

Umihiko Hoshijima

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Education

2013-present **Ph.D. Student** – Ecology, Evolution and Marine Biology
University of California Santa Barbara
2009-2013 **B.S. Biological Sciences** – University of California Santa Cruz
Honors in the Major; Minors in Chemistry, Electronic Music

Grants in Support of Research

2015 **Santa Barbara Coastal LTER Supplemental Equipment Grant**
Physiological responses of kelp forest organisms to low pH and O₂.
(\$7,555)
2015 **California Sea Grant** – *Global Chance Ecophysiology of egg masses and juveniles of the kelp forest fish, Scorpaenichthys marmoratus.* Co-written with PI, G. Hofmann. (\$24,999)
2015 **UCSB Associated Students Coastal Fund** – *Sensor deployments in kelp forests measuring carbon dioxide and oxygen levels to assess the impacts of a changing ocean.* (\$1,414)

Fellowships and Awards

2014-present **National Science Foundation** Graduate Research Fellowship (GRFP)
2014 **Continuing Student Graduate Fellowship.** Department of Ecology, Evolution and Marine Biology, UC Santa Barbara. (\$6,000).
2013-2014 **Graduate Fellowship** Department of Ecology, Evolution and Marine Biology, UC Santa Barbara.
2012 **National Science Foundation** Research Experience for Undergraduates (NSF-REU) recipient. Shannon Point Marine Center, Western Washington University, Washington.

Manuscripts in Preparation and Review

Rivest, E.B., O'Brien, M., Kapsenberg, L., Gotschalk, CC., Blanchette, C.A., **Hoshijima, U.**, and Hofmann, G.E. Beyond the benchtop and the benthos: dataset management planning and design for time series of ocean carbonate chemistry associated with Durafet-based pH sensors. *Ecological Informatics* (In review)

Hughes, BB, Hammerstrom K., Grant N., **Hoshijima U.**, Eby, R., Wasson, K. The role of trophic cascades in dictating a phase shift from macroalgae to seagrass in a macroalgal dominated estuary. *Oecologia* (in review)

Dilly, G.F., Rivest, E.B., L. Kapsenberg, Nguyen, A.T., **Hoshijima U.**, Johnson, K.M., and Hofmann, G.E. Exploring local adaptation to ocean acidification in *Mytilus californianus* during simulated upwelling events in Acidification Respirometry Chambers (ARCs). *Journal of Experimental Biology* (in preparation).

Hofmann, G.E., K.M. Johnson, **Hoshijima, U**, Wong, J.M., and Sugano, C. On thin ice? Pteropods as sentinel organisms and the utility of transcriptomics. *Conservation Physiology* (in preparation)

Hoshijima, U, J. M. Wong, and G.E. Hofmann. *A Potentially Pterrible Pteropod Predicament: metabolic effects of CO₂ and temperature stress on Limacina helicina antarctica*. *Journal of Experimental Biology* (in preparation)

Professional Experience

- 2013-present **Graduate Research.** Department of Ecology, Evolution, and Marine Biology, University of California, Santa Barbara
Advisor: Professor Gretchen Hofmann
- 2013 **Lab and Field Technician.** Department of Ecology and Evolutionary Biology, University of California, Santa Cruz
Advisor: Professor Mark Carr
- 2010-2013 **Lab and Field Technician.** National Marine Fisheries Service, NOAA, Santa Cruz, CA.
Advisor: Dr. Sean Hayes
- 2012 **NSF - REU Internship.** Shannon Point Marine Center, Western Washington University, Washington
- 2007 **Lab Technician.** The Scripps Research Institute, San Diego, CA.

Field Research

- **Research Assistant, Scientific Diver;** NSF/United States Antarctic Program (USAP); McMurdo Station, Antarctica (11 weeks, 2015; 11 weeks, 2014). PI: Professor Gretchen Hofmann.
- Channel Islands Research Cruise for Acidification Studies (CIRCAS), Santa Barbara, CA; **NOAA R/V Shearwater** (2 days, 2015; 5 days, 2014). PI: Professor Gretchen Hofmann.
- NOAA SWFSC Salmon Cruise, California Current; **F/V Frosti** (6 days, 2011). Chief Scientist: Dr. Sean Hayes.

Presentations of Research

Hoshijima, U. and Hofmann, G.E. Metabolic Effects of CO₂ and Temperature Stress on *Limacina helicina antarctica*. Graduate Student Symposium, UC Santa Barbara. February 2, 2016.

Hofmann, G.E., K.M. Johnson, **Hoshijima, U**, Wong, J.M., and Sugano, C. Pteropods, little marine snails, as an indicator of climate change. Sunday Science Lecture Series, McMurdo Station, Antarctica. November 22, 2015.

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Hofmann, G.E., **Hoshijima, U.**, Bachhuber, S. The Value of Long-term Oceanographic Data Sets for Global Change Ecology. Western Society of Naturalists, November 2015.

Hoshijima, U. and van Alstyne, K. NSF-REU final presentation, Shannon Point Marine Center, Anacortes, WA. August 2012.

Teaching

- Teaching Assistant - *Global Change Biology* (EEMB 155). UC Santa Barbara (Summer 2015).
- Lab Teaching Assistant – *The Diversity of Life* (EEMB 3L). UC Santa Barbara (Spring 2014).

Informal Public Education and Outreach

- Career Panelist. *Processes in Aquatics Systems* (EEMB 142B), UC Santa Barbara. February 12, 2016.
- Guest Lecturer. *Exciting Developments in Biology Research* (INT 94ES), UC Santa Barbara. January 29, 2016.
- *Global Change Biology and Antarctic Diving*. Marine Science course, La Jolla High School, CA. January 5, 2016.
- *Antarctic Research and Coldwater Diving*. Paradise Dive Club Lectures Series, Santa Barbara, CA. August 2015.
- Guest Lecturer, *Intro to Oceanography* (Earth 3), UC Santa Barbara. June 6, 2015.
- *Kelp Forests on Acid: Local Climate Change Mitigation in a Changing Ocean*. Grad Slam competition, UC Santa Barbara. April 2015. **Semifinalist**.
- *Global Change Biology: From California to Antarctica*. Marine Science course, La Jolla High School, CA. January 2015.

Academic Service

- *Mentor for undergraduate biology students*. Graduate Biology Mentorship Association (BIOME), UC Santa Barbara. Panelist at 3 events geared towards undergraduate exposure to different career paths. 2014-present.
- *Vice Chair, Cohort representative and Webmaster*. Graduate Student Advisory Committee (GSAC). UC Santa Barbara. 2013-Present, Vice Chair and Webmaster 2015-Present.

Workshops Attended/Instructed

- **Instructor** – *Scientific Programming in R*. UC Santa Barbara, CA. April 17-18, 2015. Designed lesson plans for “Intro to R” and “Data Manipulation with reshape2, dplyr, and pipes”.
- *Autonomous pH Sensors – Best Practices*. Scripps Institute of Oceanography, San Diego, CA. August 4-8, 2014.
- Scientific Programming Python Workshop, UC Santa Barbara, CA. January 30-31, 2014.

In The News

- *Pteropods and B-134*. Shaun O'Boyle (NSF Antarctica Artists and Writers Program). <https://popantarctica.wordpress.com/2015/11/17/pteropods-b-134/>
- *Asians Doing Everything*. <http://asiansdoingeverything.tumblr.com/post/128280622030/name-umihiko-hoshijima-location-santa-barbara-ca>
- *UCSB Hofmann Lab Examines Effects of Ocean Acidification on Sculpin*. <https://thebottomline.as.ucsb.edu/2015/03/ucsb-hoffman-lab-examines-effects-of-ocean-acidification-on-rockfish>
- *Graduate Student Umi Hoshijima Takes on Bitter Cold and Lightning-quick Penguins*. UCSB GradPost. <http://gradpost.ucsb.edu/headlines/2014/12/1/graduate-student-umi-hoshijima-takes-on-bitter-cold-and-ligh.html>

Research Diving

- 160+ dives, 100+ hours logged
- Experience in low visibility, ice diving (McMurdo Station, Antarctica), drysuit diving.
- AAUS: Scientific diving authorization maintained at UC Santa Barbara (100ft) with drysuit authorization.
- NAUI: Advanced Open Water, Rescue Diver, Teaching Assistant, EANx, and Master Diver certifications.
- PADI: Open Water certification.
- First Aid, CPR, DAN O₂ Certifications maintained 2012-present.

Memberships and Affiliations

- Sigma Xi Scientific Research Society
- American Academy of Underwater Sciences
- Santa Barbara Coastal Long-Term Ecological Research (SBC-LTER) Project

References

Professor Gretchen Hofmann

Professor, Ph.D. Advisor
University of California, Santa Barbara
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Dr. Sean Hayes

Research Fisheries Biologist
NOAA Fishers, Santa Cruz, CA
Assistant Adjunct Professor, UC Santa Cruz
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Dr. Kathy van Alstyne

Marine Scientist
Shannon Point Marine Center
Western Washington University, WA
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