

Juliet Marie Wong

Duke University Marine Lab
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EDUCATION

- 2014 – 2019 University of California Santa Barbara, Santa Barbara, CA
Ph.D. Ecology, Evolution and Marine Biology (EEMB)
Advisor: Professor Gretchen Hofmann
- 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

- 2023 – present **Assistant Professor of Coastal and Marine Climate Change**
Marine Science and Conservation Division
Nicholas School of the Environment
Duke University Marine Lab, Beaufort, NC, USA
- 2021 – 2023 **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
- 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

- 2021 – 2023 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

RESEARCH GRANTS

- 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 – 2023 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

PUBLICATIONS

Published, peer-reviewed articles

- Leo N. Zamora, Jenn A. Jury, Logan C. Kozal, Mary A. Sewell, Norman L.C. Ragg, Terence S. Leach, **Juliet M. Wong**, and Alfonso J. Schmidt (2023) Quantification of lipid droplets in hatchery reared veliger larvae of the green-lipped mussel, *Perna canaliculus*. *Aquaculture*, Volume 577, 739903, <https://doi.org/10.1016/j.aquaculture.2023.739903>.
- 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

- 2023 **JM Wong**, KL Chiquillo, JM Eirin-Lopez. Forensic testing in Biscayne Bay waterways: Using eDNA to monitor vertebrate biodiversity. Benthic Ecology Meeting. Miami, FL, USA. Oral presentation, April 26 – 29.
- 2022 **JM Wong**, KL Chiquillo, AE Mercado Molina, AM Sabat, and JM Eirin-Lopez. Spines Out: The mystery of an extensive die-off of long-spined sea urchins in Puerto Rico. Epigenetics in Marine and Aquatic Biology Conference (EPIMAR). Woods Hole, MA, USA. Poster, October 11 – 14.
- 2022 KL Chiquillo, **JM Wong**, AM Sabat, J Sanchez, JA Rodriguez-Casariago, AE Mercado Molina, and JM Eirin-Lopez. Attack of the clones: Understanding the invasion potential of the seagrass (*Halophila stipulacea*) in Culebra, Puerto Rico. Epigenetics in Marine and Aquatic Biology Conference (EPIMAR). Woods Hole, MA, USA. Poster, October 11 – 14.
- 2022 **JM Wong**. Spiny solutions: How sea urchins may face their changing environment. Northwest Fisheries Science Center (NWFSC) 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. 4th International Symposium on the Ocean in a High-CO₂ 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.

TEACHING

- 2023 Guest lecturer, Animal Biodiversity, Spring Semester, Swarthmore College, USA
- 2023 Guest lecturer, Field Studies in Marine Ecological Physiology, Winter Quarter, University of California Santa Barbara, USA
- 2020 – 2022 Guest lecturer, Introduction to Research in Earth & Environmental Sciences, Fall Semester, Florida International University, USA
- 2020, 2022 Guest lecturer, Epigenetics, Spring 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

- 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)
- 2019 – 2023 Lead organizer and mentor, Grant and Fellowship Writing Group, Office of Training and Fellowships at the University Graduate School, Florida International University

- 2022 Review committee member, In Memoriam: The Umihiko Hoshijima Graduate Research Award, University of California Santa Barbara
- 2021 – 2022 Conference organizing committee member, Epigenetics in Marine and Aquatic Biology Conference, EPIMAR 2022
- 2020 – 2021 Judge, Graduate Student Biosymposium , Florida International University
- 2020 Grant reviewer, National Science Foundation

MENTORSHIP

- 2022 – present Ibis Tarini López Jiménez, Ph.D. student, Florida International University
- 2019 – present Serena Hackerott, Ph.D. student, Florida International University
- 2021 Jesse Margolies, NSF REU student, Arizona State University, Florida International University REU Site program
- 2016 – 2019 Terence Leach, Ph.D. student, University of California Santa Barbara
- 2016 – 2019 Logan Kozal, Ph.D. student, University of California Santa Barbara
- 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

- 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

- 2023 – present Society for Women in Marine Science
- 2023 – present Society for the Advancement of Chicanos and Native Americans in Science
- 2019 – present The Research Coordinated Network for Evolution in Changing Seas (RCN-ECS)
- 2020 – 2023 National Postdoctoral Association
- 2019 – 2023 FIU Center for Aquatic Chemistry and the Environment, NSF Center of Research Excellence in Science and Technology (CREST)
- 2014 – 2019 Santa Barbara Coastal Long Term Ecological Research (SBC LTER) Network