowman, K. (2015) Science Blogger for Huffington Post www.huffingtonpost.com/katlin-bowman

Bowman, K. (2011–2016) Hg in the sea: Trace metal chemistry in the global ocean. Wordpress Blog www.hginthesea.wordpress.com

Public presentations

2019 National Geographic Explorer Classroom speaker <https://youtu.be/lgpuGiTIUok>

2019 National Geographic Learning's California Ecoblitz, invited speaker

2019 National College Football Association's Extra Yard for Teachers Summit, invited speaker

2019 National Geographic HQ After Hours Take Over event, invited speaker

2018 National Geographic Explorer's Festival, Exploration in Progress, invited speaker

2018 National Geographic Explorer Classroom speaker <https://youtu.be/hyy119TIDyw>

2017 Oceanography guest-lecture at Cabrillo Community College

2017 Science Sunday speaker at the Seymour Discovery Center (Santa Cruz)

2017 Science on Tap speaker for UCSC WiSE program

2017 Commencement address, Columbiana High School (Ohio)

2016 KSCO Radio Interview, Good Morning Monterey Oceans Segment

2016 Oceanography lesson with 11-12th grade science students in Scotts Valley, CA

2015 Consortium for Ocean Leadership World Ocean day live twitter event

2014 Oceanography lesson with 7th grade science students in Bellbrook, Ohio

Conference presentations

ASLO Ocean Sciences Meeting, Portland, OR 2010
ASLO Aquatic Sciences Meeting, San Juan Puerto Rico, 2011
10th International Conference on Mercury as a Global Pollutant, Halifax, Nova Scotia, 2011
Geological Society of America North-Central Meeting, Dayton, Ohio, 2012
ASLO Ocean Sciences Meeting, Salt Lake City, UT, 2012
ASLO Ocean Sciences Meeting, Honolulu, HI, 2014
ASLO Aquatic Sciences Meeting, New Orleans, LA, 2013
AGU Fall Meeting, San Francisco, CA, 2014
12th International Conference on Mercury as a Global Pollutant, Jeju, South Korea, 2015
Gordon Research Seminar, Chemical Oceanography, Holderness, NH, 2015
Gordon Research Conference, Chemical Oceanography, Holderness, NH 2015
UNOLS Deep Submergence Science Committee New User Meeting, San Francisco, CA, 2015
AGU Fall Meeting, San Francisco, CA, 2015
MARINE Oceans Colloquium, Moss Landing Laboratories, CA, 2016
UCSC Postdoctoral Research Symposium, Santa Cruz, CA, 2016
ASLO Aquatic Sciences Meeting, Honolulu, HI 2017
13th International Conference on Mercury as a Global Pollutant, Providence, RI 2017
Workshop Co-Chair, GEOTRACES Intercalibration exercise for Hg in seawater
Session Co-Chair, Advances in analytical methods for environmental mercury speciation
AGU Fall Meeting, New Orleans, LA, 2017 (**Invited**)
14th International Conference on Mercury as a Global Pollutant, Krakow, Poland, 2019
ASLO Ocean Sciences Meeting, San Diego, CA 2020

Professional and community service

- [Save Our Shores](#) Sanctuary Stewards volunteer (nonprofit)
- Planned and managed 2 semesters of academic seminars at Moss Landing Marine Laboratories
- Reviewer for Science of the Total Environment, Environmental Toxicology and Chemistry, Marine Chemistry, Chemosphere, Analytical Chemistry, Marine Pollution Bulletin, Estuarine, Coastal, and Shelf Science, Frontiers in Marine Science, Environmental Science and Technology, Geochimica et Cosmochimica Acta., Deep Sea Research Part 1, Nature Communications
- Representative for UCSC STEM Postdoc Association 2017

Mentorship

2016 Hansen Tsai, Undergraduate research volunteer at UC Santa Cruz
2015-2018 Alison Agather, PhD candidate at Wright State University
2016 McKayla Howie, [MINT Program](#) for underrepresented women interested in graduate school, UC Santa Cruz
2015 Sandra Evangelista, [MINT Program](#) for underrepresented women interested in graduate school, UC Santa Cruz