

Pauline Chia-Wen Yu, PhD

Regular Member of the Faculty

<http://evergreen.edu/faculty/instructor/yup>

Google Scholar metrics:

<http://scholar.google.com/citations?user=MpgVUWMAAAJ&hl=en>

The Evergreen State College

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Olympia, WA 98505

**Education:** 2009: University of Southern California  
*PhD Biological Sciences*  
1996: University of California, Berkeley  
*BS Bioresources Sciences, Magna Cum Laude*

**Professional experience:**

2014-current: Regular Member of the Faculty, The Evergreen State College, Olympia, WA  
2013-2014: Assistant Project Scientist, Marine Science Institute, University of California, Santa Barbara, CA  
2013: Lecturer, University of California, Santa Barbara, CA  
2012-2013: Senior Postdoctoral Employee, Marine Science Institute, University of California, Santa Barbara, CA  
2010-2012: National Science Foundation Office of Polar Programs Post-doctoral Fellow, Marine Science Institute, University of California, Santa Barbara, CA  
2009-2010: Postdoctoral Employee, Marine Science Institute, University of California, Santa Barbara, CA  
2001-2009: Graduate Student, Division of Marine Environmental Biology, University of Southern California, Los Angeles, CA  
1997-2001: Microscopist Technician GS-07, Cereal Products Utilization Research, US Department of Agriculture, Albany, CA

**Awards:**

2011: Ocean Carbon and Biogeochemistry Ocean Acidification Principal Investigators Workshop: Early career travel award  
2010-2012: National Science Foundation Office of Polar Programs Post-doctoral Fellow  
2008: Final Summer Dissertation Completion Fellowship  
Best Student Presentation Runner-up, Society for Integrative and Comparative Biology, Division of Invertebrate Zoology  
Marine Environmental Biology Graduate Student Travel Fellowship  
2005-2007: Rose Hills Summer Student Internship  
2004: Outstanding Student Poster, The Oceanography Society  
2003: Biological Sciences Departmental Teaching Assistant Award for Undergraduate Biochemistry

2001-2002: Oakley Graduate Student Fellowship in Biological Sciences

**Peer-reviewed Publications:**

- Sewell, M. A., R. B. Millar, P.C. Yu, L. Kapsenberg and G.E. Hofmann. 2014. Ocean acidification and fertilization in the Antarctic sea urchin *Sterechinus neumayeri*: the importance of polyspermy. *Environmental Science & Technology*. 48 (1): 713–722. DOI: 10.1021/es402815s
- Yu, P. C., M. A. Sewell, P. G. Matson, E. B. Rivest, L. Kapsenberg and G. E. Hofmann. 2013. Growth attenuation with developmental schedule progression in embryos and early larvae of *Sterechinus neumayeri* raised under high CO<sub>2</sub>. *PLoS ONE* : 8(1): e52448. DOI: 10.1371/journal.pone.0052448
- Matson, P. G., P. C. Yu, M. A. Sewell, and G. E. Hofmann. 2012. Development under elevated pCO<sub>2</sub> conditions does not affect lipid utilization and protein content in early life history stages of the purple sea urchin, *Strongylocentrotus purpuratus*. *Biological Bulletin* 223(3): 312-327.
- Hofmann, G. E., J. E. Smith, K. S. Johnson, U. Send, L. A. Levin, F. Micheli, A. Paytan, N. N. Price, B. Peterson, Y. Takeshita, P. G. Matson, E. D. Crook, K. J. Kroeker, M. C. Gambi, E. B. Rivest, C. A. Frieder, P. C. Yu and T. R. Martz. 2011. High-frequency dynamics of ocean pH: a multi-ecosystem comparison. *PLoS ONE*. 6(12): e28983. DOI: 10.1371/journal.pone.0028983
- Yu, P. C., Matson, P. G., Martz, T. R. and G. E. Hofmann. 2011. The ocean acidification seascape and its relationship to the performance of calcifying marine invertebrates: Laboratory experiments on the development of urchin larvae framed by environmentally-relevant pCO<sub>2</sub>/pH. *J. Exp. Mar. Biol. Ecol.* 400: 288-295. DOI: 10.1016/j.jembe.2011.02.016

**Funded research:**

2010-2013: NSF-Office of Polar Programs ANT-1019340 “Effects of ocean acidification on developmental physiology of the Antarctic sea urchin, *Sterechinus neumayeri*”

**Books:**

Flusty, S. E., with P. C. Yu. *Mahometan & Celestial's Encyclopaedic Guide to Modernity: Comprising a Manual of Useful Instruction Essential to Attainment of the Urbane by the Savage, the Barbarous, and the Half-Civilized Alike*. Terreform, Inc: New York, NY. Forthcoming.

**Relevant Posters and Presentations:**

- Yu, P. C., L. Kapsenberg, G. E. Hofmann. 2013. Ocean acidification and thermal stress in a polar ectotherm—physiological responses of the larvae of *Sterechinus neumayeri* to a potential future ocean. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Yu, P. C. and G. E. Hofmann. 2012. Ocean acidification and physiological state in polar waters: assessing the integrative developmental physiology of *Sterechinus neumayeri* under elevated CO<sub>2</sub>. 10th International Larval Biology Symposium, Berkeley, CA.
- Yu, P. C., M. A. Sewell, and G. E. Hofmann. 2012. How low can they go? Tolerance of near-future low carbonate saturation (high CO<sub>2</sub>) levels by larvae of *Sterechinus neumayeri*. Scientific Committee on Antarctic Research Open Science Meeting, Portland, OR.
- Hofmann, G. E., T. R. Martz, P. G. Matson, and P. C. Yu. 2012. Contextualizing CO<sub>2</sub> exposure experiments on sea urchin larvae with natural variability in seawater chemistry: studies from two coastal regions. Abstract #11974. Ocean Sciences Meeting, Salt Lake City, UT.

- Sewell, M. A., P. C. Yu, L. Kapsenberg, and G. E. Hofmann. 2011. Ocean Acidification and Sea Urchin Fertilization: A Cautionary Tale with the Antarctic Sea Urchin *Sterechinus neumayeri*. 6th North American Echinoderms Conference. Anacortes, WA.
- Yu, P. C., P.G. Matson and G. E. Hofmann. 2010. Ocean acidification effects on larvae of purple urchin: moderated sensitivity in an upwelling zone. 9th International Larval Biology Symposium, Wellington, New Zealand.
- Yu, P. C. and G. E. Hofmann. 2010. Oyster development and ocean change: A University of California research consortium addressing the future of oyster resources on the Pacific coast. Aquaculture 2010 Triennial Meeting, San Diego, CA.
- Yu, P. C., and D. T. Manahan. 2008. Extended starvation resistance and successful growth recovery in echinoderm larvae: influences on dispersal potential. Society for Integrative and Comparative Biology Annual Meeting, San Antonio, TX.
- Yu, P. C., and D. T. Manahan. 2006. Maternal provisioning and genetic determination of metabolic-based starvation resistance. 7<sup>th</sup> International Larval Biology Meeting, Coos Bay, OR.
- Yu, P. C., and D. T. Manahan. 2006. Genetic Variation in Survival and Post-Starvation Growth Recovery of Bivalve Larvae (*Crassostrea gigas*). National Shellfisheries Association Meeting, Monterey, CA.
- Yu, P. C., A. L. Moran and D. T. Manahan. 2004. Genetic Variation in Survival and Growth Recovery Following Prolonged Starvation of Invertebrate Larvae. American Society of Limnology and Oceanography Ocean Sciences Meeting, Honolulu, HI.

#### Teaching experience:

- 2015-2016: Knowing the World Through Thought, Sound and Vision (Fall Quarter only), Marine Life, The Evergreen State College, WA
- 2015: Guest lecture for Ocean Acidification class (graduate level), UW-Friday Harbor laboratory  
 Guest lecture for Polar Regions, The Evergreen State College, WA  
 Lecture for Anthropocene curriculum, The Evergreen State College, WA
- 2014-2015: Introduction to Natural Science, Marine Biodiversity, The Evergreen State College, WA
- 2014: Guest lecture for Ecophysiology class, UCSB
- 2013: Guest lecture for Introduction to Marine Life class, The Evergreen State College, WA  
 UCSB Lecturer - MCDB IA Introductory Biology, INT 91 Introduction to Marine Science  
 Guest lecture for Physiology laboratory class, UCSB  
 Guest lecture for upper division Global Change Biology class, CSU-East Bay, CA
- 2011: Guest lecture for Ecophysiology class, UCSB
- 2002-2005: Teaching Assistant for undergraduate courses in Biochemistry, Cell Physiology, Molecular Biology, Genetics, Microbiology, and Biotechnology, University of Southern California

#### Mentoring experience:

The Evergreen State College Undergraduate Curriculum:

Independent Learning Contract Sponsor:

2015: Emily Donkin-Jones

Internship Faculty Sponsor:

2015: Joshua Phillips, Taylor Asao, Amy Stromsdorfer, Anne Belson

Prior mentoring at other institutions:

Direct supervision: Andrew Nosal (REU), Brianna Jones (McNair), Olivia Turnross (McNair), Tullio Rossi (international visitor)

Indirect supervision: *Post-docs*: Jay Lunden, Amanda Kelley, Alice Nguyen, Geoffrey Dilly, Morgan Kelly, Jackie Padilla-Gamino

*Graduate students*: Lydia Kapsenberg, Paul Matson, Emily Rivest, LaTisha Hammond, Sangeeta Bardhan-Cook, Victoria Bertics, Christina Dodge, Andrew Fogel, David Burnett

*Undergraduates*: Fiona Leung, Josh Hancock, Cailan Sugano, Silke Bachhuber

**Invited talks:**

2013: The Evergreen State College, WA

2012: Consortium for the study of Ocean Change Workshop, UCSB

Santa Barbara City College, Santa Barbara, CA

University of Hong Kong, Hong Kong, SAR-PRC

University of California, Santa Barbara, CA

Aquarium of the Pacific, Long Beach, CA

2011: Ocean Acidification Training Workshop UCSB

Monterey Bay Aquarium Research Institute, Moss Landing, CA

2009: University of Maryland, College Park

2008: University of Puerto Rico, Rio Piedras

**Relevant Training:**

2015: Teaching Writing in an Interdisciplinary Setting Summer Institute, The Evergreen State College, WA

2014: The Pacific Northwest National Academies Summer Institute, Riverside, CA

2013: Mass Spectroscopy and Proteomics Workshop, St. Paul, MN.

2009: Ocean Carbon and Biogeochemistry (OCB) Ocean Acidification Short Course, Woods Hole, MA.

**Other Publications:**

Pearson, T. C., R. H. Edwards, A. P. Mossman, D. F. Wood, P. C. Yu, and E. L. Miller. 2002. Insect Egg Counting by Image Analysis and Laser Cutting of Egg-laden Mass Rearing Oviposition Pads. *Applied Engineering in Agriculture*. 18(1): 129-135.

Cornish, K., J. L. Brichta, P. Yu, D. F. Wood, M. W. McGlothlin, and J. A. Martin. 2001. Guayule latex provides a solution for the critical demands of the non-allergenic medical products market. *Agro-Food-Industry Hi-tech*. 12: 27-31.

Jeffries, J., P. Yu and J. Casida. 1997. Structural Modifications Increase the Insecticidal Activity of Ryanodine. *Pesticide Science*. 37(19): 6905-6910.

**Cover photography:** *The Biological Bulletin*, August 2009

**Other Recognition:** Associate Member, Faculty of I000 Biology

**Reviewing activities:**

Journal of Molluscan Studies  
Global Change Biology  
PLoS ONE  
NSF-Office of Polar Programs

French National Research Agency (ANR)  
Proceedings of the Royal Society B  
Marine Ecology Progress Series  
Journal of Experimental Marine Biology and Ecology

**Governance Activity:**

2015: Marine Science Summer Institute (participant)  
United Faculty of Evergreen Steward  
Mentor Council  
2014-2016: Member: Environmental Studies Planning Unit

**Public lectures and popular media:**

Interview in zine *Waj Lemac*

"The Paradox of Race: It's not biological yet it lives in our bodies" co-presenter with Carolyn Prouty, Day of Absence, The Evergreen State College, April 2015

"What are Greeners Doing About Ocean Acidification? Sea Life Faces Impacts from Changing Ocean Chemistry", *Cooper Point Journal*, Winter 2015

"Tastings" lecture sponsored by Santa Barbara Maritime Museum, October 16, 2013

"Oceans of change", *Convergence* magazine, Fall 2012

"Science Pub" lecture sponsored by Santa Barbara Natural History Museum, June 25, 2012

Video soundbite on Saturday Evening News, CBC-Vancouver, February 18, 2012

National Science Foundation Exhibit Booth (Ocean Change Science module) presenter at the AAAS National Meeting, Vancouver B.C., February 16-20, 2012

Interview for Down to Earth magazine, published September 30, 2011

Online Science Q&A from Antarctica with New Zealand schoolchildren sponsored by US Embassy in New Zealand, December 2, 2010 (archived)

<http://www.ustream.tv/recorded/11213493>

Laboratory tour for the US Ambassador to New Zealand and American Samoa, His Extraordinary and Plenipotentiary Mr. David Huebner, December 2, 2010

<http://blogs.newzealand.usembassy.gov/ambassador/2010/12/tales-of-two-stations/>

Video Interview in the "Armed with Science—Dispatches from Antarctica" blog sponsored by the U.S. Department of Defense, October 11, 2010

Research activities highlighted in "Big Seas, Big Trouble? Scientists Rush to Understand the Perils of Ocean Acidification," Santa Barbara Independent, April 22, 2010.

**PhD Dissertation:**

Physiology and biochemistry of food-limitation in marine invertebrate larvae

**Graduate Advisor:** Donal T. Manahan, University of Southern California

**Postdoctoral Advisor:** Gretchen E. Hofmann, University of California, Santa Barbara