

# Brian S. Cheng

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## PROFESSIONAL APPOINTMENTS

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- 2017-pres. Assistant Professor. Dept. of Environmental Conservation, University of Massachusetts Amherst
- 2017 Scientist-in-Residence. Shoals Marine Laboratory, University of New Hampshire and Cornell University
- 2014-2017 Postdoctoral Fellow. Marine Global Earth Observatory, Smithsonian Institution  
Supervisors: Greg Ruiz, Mark Torchin, Andrew Altieri

## EDUCATION

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- 2014 Ph.D. Graduate Group in Ecology, University of California, Davis. Advisor: Ted Grosholz.
- 2008 M.S. Biology, San Diego State University. Advisor: Kevin Hovel
- 2001 B.S. Aquatic Biology, University of California, Santa Barbara.

## PUBLICATIONS

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- Banerjee, S.M., C.D. Allen, T. Schmitt, **B.S. Cheng**, J. A. Seminoff, T. Eguchi, L. M. Komoroske. Baseline health parameters of eastern Pacific green turtles at Southern California foraging grounds. (*In Review*)
- Hollarsmith, J.A., J.S. Sadowski, M.M.M. Picard, **B.S. Cheng**, J. Farlin, A. Russell, E.D. Grosholz. Relative effects of event-driven estuarine acidification (EA) on growth and survival of native and commercial oysters. (*In Revision at Limnology and Oceanography*)
- Cheng, B.S.** and S. J. Brandl. Synthesizing binomial data in ecology and evolution: success or failure? (*In Revision at Ecosphere*)
- Cheng, B.S.**, A.H. Altieri, M.E. Torchin, and G.M. Ruiz. Can marine reserves restore lost ecosystem function? a global synthesis. (*In Revision at Ecology*)
- Cheng, B.S.**, G.M. Ruiz, A.H. Altieri, M.E. Torchin. The biogeography of invasion in tropical and temperate seagrass beds: testing interactive effects of predation and propagule pressure. **Diversity and Distributions** (*In press*)
- Bible, J.M., **B.S. Cheng**, A.L. Chang, M.C. Ferner, K. Wasson, C.J. Zabin, M. Latta, E. Sanford, A. Deck, and E.D. Grosholz. 2017. Timing of stressors alters interactive effects on a coastal foundation species. **Ecology** 98:2468-2478
- Cheng, B.S.**, A.L. Chang, A. Deck, and M.C. Ferner. 2016. Atmospheric rivers and the mass mortality of wild oysters: insight into an extreme future? **Proceedings of the Royal Society B** 283:20161462  
Featured on [NPR](#) | [LATimes](#) | [Science News](#) | [Motherboard VICE](#) | [Marin Independent](#) | [NRDC](#)
- Cheng, B.S.**, L.M. Komoroske, and E.D. Grosholz. 2016. Trophic sensitivity of invasive predator and native prey interactions: integrating environmental context and climate change. **Functional Ecology**  
doi: 10.1111/1365-2435.12759 Featured on [Capital Public Radio NPR](#) | [Discovery News](#) | [Grist](#)
- Cheng, B.S.** and E.D. Grosholz. 2016. Environmental stress mediates trophic cascade strength and resistance to invasion. **Ecosphere** 7(4):e01247.10.1002/ecs2.1247
- Cheng, B.S.**, J.M. Bible, A.L. Chang, M.C. Ferner, K. Wasson, C.J. Zabin, M. Latta, A. Deck, A.E. Todgham, and E.D. Grosholz. 2015. Testing local and global stressor impacts on a coastal foundation species using an ecologically realistic framework. **Global Change Biology** 21:2488-2499.
- Williams, S.L., N. Janetski, S. Blankenhorn, J. Abbott, **B.S. Cheng**, E. Crafton, D. Trockel. 2014. Ornamental marine species culture in the coral triangle: seahorse demonstration project in the Spermonde Islands, Sulawesi, Indonesia. **Environmental Management**. 10.1007/s00267-014-0343-6.

- Komoroske, L.M., R. Connon, J. Lindberg, **B.S. Cheng**, G. Castillo, M. Hasenbein, N. Fangué. 2014. Ontogeny influences sensitivity to climate change stressors in an endangered fish. **Conservation Physiology** 2:cou008-cou008.
- Kimbro, D.L., **B.S. Cheng**, and E.D. Grosholz. 2013. Biotic resistance in marine environments. **Ecology Letters** 16:821-833.
- Woodson, C.B., J.A. Barth, O.M. Cheriton, M.A. McManus, J.P. Ryan, L. Washburn, K.N. Carden, **B.S. Cheng**, J. Fernandes, L.E. Garske, T.C. Gouhier, A.J. Haupt, K.T. Honey, M.F. Hubbard, A. Iles, L. Kara, M.C. Lynch, B. Mahoney, M. Pfaff, M.L. Pinsky, M.J. Robart, J.S. Stewart, S.J. Teck, A. True. 2011. Observations of internal wave packets propagating along-shelf in northern Monterey Bay. **Geophysical Research Letters** 38: L01605.
- Cheng, B.S.** and K.A. Hovel. 2010. Biotic resistance to invasion along an estuarine gradient. **Oecologia** 164:1049-1059.

#### *Reports*

- Wasson, K., C. Zabin, J. Bible, E. Ceballos, A. Chang, **B.S. Cheng**, A. Deck, E.D. Grosholz, M. Latta, M. Ferner. 2014. A Guide to Olympia Oyster Restoration and Conservation.
- Cheng, B.S.** and E. Gaskin (editors). 2011. Climate Impacts to the Nearshore Marine Environment and Coastal Communities: American Samoa and Fagatele Bay National Marine Sanctuary. Marine Sanctuaries Conservation Series ONMS-11-05. U.S. Department of Commerce, NOAA, Office of National Marine Sanctuaries, Silver Spring, MD. 71 pp. (Peer reviewed NOAA Report)
- Largier, J.L., **B.S. Cheng**, and K.D. Higgason (editors). 2010. Climate Change Impacts: Gulf of the Farallones and Cordell Bank National Marine Sanctuaries. Report of a Joint Working Group of the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries Advisory Councils. Marine Sanctuaries Conservation Series ONMS-11-04. U.S. Department of Commerce, NOAA, Office of National Marine Sanctuaries, Silver Spring, MD. 121 pp. (Peer reviewed NOAA Report)

## EXTRAMURAL FUNDING

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### **National Science Foundation – Facilities Improvement Field Stations and Marine Laboratories**

Title: “Developing a Strategic Plan for Coastal Resilience and Sustainable Fisheries at the Gloucester Marine Station”, \$24,986. Lead-PI: **B.S. Cheng**, Co-PIs: A. Bates, A. Jordaan, L. Komoroske.

### **California Coastal Conservancy**

Title: “Community-based Research for Living Shorelines Design” (2017-2018)  
\$152,000. Lead-PI: C. Zabin, Co-PIs: **B.S. Cheng**, A. Chang, G. Ruiz, S. Ferner, M. Ferner, K.Nielsen, J. Takekawa, C. Gutman.

## TEACHING & MENTORING EXPERIENCE

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**Instructor.** University of Massachusetts Amherst. Marine Ecology. Fall 2018

**Instructor.** University of Massachusetts Amherst. Fundamentals of Applied Ecology. Spring 2018

**Fellow.** Student-Centered Teaching & Learning. University of Massachusetts Amherst. 2017-2018.

**Workshop Instructor.** Introduction to R Workshop for Ecologists and Evolutionary Biologists, San Diego State University. 2015.

**Teaching Fellow.** National Science Foundation GK-12. Coastal, Atmospheric, Marine, Environmental Oceanography Science (CAMEOS), University of California, Davis. 2010-2011.

**Supervisor/Mentor. 2 graduate students, 7 undergraduate and post-graduate research technicians.**

## SELECTED PRESENTATIONS

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#### *Invited Seminars*

2017. Department of Biology, University of Massachusetts, Boston, MA.

2017. Department of Environmental Conservation, University of Massachusetts, Amherst, MA.

2016. Department of Biology, East Carolina University, NC.

2016. School of Marine and Atmospheric Sciences, State University of New York, Stony Brook, NY.

2016. Department of Biology, Reed College, OR.

2010. Romberg Tiburon Center, San Francisco State University, CA.

#### *Contributed Talks*

**Cheng, B.S.**, A.L. Chang, A. Deck, M.C. Ferner. Atmospheric rivers and the mass mortality of wild oysters: insight into an extreme future? 2017. Coastal & Estuarine Research Federation, Providence, RI.

**Cheng, B.S.**, A.L. Chang, A. Deck, M.C. Ferner. Atmospheric rivers and the mass mortality of wild oysters: insight into an extreme future? 2016. Western Society of Naturalists, Monterey, CA.

**Cheng, B.S.** and E.D. Grosholz. The enemy of my enemy is my friend: cascading effects of biotic resistance and the creation of predator free space. 2014. Ecological Society of America, Sacramento, CA.  
**(Honorable Mention – ESA Natural History Award)**

**Cheng, B.S.**, J. Bible, A. Chang, M. Ferner, K. Wasson et al. Local environmental stress can outweigh climate change: multiple stressors over ecologically relevant time reveal additive effects. 2014. Ocean Sciences Meeting, Honolulu, HI.

**Cheng, B.S.**, J. Bible, A. Chang, M. Ferner, K. Wasson, et al. Current environmental stress can outweigh climate change stressors. 2013. Western Society of Naturalists, Oxnard, CA.  
**(Honorable Mention – Mia Tegner Conservation Award)**

**Cheng, B.S.**, J. Bible, A. Chang, M. Ferner, K. Wasson, et al. Additive and opposing effects of multiple stressors across realistic time scales. 2013. Coastal & Estuarine Research Federation, San Diego, CA.

**Cheng, B.S.** and E.D. Grosholz. Divergent responses to climate change: differing sensitivities among invasive predators and native prey. 2013. International Conference on Marine Bioinvasions, Vancouver, Canada. **(Best paper)**

**Cheng, B.S.**, J. Bible, A. Todgham, N. Miller, A. Chang, et al. A test of multiple stressors and latent effects on a foundational estuarine species, the Olympia oyster (*Ostrea lurida*). 2013. Society for Integrative & Comparative Biology, San Francisco, CA.

**Cheng, B.S.**, J. Bible, A. Chang, M. Ferner, K. Wasson, et al. Multiple stressors and latent effects on Olympia oysters. 2012. California Estuarine Research Society, Long Beach, CA.  
**(Honorable Mention – Best Paper)**

**Cheng, B.S.** and K.A. Hovel. Biotic resistance by an exploited native species: consequences for predator loss. 2008. Western Society of Naturalists, Vancouver, Canada.  
**(Best paper – Population Biology)**

## PROFESSIONAL SERVICE & ASSOCIATIONS

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**Journal referee:** Global Change Biology, Ecology, Ecological Applications, Global Ecology & Biogeography, Biological Conservation, Limnology & Oceanography, Oikos, Oecologia, Scientific Reports, Marine Biology, Ecosphere, PLoS ONE, Marine Ecology Progress Series, Biological Invasions, Estuaries & Coasts, Journal of Experimental Marine Biology & Ecology, Ecology & Evolution, Hydrobiologia, Marine Ecology, Marine Environmental Research, San Francisco Estuary & Watershed Science.

**Professional Associations:** Ecological Society of America, Coastal & Estuarine Research Federation, Western Society of Naturalists, Society for Integrative and Comparative Biology, National Shellfisheries Association