

Kevin Marquez Johnson PhD

California Sea Grant Aquaculture Extension Specialist

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EDUCATION

Ph.D. Ecology, Evolution, and Marine Biology

University of California, Santa Barbara

Advisor: Professor Gretchen E. Hofmann

B.S. Biology, Distinction in major

California State University, Monterey Bay

PREVIOUS POSITIONS IN RESEARCH

- 2019-2020 **Research Associate V,**
Louisiana State University, Baton Rouge
- 2017-2019 **NSF Postdoctoral Fellow,**
Louisiana, State University, Baton Rouge
- 2013-2016 **NSF Graduate Research Fellow,**
University of California, Santa Barbara
- 2010-2012 **Undergraduate Researcher**
California State University, Monterey Bay

FELLOWSHIPS and AWARDS

- 2017-19 **National Science Foundation, Postdoctoral Fellowship in Biology**
Title: "A large-scale, experimental test of local adaption in the eastern oyster along a natural salinity gradient in the Gulf of Mexico"
Sponsoring Scientist: Dr. Morgan Kelly (\$138,000)
- 2017 **Office of National Marine Sanctuaries Diversity and inclusion Climate Change Action Team training development**
These funds were used to develop outreach material for local middle and high school educators. (\$4,500)
- 2016- 17 **UCSB Graduate Division NSF Extension Fellowship** (\$34,000)
- 2013-2016 **National Science Foundation, Graduate Research Fellowship** (\$102,000)
- 2012 **CSU Louis Stokes Alliance for Minority Participation Research Fellowship** (\$1,500)
- 2011 **Barbara Baldock and Philip Butler UROC Research Scholarship** (\$2,000)

PUBLICATIONS

- 2020 **Johnson, K.M.,** Sirovy, K. A., Casas, S. M., La Peyre, J. F., & Kelly, M. W. Characterizing the epigenetic and transcriptomic responses to *Perkinsus marinus* infection in the eastern oyster *Crassostrea virginica*. *Frontiers in Marine Science*, 7, 598, 2020.
<https://doi.org/10.3389/FMARS.2020.00598>.
- 2020 **Johnson, K.M.** and Hofmann, G.E. Combined stress of ocean acidification and warming influence survival and drives differential gene expression patterns in the Antarctic pteropod, *Limacina helicina antarctica*. *Conservation Physiology*, Volume 8, Issue 1, 2020.
<https://doi.org/10.1093/conphys/coaa013>.
- 2020 **Johnson, K.M.** and Kelly, M.W. Population specific epigenetic variation in the eastern oyster *Crassostrea virginica* along a salinity gradient in Coastal Louisiana. *Evolutionary Applications* 2020; 00: 1– 15. doi:10.1111/eva.12912.

- 2020 Bogan, S.N., **Johnson, K.M.**, and Hofmann, G.E. Changes in Genome-wide Methylation and Gene Expression in Response to Future pCO₂ Extremes in the Antarctic Pteropod *Limacina helicina antarctica*. *Front. Mar. Sci.* 6:788. doi: 10.3389/fmars.2019.00788.
- 2019 Jones, H.R., **Johnson, K.M.**, and Kelly, M.W. Synergistic effects of temperature and salinity on the gene expression and physiology of *Crassostrea virginica*. *Integrative and Comparative Biology*, 10.1093/icb/icz035.
- 2019 **Johnson, K.M.**, Wong, J.M., Hoshijima, U., Sugano, C.S., and Hofmann, G.E. Seasonal transcriptomes of the Antarctic pteropod, *Limacina helicina antarctica*. *Marine Environmental Research*, 143, 49-59, doi:10.1016/j.marenvres.2018.10.006.
- 2018 Wong, J.M., **Johnson, K.M.**, Kelly, M.W., and Hofmann, G.E. Transcriptomics reveal transgenerational effects in purple sea urchins exposed to upwelling conditions, and the response of their progeny to differential pCO₂ levels. *Molecular Ecology*, doi:10.1111/mec.14503.
- 2017 **Johnson, K.M.**, and Hofmann, G.E. Transcriptomic response of the Antarctic pteropod *Limacina helicina antarctica* to ocean acidification. *BMC Genomics*, 18, 812, doi:10.1186/s12864-017-4161-0.
- 2016 **Johnson, K.M.**, Hoshijima, U., Sugano, C.S., Nguyen, A.T., and Hofmann, G.E. Shell dissolution observed in *Limacina helicina antarctica* from the Ross Sea, Antarctica: paired shell characteristics and in situ seawater chemistry. *Biogeosciences Discussions*, doi:10.5194/bg-2016-467.
- 2016 **Johnson, K.M.** and Hofmann, G.E. A transcriptome resource for the Antarctic pteropod *Limacina helicina antarctica*. *Marine Genomics*, 28:25-28, doi:10.1016/j.margen.2016.04.002.

MANUSCRIPTS IN REVIEW

- In review* **Johnson, K.M.**, Jones, H.R., Casas, S.M., La Peyre, J.F., and Kelly, M.W. Transcriptomic signatures of temperature adaptation in the Eastern oyster *Crassostrea virginica*. *Journal of Evolutionary Biology*.
- In review* Modak, T.H., Literman, R., Puritz, J.B., **Johnson, K.M.**, Roberts, E.M., Proestou, D., Ximing, G., Gomez-Chiarri, M., Schwartz, R.S. Exceptional genome-wide copy number variation in the eastern oyster (*Crassostrea virginica*). *Philosophical Transactions B*.

MANUSCRIPTS IN PREPERATION

- In prep* **Johnson, K.M.**, Sirovy, K.A., and Kelly, M.W. Genotype by environment interactions shape DNA methylation patterns in the Eastern oyster *Crassostrea virginica*.
- In prep* Sirovy, K.A., **Johnson, K.M.**, and Kelly, M.W. Heritability of DNA methylation and transcriptomic expression in the Eastern oyster *Crassostrea virginica*.
- In prep* Griffiths, J.S., **Johnson, K.M.**, and Kelly, M.W. Evolutionary change in the oyster, *Crassostrea virginica*, following an experimental low salinity event.

AWARDS & HONORS

- 2017 **UCSB 2017 Winifred and Louis Lancaster Dissertation Award**
2017 UCSB dissertation award for significant impact \$1,000
- 2016 **Ellen Schamberg Burley Graduate Scholarship**

- 2016 UCSB Graduate student scholarship \$500
Carl Storm Underrepresented Minority Fellowship
Gordon Research Conference travel fellowship \$600
- 2011-2012 **Service-Learning Award, Biology** California State University, Monterey Bay
Award for exceptional commitment to service in the local community \$500
- 2011 **AAAS Emerging Researchers National Conference in STEM**
Travel Award \$1,200
- 2011 **California State University Louis Stokes Alliance for Minority Participation Scholar Award**
\$500
- 2010 & 2011 **California State University Monterey Bay Beta Beta Beta Research Scholarship** \$1000
- 2010 & 2011 **California State University Council on Ocean Affairs, Science and Technology Student Award for Marine Science Research** \$1,500

TEACHING EXPERIENCE & TRAINING

- 2020 **Guest Lecture, MSCI 439 (Fishery Science and Management)**
Title: Using Genomics to Enhance Aquaculture. Cal Poly San Luis Obispo, Spring 2020
- 2019 **Certification in Designing and Teaching Accessible Courses**
Course focused on implementing universal design for learning and background of the laws and standards of accessibility in higher education. Louisiana State University, Spring 2019.
- 2019 **Guest Lecture, Introduction to Evolution.**
Title: *Epigenetics and human health*. Louisiana State University, April 2019
- 2018 **Guest Lecture, Introduction to Evolution.**
Title: *Epigenetics and human health*. Louisiana State University, November 2018
- 2016 **Guest Lecture, Exciting Developments in Biology Research**
Title: *Pteropods, little marine snails, as indicators of Global Change*. April 2016
- 2013 & 2014 **Teaching Assistant**, University of California, Santa Barbara
Introductory Biology 3, introduction to microbes, plants, and animals
- 2012 **Undergraduate Co-instructor Research 301**, California State University, Monterey Bay
Instructor on Record: Prof. William Head. Course materials were developed and executed by KMJ and another senior undergraduate student under the supervision of Dr. Head
- 2009-2012 **Tutor**, Cuesta Community College and California State University, Monterey Bay. Tutored Introductory Chemistry, Physics for Biologists, and Introductory Genetics.

INVITED SEMINARS

- 2019 **Johnson, KM.** *Genomic signatures of local adaptation to low-salinity in the eastern oyster, Crassostrea virginica*. 2019 School of Natural Sciences Seminar Series, California State University, Monterey Bay. Invited Seminar, April 15th, 2019.
- 2017 **Johnson, KM.** *From Harmful Algae to Oysters and many things in between*. Society for the Advancement of Chicanos/Hispanics and Native Americans in Science Conference. Invited seminar in the professional development series: "Career Pathways/Making an impact in ocean science: Academia to agencies industries to non-profits. October 20th, 2017.
- 2017 **Johnson, KM.** *The Effects of Ocean Acidification on the Calcifying Pteropod Limacina helicina Antarctica*. 2017 LSU Systematics, Ecology and Evolution (SEE) Seminar. Invited Seminar, October 2nd, 2017.

- 2017 **Johnson, KM** and GE Hofmann. *Pteropods as indicators of global change: from research to education*. NOAA Ocean Acidification Program, Sharing Ocean Acidification Resources For Communicators And Educators (SOARCE) webinar. <https://tinyurl.com/ya3h9h4>
- 2016 **Johnson, KM** and GE Hofmann. *De Novo Transcriptome of the Antarctic Pteropod Limacina helicina antarctica*. Ocean Global Change Biology, Gordon Research Conference, Invited Flash Talk.
- 2015 **Johnson, KM**, U Hoshijima, JM Wong, CS Sugano, and GE Hofmann. *Pteropods, little marine snails, as indicators of global change*. Public Lecture, Sunday Night Science Lecture at McMurdo Station, Antarctica.

PROFESSIONAL PRESENTATIONS (first author only)

- 2020 **Johnson, KM**, Sirovy, KA and MW Kelly. *Variation in DNA methylation and gene expression between and within families of the eastern oyster Crassostrea virginica*. 2020 Society for Integrative and Comparative Biology Annual Meeting. Oral presentation.
- 2019 **Johnson, KM**, Casas, SM, La Peyre, JF and MW Kelly. *Epigenetic Signatures of Perkinsus marinus Infection in the Eastern Oyster Crassostrea virginica*. 2019 Society for Integrative and Comparative Biology Annual Meeting. Oral presentation.
- 2018 **Johnson, KM** and MW Kelly. *Assessing DNA methylation patterns of the Eastern Oyster (Crassostrea virginica) collected across coastal Louisiana*. Benthic Ecology Meeting. Oral presentation.
- 2017 **Johnson, KM**. *Transcriptomic responses of Antarctic pteropods to ocean acidification*. Society for the Advancement of Chicanos/Hispanics and Native Americans in Science Conference. Oral presentation.
- 2016 **Johnson, KM** and GE Hofmann. *De novo transcriptome of the Antarctic pteropod Limacina helicina antarctica*. Ocean Global Change Biology, Gordon Research Conference, poster.
- 2014 **Johnson, KM** and GE Hofmann. *Epigenetic approaches to investigate local adaptation in marine invertebrates*. Ocean Sciences Meeting, Honolulu, Hawaii, poster.
- 2013 **Johnson, KM** and GE Hofmann. *Investigating the role of epigenetics in local adaptation and phenotypic plasticity*. 2013 Western Society for Naturalists Annual Meeting, poster.
- 2013 **Johnson, KM** and GE Hofmann. *In search of marine local adaptation- A transcriptomic approach*. 9th Annual UCSB EEMB Graduate Student Symposium, oral presentation.
- 2012 **Johnson, KM**, E Stanfield, A Sreenivasan, M Los Huertos. *A Tale of Two Lakes, The Abundance and Diversity of Microcystin Producing Cyanobacteria in Two Central California Coastal lakes*. The 2012 Beta Beta Beta Biological Honor Society's Pacific District Convention at California State University, Monterey Bay.
- 2011 **Johnson, KM**, E Stanfield, A Sreenivasan, M Los Huertos. *A comparison of cyanobacterial abundance and potential toxicity in two California coastal lakes*. The 25th annual California State University Student Research Competition at California State University, Fresno.
- 2011 **Johnson, KM**, E Stanfield, A Sreenivasan, M Los Huertos. *A comparison of cyanobacterial abundance and potential toxicity in two California coastal lakes*. AAAS Emerging Researchers National Conference in STEM.

BROADER IMPACTS AND OUTREACH

- 2020 **Reviewed** undergraduate and graduate student presentation and travel applications for the 2020 SACNAS conference.

- 2019 **Invited panelist:** California State University Monterey Bay, at the Undergraduate Research Opportunities Center 10th Anniversary panel. Panel was aimed at current McNair scholars and topics covered graduate school life, finding a mentor, and fellowship applications.
- 2019 **Mentored** undergraduate students through 1-on-1 mentoring sessions at the 2019 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) conference.
- 2019 **Reviewed** undergraduate and graduate student presentation and travel applications for the 2019 SACNAS conference.
- 2019 **Professional Development Session with REU students.** Led a professional development session for REU students at UCSB. July 25, 2019.
- 2019 **Judged presentations** for *LSU Discovery Day 2019*. An annual Louisiana State University undergraduate research symposium. Baton Rouge, LA. April 9th, 2019
- 2019 **Invited panelist:** panelist at LSU to talk with TriBeta undergraduates about graduate school, funding, and how to find a mentor.
- 2019 **Public outreach:** Taught kindergarten students about biology using strawberry DNA extractions with 4 kindergartener classes at LSU.
- 2018 **Public outreach:** *The 22th annual Louisiana Sea Grant Ocean Commotion at Louisiana State University*. Engaged with local middle school student (grades 1st-8th) about why they should be interested in marine invertebrates. October 25th, 2018.
- 2018 **Judged presentations** for *LSU Discovery Day 2018*. An annual Louisiana State University undergraduate research symposium. Baton Rouge, LA. April 10th, 2018
- 2018 **Judged oral and poster presentations** for the 47th Annual Benthic Ecology Meeting, Corpus Christi, TX. March 27-30, 2018
- 2018 **Judged presentations** for *Biograds* a graduate student led symposium at Louisiana State University for graduate student research. Baton Rouge, LA. March 20th, 2018.
- 2017 **Invited Panelist** at SACNAS 2017 professional development session *Career Pathways/Making an Impact in Ocean Science: Academia to Agencies, Industry to Non-Profits*. Session organizer Dr. Corey Garza
- 2017 **Public outreach:** *The 20th annual Louisiana Sea Grant Ocean Commotion at Louisiana State University*. Engaged with local middle school student (grades 1st-8th) talking about marine invertebrates from oysters to copepods. October 24th, 2017.
- 2017 **Public outreach:** World Ocean Day *Antarctica on thin ice*. Outreach event in collaboration with the Santa Barbara Natural History Museum Sea Center. This event reached 1,870 adults and 1,071 children (2,941 in attendance total).
- 2017 **Public webinar:** *Pteropods as indicators of global change: from research to education*. This webinar was part of the NOAA Ocean Acidification Program (OAP) Sharing Ocean Acidification Resources for Communicators and Educators (SOARCE) webinar series. 144 registered from 23 US States and 6 countries. <https://tinyurl.com/ya3h9h4>
- 2017 **Teacher training outreach** with the ONMS Diversity and inclusion Climate Change Action Team grant for outreach to students underrepresented in STEM careers in the Santa Barbara Unified School District and Energy Efficiency to Mitigate Climate Change and Ocean Acidification (EECCOA) program. February 2nd, 2017.
- 2017 **Invited Panelist** for the undergraduate GRFP workshop at the 2017 Annual California State University Program for Education and Research in Biotechnology Conference. Helped

Dr. Kevin Marquez Johnson, CV

brainstorm and presented at the workshop. Organizers: Dr. Sally Pasion and Dr. Koni Stone.

- 2016 **Educational outreach** with the Quasars to Sea Stars high school science education and mentorship program. Completed a day cruise onboard the NOAA ship R/V Shearwater with students and teachers. Also mentored students through developing an animated outreach video (<https://www.youtube.com/watch?v=XNdfJT4Pq8o>).
- 2012 **Student Volunteer** with Recruitment in Science Education (RISE) CSU Monterey Bay, advisor: Laura Lee Lienk
- 2012 **Co-organizer** for the 2012 Beta Beta Beta Biological Honor Society's Pacific District Convention at California State University, Monterey Bay. April 7, 2012.
- 2011-2012 **Founding member**, Beta Beta Beta National Biological Honor Society. Monterey Bay Chapter Phi Beta.

REVIEWER FOR PROFESSIONAL JOURNALS AND FUNDING AGENCIES

Frontiers in Marine Science, Molecular Ecology, Global Change Biology, National Science Foundation Office of Polar Programs, National Science Foundation Biological Oceanography, National Science Foundation Graduate Research Fellowship Program

IN THE NEWS

- 2019 As shutdown continues, so does damage to U.S. science. *Ben Guarino et. al.* Washington Post January 9, 2019. <https://t.co/gEkADOaegi>
- 2019 The Government Shutdown Is Reaching Historic Territory. Here's What That Means for Higher Ed. *Lindsay Ellis and Lily Jackson.* <https://tinyurl.com/yxevfdm6>
- 2017 Pterotomics: The Molecular Machinery of Pteropods. *Spencer Showalter.* <https://tinyurl.com/y36hxl2k>
- 2016 The Dissolving Sentinels of the Southern Ocean. *Michael Lucibella,* The Antarctic Sun (NSF US Antarctic Program). <http://antarcticsun.usap.gov/science/contentHandler.cfm?id=4207>
- 2015 Pteropods and B-134. *Shaun O'Boyle* (NSF Antarctica Artists and Writers Program). <https://popantarctica.wordpress.com/2015/11/17/pteropods-b-134/>
- 2014 Underwater Meadows Might Serve As Antacid For Acid Seas. *Christopher Joyce,* NPR. <https://tinyurl.com/y5udfdg9>