

# Eric J Armstrong

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## EDUCATION

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- 2012 - Pres **Ph.D. Candidate Integrative Biology**, Univ. of California, Berkeley, CA  
Advisors: Jonathon H. Stillman and Mary Power
- 2010 - 2012 **Graduate Study** in Chemical Oceanography, Univ. of Washington, Seattle, WA
- 2010 **B.S. Biochemistry** w/ High Honors, Michigan State Univ., East Lansing, MI
- 2010 **B.S. Zoology** w/ High Honors, Michigan State Univ., East Lansing, MI

## PUBLICATIONS

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Hill RW, **Armstrong EJ**, Florn AM, Li C, Jones AD, Walquist RW, and Edward A. Abundant betaines in giant clams (Tridacnidae) and western Pacific reef corals, including acclimatization. *Mar. Ecol. Prog. Series* (In Press)  
Impact Factor 2.619

**Armstrong EJ\***, Allen T\*, Beltrand M, Dubousquet V, Stillman JH, and Mills SC. (2017). High pCO<sub>2</sub> and Elevated Temperature Reduce Survival and Alter Development in Early Life Stages of the Tropical Sea Hare *Stylocheilus striatus*. *Marine Biology* 164: 107  
DOI: 10.1007/s00227-017-3133-x  
\*coauthors; Impact Factor 2.375

**Armstrong EJ** and JH Stillman. (2016). Construction and Characterization of Two Novel Transcriptome Assemblies in the Congeneric Porcelain Crabs *Petrolisthes cinctipes* and *P. manimaculis*. *Integrative and Comparative Biology* **56**(6): 1092-1102  
DOI: 10.1093/icb/icw043; Impact Factor 2.149

Gunderson AR, **Armstrong EJ**, and Stillman JH. (2016). Multiple stressors in a changing world: the need for an improved perspective on physiological responses to the dynamic marine environment. *Annual Review of Marine Science* **8**: 357-378  
DOI: 10.1146/annurev-marine-122414-033953; Impact Factor 16.381

Stillman JH and **Armstrong E**. (2015). Genomics Are Transforming Our Understanding of Responses to Climate Change. *BioScience* **65**(3): 237-246  
DOI:10.1093/biosci/biu219; Impact Factor 4.739

## **PRESENTATIONS**

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### **-- Invited Research Seminars and Symposia --**

2016 Society for Integrative and Comparative Biology Annual Meeting

*Invited Symposium Speaker: “Tapping the Power of Crustacean Transcriptomes to Address Grand Challenges in Comparative Biology”*

2015 *Le Centre de Recherches Insulaires et Observatoire de l'Environnement (CRIOBE) Seminar Series*

2014 Berkeley Initiative in Global Change Biology (BiGCB) Seminar Series

### **-- Professional Meetings --**

2017 **Society for Integrative and Comparative Biology Annual Meeting** (Talk)

“Symbiont photosynthesis is strongly supported by host H<sup>+</sup>-ion transport in the giant clam *Tridacna maxima*” **Armstrong E**, Tresquerres M, and Stillman JH.

2015 **Society for Integrative and Comparative Biology Annual Meeting** (Poster)

“Exposure to lowered pH and acute thermal stress increases mortality in embryonic porcelain crabs.” **Armstrong E**, Page TM, Miller N, Papineau EN, Calosi P, and Stillman JH.

2014 **Meeting of the American Physiological Society** (Poster)

“Exposure to lowered pH and acute thermal stress increases mortality in embryonic porcelain crabs.” **E. Armstrong**, Tessa M. Page, N. Miller, E. N. Papineau, P. Calosi, and J. H. Stillman

2013 **Society for Integrative Comparative Biology Annual Meeting** (Poster)

“The Effects of Increased Temperature and Decreased pH on the Shell Mineralogy of the Scaled Giant Clam (*Tridacna squamosa*).” **E. Armstrong**, S.-A. Watson, P. Calosi, P. Munday, and J. Stillman.

**United Kingdom Ocean Acidification Conference** (Poster)

“The Effects of Increased Temperature and Decreased pH on the Shell Mineralogy of the Scaled Giant Clam (*Tridacna squamosa*).” S.-A. Watson, **E. Armstrong**, P. Calosi, P. Munday, and J. Stillman.

2012 **The Oceanography Society Ocean Sciences Conference** (Poster)

“The Influence of Phytoplankton Community Structure on Net Community Production and Air-Sea CO<sub>2</sub> Flux in the Subtropical and Subarctic North Pacific.” **E. Armstrong**, H.I. Palevsky, F. Ribalet, D. Lockwood, P.D. Quay, E.V. Armbrust.

- 2009 **NOAA Ernest F Hollings Student Summit** (Oral Presentation)  
"CyanoHAB Cell Detection: the use of Fiber-Optic Genosensors in Predicting Toxicity".  
**E. Armstrong**, M. Richlen, D. Anderson.
- 2006 **Sigma Xi Student Research Conference** (Poster)  
"Adapting Avida as an Evolution Education Tool: Development of Model Lesson Plans."  
J.J. Smith, R.T. Pennock, J. Clune, **E. Armstrong**, M. Braverman, C. Brady.

## **TEACHING**

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- 2017 **San Francisco State University – Guest Lecturer**
- Animal Physiology Laboratory  
Upper Level Undergraduate Course (2 lectures, 10 students)
- University of California, Berkeley – Teaching Assistant**
- Mammalian Physiology Laboratory  
Upper Level Undergraduate Laboratory Course (10 weeks, 44 students)
- 2016 **University of California, Berkeley – Teaching Assistant**
- Biology and Geomorphology of Tropical Islands  
Upper Level Undergraduate Field Course (10 weeks, 22 students)
- University of California, Berkeley – Teaching Assistant**
- Invertebrate Zoology Laboratory  
Upper Level Undergraduate Laboratory Course (10 weeks, 28 students)
- 2015 **University of California, Berkeley – Teaching Assistant**
- Biology and Geomorphology of Tropical Islands  
Upper Level Undergraduate Field Course (10 weeks, 15 students)
- 2014 **San Francisco State University – Guest Lecturer**
- Animal Physiology  
Upper Level Undergraduate Course (2 lectures, 65 students)
- Melrose Leadership Academy – Guest Lecturer**
- Aquatic Ecology Science Demonstration  
Fourth Grade Science Class (2 lectures, 44 students)
- 2012 **University of Washington, Seattle – Teaching Assistant**
- Biological Oceanography  
Upper Level Undergraduate Course (10 lectures, 36 students)

## **PROFESSIONAL SERVICES**

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- 2012      **Invited Reviewer: *Botanica Marina (Bot Mar)***
- 2010      **Editor: *Red Cedar Undergraduate Research (ReCUR) Journal***

## **RESEARCH**

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- 2015 – Pres    **Multistressor Effects on Development in Embryonic Sea Hares**  
Investigation of the effects of increased temperature and exposure to acidification on development and morphology in tropical sea hares.
- 2015 – Pres    **Presence and Functional Role of V-Type H<sup>+</sup>-ATPases in Giant Clams**  
Investigation of the the presence, location, and functional role of vacuolar proton ATPases in the small giant clam *Tridacna maxima*.
- 2012 – Pres    **Physiological Responses of Giant Clams to Multiple Environmental Stressors**  
Physiological and transcriptomic analysis of the effect of ocean warming and acidification on tropical giant clams (genus: *Tridacna*).
- 2012 – Pres    **Transcriptomic Response of Porcelain Crabs to Multiple Stressors**  
Transcriptomic and Bioinformatic analysis of the response of porcelain crabs (genus: *Petrolisthes*) to increased *p*CO<sub>2</sub> and temperature. Understanding the physiological mechanisms underpinning organismal responses to multiple stressors.
- 2013 – Pres    **Multistressor Effects on Development in Embryonic Porcelain Crabs**  
Investigation of the effects of acute heat shock and exposure to acidification on development and cardiac physiology in embryonic porcelain crabs.
- 2012 – 2014    **Effects of Increased Temperature and Acidification on Carapace Mineralogy**  
Investigation of the effects of climate drivers on porcelain crab carapace ionic composition.
- 2013            **Effects of Increased Temperature and Acidification on Shell Mineralogy**  
Investigation of the effects of climate drivers on tridacnid clam shell ionic composition.
- 2010 – 2012    **Seasonal Dynamics of Biological Carbon Drawdown in the North Pacific**  
Proposal funded by NOAA to assess seasonal changes in phytoplankton community composition and *p*CO<sub>2</sub> drawdown in the N. Pacific.
- 2008 – 2010    **Undergrad Project: Targeted Metabolomics in Corals/*Tridacnid* Clams**

Independent study on the metabolic products of Scleractinian corals and *Tridacnid* clams; elucidation and quantification quaternary ammonium compounds

- 2009 **Research Internship: Woods Hole Oceanographic Institute**  
WHOI CyanoHAB project; Development of Fiber-Optic Micro-Array for detection and enumeration of harmful algal blooms; Created a novel rRNA probe specific for cyanobacterial genera of interest.
- 2009 **Field Work: Gulf of Maine CyanoHAB Monitoring Project**  
Niskin Sampling and Plankton tows as part of a Gulf of Maine monitoring study of near-shore *Alexandrium spp.* blooms.
- 2007 **Field Work in Marine Biology – Investigation of Salinity Tolerances**  
Implemented studies of copepod distribution in coastal waters and salinity tolerances of *B. muscus* jellyfish and *Coquena* clams.
- 2005 – 2006 **Undergrad Project: Aveda-Ed Digital Life Evolution Program**

#### **SELECTED HONORS AND AWARDS**

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- 2017 Society for Integrative Biology Best Student Oral Presentation, Honorable Mention
- 2016 Teaching Effectiveness Award (Awarded to 14 GSI nominees across UCB campus)  
Outstanding Graduate Student Instructor Award (Awarded to top 9% of UCB GSIs)
- 2015 Society for Experimental Biology Company of Biologists Travel Grant (\$300)  
Sigma Xi Grant-In-Aid of Research (\$500)
- 2013 UC Berkeley Graduate Resource Allocation Committee Award (\$300)
- 2012 Sigma Xi Grant-In-Aid of Research (\$500)  
National Defense Science and Engineering Graduate Fellow (~\$143,000)  
NSF Graduate Research Fellowship, Honorable Mention
- 2012 UW Excellence in Teaching Award, Honorable Mention
- 2011 Vetlesen Foundation Graduate Fellowship (\$20,000)
- 2008 Ernest F. Hollings Undergraduate Scholarship (\$22,500)