

## Juliet Wong

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### EDUCATION

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- 2014 – 2019 University of California Santa Barbara, Santa Barbara, CA  
**Ph.D.** Ecology, Evolution and Marine Biology (EEMB)  
Advisor: Professor Gretchen Hofmann  
Thesis: *“Investigating the Response of Sea Urchin Early Developmental Stages to Multiple Stressors Related to Climate Change”*
- 2008 – 2012 University of Miami, Coral Gables, FL  
**B.S.** Marine and Atmospheric Science, *magna cum laude*, GPA 3.90  
Majors in Marine Science, Biology, and Geology; Minor in Chemistry

### PROFESSIONAL EXPERIENCE

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- 2021 – present **NSF Postdoctoral Research Fellow in Biology**  
Environmental Epigenetics Lab, Lead PI: Professor Jose Eirin-Lopez  
Department of Biological Sciences  
Florida International University, Biscayne Bay Campus, North Miami, FL, USA
- 2019 – 2021 **Distinguished Postdoctoral Scholar, College of Arts, Sciences and Education (CASE)**  
Environmental Epigenetics Lab, Lead PI: Professor Jose Eirin-Lopez  
Department of Biological Sciences  
Florida International University, Biscayne Bay Campus, North Miami, FL, USA
- 2012 – 2014 **Research Technician & Laboratory Manager**  
Lead PI: Professor Heather Bracken-Grissom  
Department of Biological Sciences  
Florida International University, Biscayne Bay Campus, North Miami, FL, USA
- 2012 **Laboratory Volunteer**  
Lead PI: Professor Peter Glynn  
Rosenstiel School of Marine and Atmospheric Science  
University of Miami, Virginia Key, FL Keys, USA
- 2011 **NOAA Ernest F. Hollings Intern**  
Mentor: Dr. Shallin Busch  
National Oceanic and Atmospheric Administration, National Marine Fisheries Service,  
Northwest Fisheries Science Center, Seattle, WA, USA

### HONORS & FELLOWSHIPS

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- 2021 – present National Science Foundation (NSF) Postdoctoral Research Fellowship in Biology (PRFB), USA (FY2020), Broadening Participation of Groups Under-represented in Biology
- 2019 – 2021 Distinguished Postdoctoral Scholars Program, College of Arts, Sciences and Education, Florida International University, USA
- 2015 – 2019 National Science Foundation (NSF) Graduate Research Fellowship (GRFP), USA
- 2014 – 2019 UC Regent’s Special Fellowship, UC Santa Barbara, USA
- 2018 Cawthron International Travel Fellowship, Cawthron Institute, NZ
- 2018 Charles A. Storke Graduate Fellowship, UC Santa Barbara, USA (\$2500)
- 2018 Ellen Schamberg Burley Graduate Scholarship, UC Santa Barbara, to attend the Ocean Global Change Biology Gordon Research Seminar (GRS) and Gordon Research Conference (GRC), Waterville Valley, NH, USA (\$500)
- 2018 EEMB Departmental Grant Award, UC Santa Barbara, USA (\$815)

2017	UCSB Academic Senate Doctoral Student Travel Grant to the XIth International Larval Biology Symposium, Honolulu, HI, USA (\$900)
2016	EEMB Departmental Graduate Fellowship, UC Santa Barbara, USA (\$6000)
2016	Friday Harbor Laboratories Travel Award, University of Washington, USA (\$1645)
2012	Outstanding Marine Science Major Award, Rosenstiel School of Marine and Atmospheric Science, University of Miami, USA
2010 – 2012	NOAA Ernest F. Hollings Undergraduate Scholar, National Oceanic and Atmospheric Administration, USA
2008 – 2012	Isaac Bashevis Singer Scholar, University of Miami, USA (full tuition scholarship)
2008 – 2012	General Honors and Foote Fellow Honors Program, University of Miami, USA

## PUBLICATIONS

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### **Published, peer-reviewed articles**

- Juliet M. Wong** and Jose M. Eirin-Lopez (2021) Evolution of methyltransferase like (METTL) proteins in Metazoa: A complex gene family involved in epitranscriptomic regulation and other epigenetic processes. *Molecular Biology and Evolution* msab267. <https://doi.org/10.1093/molbev/msab267>.
- Mark C. Bitter, **Juliet M. Wong**, Hans G. Dam, Sarah C. Donelan, Carly D. Kenkel, Lisa M. Komoroske, Kerry J. Nickols, Emily B. Rivest, Santiago Salinas, Scott C. Burgess, and Kathleen E. Lotterhos (2021) Fluctuating selection and global change: a synthesis and review on disentangling the roles of climate amplitude, predictability, and novelty. *Proceedings of the Royal Society B* 228: 20210727. <https://doi.org/10.1098/rspb.2021.0727>.
- Juliet M. Wong** and Gretchen E. Hofmann (2021) Gene expression patterns of red sea urchins (*Mesocentrotus franciscanus*) exposed to different combinations of temperature and  $p\text{CO}_2$  during early development. *BMC Genomics* 22(32). <https://doi.org/10.1186/s12864-020-07327-x>.
- Marie E. Strader, Logan C. Kozal, Terence S. Leach, **Juliet M. Wong**, Jannine D. Chamorro, Madeline J. Housh, and Gretchen E. Hofmann (2020) Examining the role of DNA methylation in transcriptomic plasticity of early stage sea urchins: Developmental and maternal effects in a kelp forest herbivore. *Frontiers in Marine Science* 6(205). <https://doi.org/10.3389/fmars.2020.00205>.
- Juliet M. Wong** and Gretchen E. Hofmann (2020) The effects of temperature and  $p\text{CO}_2$  on the size, thermal tolerance and metabolic rate of the red sea urchin (*Mesocentrotus franciscanus*) during early development. *Marine Biology* 167(33). <https://doi.org/10.1007/s00227-019-3633-y>.
- Marie E. Strader, **Juliet M. Wong**, and Gretchen E. Hofmann (2020) Ocean acidification promotes broad transcriptomic responses in marine metazoans: a literature survey. *Frontiers in Zoology* 17(3). <https://doi.org/10.1186/s12983-020-0350-9>.
- Juliet M. Wong**, Juan D. Gaitán-Espitia, and Gretchen E. Hofmann (2019) Transcriptional profiles of early stage red sea urchins (*Mesocentrotus franciscanus*) reveal differential regulation of gene expression across development. *Marine Genomics* 48: 100692. <https://doi.org/10.1016/j.margen.2019.05.007>.
- Juliet M. Wong**, Logan C. Kozal, Terence S. Leach, Umihiko Hoshijima, and Gretchen E. Hofmann (2019) Transgenerational effects in an ecological context: Conditioning of adult sea urchins to upwelling conditions alters maternal provisioning and progeny phenotype. *Journal of Experimental Marine Biology and Ecology* 517: 65-77. <https://doi.org/10.1016/j.jembe.2019.04.006>.
- Marie E. Strader, **Juliet M. Wong**, Logan C. Kozal, Terence S. Leach, and Gretchen E. Hofmann (2019) Parental environments alter DNA methylation in offspring of the purple sea urchin, *Strongylocentrotus purpuratus*. *Journal of Experimental Marine Biology and Ecology* 517: 54-64. <https://doi.org/10.1016/j.jembe.2019.03.002>.
- Kevin M. Johnson, **Juliet M. Wong**, Umihiko Hoshijima, Cailan S. Sugano, and Gretchen E. Hofmann (2019). Seasonal transcriptomes of the Antarctic pteropod, *Limacina helicina antarctica*. *Marine Environmental Research* 143: 49-59. <https://doi.org/10.1016/j.marenvres.2018.10.006>.

**Juliet M. Wong**, Kevin M. Johnson, Morgan W. Kelly, and Gretchen E. Hofmann (2018). Transcriptomics reveal transgenerational effects in purple sea urchin embryos: Adult acclimation to upwelling conditions alters the response of their progeny to differential  $p\text{CO}_2$  levels. *Molecular Ecology* 27(5): 1120-1137. <https://doi.org/10.1111/mec.14503>.

Umihiko Hoshijima, **Juliet M. Wong**, and Gretchen E. Hofmann (2017). Additive effects of  $p\text{CO}_2$  and temperature on respiration rates of the Antarctic pteropod, *Limacina helicina antarctica*. *Conservation Physiology* 5(1): cox064. <https://doi.org/10.1093/conphys/cox064>.

**Juliet M. Wong**, Jorge L. Pérez-Moreno, Tin-Yam Chan, Tamara M. Frank, and Heather D. Bracken-Grissom (2015). Phylogenetic and transcriptomic analyses reveal the evolution of bioluminescence and light detection in marine deep-sea shrimps of the family Oplophoridae (Crustacea: Decapoda). *Molecular Phylogenetics and Evolution* 83: 278-292. <https://doi.org/10.1016/j.ympev.2014.11.013>.

## PRESENTATIONS

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- 2022 **JM Wong**. Spiny solutions: How sea urchins may face their changing environment. Northwest Fisheries Science Center (NWFS) Monster Seminar Jam Series, National Oceanic and Atmospheric Administration (NOAA), Invited seminar speaker, January 20.
- 2020 ME Strader, LC Kozal, TS Leach, **JM Wong**, JD Chamorro, MJ Housh, and GE Hofmann. Examining the role of DNA methylation in transcriptomic plasticity of early stage sea urchins. Ocean Sciences Meeting. San Diego, CA, USA. Poster, February 16 – 21.
- 2018 **JM Wong**, LC Kozal, TS Leach, U Hoshijima, and GE Hofmann. Transgenerational effects in an ecological context: Conditioning of adult sea urchins to upwelling conditions alters the progeny's response to differential  $p\text{CO}_2$  levels. Ocean Global Change Biology Gordon Research Conference (GRC). Waterville Valley, NH, USA. Poster, July 14 – 20.
- 2018 ME Strader, **JM Wong**, LC Kozal, and GE Hofmann. DNA methylation as a potential driver of transgenerational plasticity in the purple sea urchin (*Strongylocentrotus purpuratus*). Ocean Global Change Biology Gordon Research Conference (GRC). Waterville Valley, NH, USA. Poster, July 15 – 20.
- 2017 **JM Wong**, KM Johnson, MW Kelly, and GE Hofmann. Transcriptomics reveal transgenerational effects in purple sea urchins, *Strongylocentrotus purpuratus*, exposed to differential  $p\text{CO}_2$  conditions. XIth International Larval Biology Symposium. Honolulu, HI, USA. Oral presentation, August 10 – 13.
- 2016 **JM Wong**, KM Johnson, MW Kelly, and GE Hofmann. Who's your mommy? Transcriptomics reveal transgenerational effects in purple sea urchins exposed to upwelling conditions. Western Society of Naturalists Annual Meeting. Monterey, CA, USA. Oral presentation, November 10 – 13.
- 2016 GE Hofmann, KM Johnson, U Hoshijima and **JM Wong**. Antarctic pteropods (*Limacina helicina antarctica*) as a sentinel organism for the impact of ocean acidification. 4<sup>th</sup> International Symposium on the Ocean in a High-CO<sub>2</sub> World. Tasmania, Australia. Oral presentation, May 3 – 6.
- 2016 GE Hofmann, KM Johnson, U Hoshijima, **JM Wong**, and CS Sugano. Pteropods, little marine snails, as an indicator of climate change. Public science lecture, NSF/United States Antarctic Program (USAP). McMurdo Station, Antarctica, November 22.
- 2014 **JM Wong**, B Thoma, DL Felder, KA Crandall, and HD Bracken-Grissom. Gene expression and stress response of the flatback mud crab *Eurypanopeus depressus* exposed to crude oil from the Deepwater Horizon oil spill. Gulf of Mexico Oil Spill & Ecosystem Science Conference. Mobile, AL, USA. Poster, January 26 – 29.
- 2013 **JM Wong** and HD Bracken-Grissom. Transcriptomics reveal genes involved in bioluminescence and vision in marine deep-sea shrimp (Oplophoridae). The Crustacean Society Summer Meeting. San José, Costa Rica. Poster, July 7 – 11.

2011 **JM Wong** and S Busch. The impacts of ocean acidification on the development of Puget Sound marine mollusks. NOAA Office of Education, Science and Education Symposium. Silver Spring, MD, USA. Oral presentation, August 2 – 4.

## RESEARCH GRANTS

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2022 – present Assessing the impacts of water quality and climate change on the long-spined sea urchin *Diadema antillarum* to inform coral reef management and restoration in Puerto Rico. Puerto Rico Sea Grant (\$120,000). PIs JM Wong, JM Eirin-Lopez, AE Mercado-Molina

2022 – present Understanding the epigenetics and the eDNA surrounding seagrasses in Biscayne Bay. Herbert W. Hoover Foundation (\$23,000). PIs JM Wong, KL Chiquillo, JM Eirin-Lopez, PR Gardinali

## TEACHING

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2020, 2022 Guest lecturer, Epigenetics, Spring Semester, Florida International University, USA

2020 – 2021 Guest lecturer, Introduction to Research in Earth & Environmental Sciences, Fall Semester, Florida International University, USA

2021 Guest Lecturer, Invertebrate Zoology, Fall Semester, Florida International University, USA

2019 Teaching assistant, Introductory Biology Laboratory 3, Spring Quarter, University of California Santa Barbara, USA

2018 Teaching assistant, Introductory Biology Laboratory 3, Spring Quarter, University of California Santa Barbara, USA

2016 Guest lecturer, Exciting Developments in Biology Research, University of California Santa Barbara, USA

2014 Teaching aid and guest lecturer, Genetics, Spring Semester, Florida International University, USA

2013 Teaching aid and guest lecturer, Invertebrate Zoology, Fall Semester, Florida International University, USA

2013 Teaching aid and guest lecturer, Genetics, Spring Semester, Florida International University, USA

## SERVICE AND PROFESSIONAL DEVELOPMENT

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2021 – present Conference organizing committee member, Epigenetics in Marine and Aquatic Biology Conference, EPIMAR 2022

2019 – present Lead organizer and mentor, Grant and Fellowship Writing Group, Office of Training and Fellowships at the University Graduate School, Florida International University

2018 – present Journal reviewer (19 total), *BMC Genomics* (1), *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics* (1), *Chemosphere* (1), *Global Change Biology* (2), *Journal of Aquatic Sciences and Oceanography* (1), *Marine Biology* (1), *MDPI Biology* (2), *Molecular Biology and Evolution* (1), *Molecular Ecology* (5), *Molecular Ecology Resources* (2), *Science Advances* (1), *Scientific Reports* (1)

2022 Review committee member, In Memoriam: The Umihiko Hoshijima Graduate Research Award, University of California Santa Barbara

2020 – 2021 Judge, Graduate Student Biosymposium, Florida International University

2020 Grant reviewer, National Science Foundation

## MENTORSHIP

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2022 – present Ibis Tarini López Jiménez, Ph.D. student, Florida International University

2021	Jesse Margolies, NSF REU student, Arizona State University, Florida International University REU Site program
2016 – 2019	Maddie Housh, Undergraduate researcher (2016 – 2017) and research technician (2017 – 2019), University of California Santa Barbara
2017 – 2018	Lily Michaels, Science fair project, La Colina Junior High
2013 – 2014	Shaina Lear, Research technician, Florida International University
2013	Adriana Suarez, Undergraduate researcher, Florida International University
2013	Ahmed Alnahhas, Undergraduate researcher, Florida International University
2013	Carmen Ekert, Undergraduate researcher, Florida International University

## **OUTREACH**

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2022	World Ocean Day, Phillip and Patricia Frost Museum of Science, Miami, FL, USA
2021	STINAPA Bonaire Junior Rangers educational youth group, Bonaire, Caribbean Netherlands
2016 – 2019	World Oceans Day Festival, Santa Barbara Museum of Natural History Sea Center, Santa Barbara, CA, USA
2014 – 2019	Family Ultimate Science Exploration (FUSE) junior high school science education program, Center for Science and Engineering Partnerships, UC Santa Barbara, Santa Barbara, CA, USA
2017	On Thin Ice: Exploring global change biology in the Antarctic with art and science, Spring Seminar Series, Sierra Nevada Aquatic Research Laboratory (SNARL), Mammoth Lakes, CA, USA
2010, 2011	Ocean Kids elementary school education program, University of Miami, Coral Gables, FL, USA

## **PROFESSIONAL AFFILIATIONS**

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2020 – present	National Postdoctoral Association
2019 – present	FIU Center for Aquatic Chemistry and the Environment, NSF Center of Research Excellence in Science and Technology (CREST)
2019 – present	The Research Coordinated Network for Evolution in Changing Seas (RCN-ECS)
2014 – 2019	Santa Barbara Coastal Long Term Ecological Research (SBC LTER) Network