

# PRIYA SHUKLA

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## EDUCATION

- 2023** **Ph.D. Ecology**, University of California, Davis (UCD)  
Dissertation: *Resisting Global Change: Oyster Aquaculture and Disease in an Era of Marine Heatwaves*  
Adviser: Dr. Edwin (Ted) Grosholz
- 2016** **M.S. Ecology**, San Diego State University (SDSU)  
Thesis: *Environmental Variability Influences Kelp Physiology: Implications of Anthropogenic Climate Change*  
Adviser: Dr. Matthew Edwards
- 2011** **B.S. Environmental Science and Management**, University of California, Davis (UCD)  
Emphasis in Ecology, Biodiversity and Conservation, Minor in Oceanography

## PROFESSIONAL EXPERIENCE

- 2022-Present** **Science Engagement Specialist**, California Ocean Science Trust
- 2018-Present** **Ocean and Climate Science Contributor**, Forbes
- 2021-2023** **San Francisco Weather Reporter**, Currently
- 2020-2021** **Lead Mentor**, Coastal and Marine Sciences Institute (CMSI), UCD
- 2019** **Policy Engagement Fellow**, COMPASS (Communication Partnership for Science and the Sea)
- 2019** **Communications Coordinator**, CMSI, UCD
- 2016-2018** **Lab Manager**, Bodega Ocean Acidification Research Group, UCD Bodega Marine Lab
- 2016** **Policy Research Intern**, San Francisco Baykeeper
- 2015-2016** **Public Educator**, Marine Science Institute
- 2012-2015** **Graduate Student Researcher**, Department of Biology, SDSU
- 2014-2015** **Research Diving Technician**, Point Loma Kelp Forest Abalone Outplanting Survey, SDSU
- 2012** **Environmental Consulting Intern**, San Francisco-Oakland Bay Bridge Seismic Safety Project, Caltrans
- 2011** **Lab Technician**, Biogeochemistry Laboratory, Bodega Marine Laboratory, UCD
- 2009-2011** **Lead Lab Technician**, Fish Conservation Biology Laboratory, UCD
- 2008-2009** **Lab Technician**, Agricultural Entomology Laboratory, UCD
- 2008** **Lab Technician**, Air Quality Research Center, UCD
- 2005-2007** **Lab Technician**, Environmental Toxicology Laboratory, Stanford University

## PEER-REVIEWED PUBLICATIONS

- 2022** Oldach, E.\*, Killeen, H.\*, **Shukla, P.**, Brauer, E., Carter, N., Fields, J., Thomsen, A., Cooper, C., Mellinger, L., Wang, K., Hendrickson, C., Neuman, A., Bøving, P.S., Fangue, N. 2022. Managed and unmanaged whale mortality in the California Current Ecosystem. *Marine Policy*. 140:105039. \*denotes shared first-authorship.
- 2021** Merkle, B.A., Valdez-Ward, E., **Shukla, P.**, Bayer, S. haring Science Through Shared Values, Goals, and Stories: An Evidence-Based Approach to Making Science Matter. *Human-Wildlife interactions*.15(3): The Back Page.
- 2021** Ricart, A., Ward, M., Hill, T., Sanford, E., Kroeker, K. Takeshita, Y., Merolla, S., **Shukla, P.**, Ninokawa, A., Elsmore, K., Gaylord, B., Coast-wide evidence of low pH amelioration by seagrass ecosystems. *Global Change Biology*. 27(11):2580-2591.
- 2021** Ricart, A., Gaylord, B., Hill, T., Sigwart, Julia., **Shukla, P.**, Ward, M., Ninokawa, A., and Sanford, E. Seagrass driven changes in carbonate chemistry enhance oyster growth. *Oecologia*. 196:565-576.
- 2019** Barclay, K.M., Gaylord, B., Jellison, B.M., **Shukla, P.**, Sanford, E., and Leighton, L.R. Variation in the effects of ocean acidification on shell growth and strength in two intertidal gastropods. *Marine Ecology Progress Series*. 626:109-121.
- 2018** Cavalcanti, G.S., **Shukla, P.**, Morris, M., Ribeiro, B., Foley, M., Doane, M., Leomil, L., Thompson, C., Edwards, M.S., Dinsdale, E. A., and Thompson, F.L. Rhodoliths holobionts in a changing ocean: Host-microbes interactions mediating coralline algae resilience under ocean acidification? *BMC Genomics*. 19:701.
- 2017** **Shukla, P.** and Edwards, M.S. Elevated  $p\text{CO}_2$  is less detrimental than increased temperature to early development of the giant kelp, *Macrocystis pyrifera* (Phaeophyceae, Laminariales). *Phycologia*. 56(6):638-648.

## CHAPTERS & REPORTS

- 2020** Science in Action: Exploring the Future of U.S. Aquaculture, *A COMPASS Roundtable on Ocean Aquaculture*  
+ Associated Blog Post: "[Science in Action: Exploring the Future of U.S. Aquaculture](#)"
- 2020** Oldach, E.J. & **Shukla, P.** Using Vulnerability Assessments to Evaluate the Sensitivity of Infrastructure to Environmental Change. Chapter in United Nations Sustainable Development Goals, Goal Nine Compendium.
- 2018** Gaylord, B., Rivest, E., Hill, T., Sanford, E., **Shukla, P.**, Ninokawa, A., Ng, G. California mussels as bio-indicators of ocean acidification. A Report for California's Fourth Climate Change Assessment.

## RESEARCH POSTERS † & ORAL PRESENTATIONS

- Dixit, L., Frank, N., Hood, N., Aquilino, K., **Shukla, P.**, Frederick, A. 2022. Improved Production of Endangered White Abalone (*Haliotis sorenseni*) through Reproductive Conditioning and Post-Larval Survival. 103<sup>rd</sup> Western Society of Naturalists, Oxnard, CA.
- Shukla, P.** 2021. Seeding, Ceding and Unseating for our Future: What does succeeding look like? **Keynote Session** with Dr. Levi Lewis. 11<sup>th</sup> Biennial Bay-Delta Science Conference. Virtual.
- Shukla, P.**, Burge, C. M., Grosholz, E.D. 2020. Effect of Temperature on the Mortality, Growth & Immune Response of the Pacific Oyster, *Crassostrea gigas*, in a California Estuary 101<sup>st</sup> Western Society of Naturalists Conference. Virtual.
- Ricart, A.M., Ward, M.A., Kroeker, K., Sanford, E., Gaylord, B., Merolla, S., **Shukla, P.**, Takeshita, Y., Hill, T.M. 2019. Seagrass ecosystems buffer low pH in coastal areas. Ocean Sciences Meeting, San Diego, CA.
- Ward, M.A., Hill, T.M., Ricart, A.M., Gaylord, B., O'Donnell, B., Capece, L. **Shukla, P.**, Kroeker, K., Sanford E., and Oechel, W. 2019. Assessing multiple carbon fluxes in a temperate, Pacific seagrass meadow. Ocean Sciences Meeting, San Diego, CA.
- Capece, L.R., Hill, T.M., Ricart, A.M., Ward, M., **Shukla, P.** 2018. Insights from stable isotopes and C/N ratios: Assessing the spatial and temporal variation of sedimentary organic matter stored in seagrass meadows. American Geophysical Union, Washington, D.C.
- Ricart, A.M., Sanford, E., Gaylord, B., **Shukla, P.**, Ward, M., Hill, T.M. 2018. Natural pH variability driven by seagrass affects oyster growth: insights into potential mitigation of ocean acidification. 99<sup>th</sup> Western Society of Naturalists Conference, Tacoma, WA.
- Shukla, P.** 2018. Climate Justice through Ocean Science. Imagining America, Chicago, IL.
- Barclay, K.M., Gaylord, B., Jellison, B.M., **Shukla, P.**, Sanford, E., and Leighton, L.R. 2017. Impact of ocean acidification on shell growth and strength of two intertidal gastropods exposed to the scent of predation. 98<sup>th</sup> Western Society of Naturalists Conference, Pasadena, CA.
- Ward, M.A., Hill, T.M., Gaylord, B., Sanford, E.D., Kroeker, K.J., O'Donnell, B.C., **Shukla, P.**, and Oechel, W.C. 2017. A synthesis of carbon services in California seagrass beds. 98<sup>th</sup> Western Society of Naturalists Conference, Pasadena, CA.
- Shukla, P.**, Brown, M.B., and Edwards, M.S. 2015. Impacts of elevated  $p\text{CO}_2$  and temperature on multiple life stages of the giant kelp. 96<sup>th</sup> Western Society of Naturalists Conference, Sacramento, CA.
- Shukla, P.** 2015. Photosynthesis is a Choice: Environmental Variability Influences Carbon Uptake in Kelps at Different Life Stages. SDSU Marine Ecology and Biology Student Association Seminar Series, San Diego, CA.
- Shukla, P.** and Edwards, M.S. 2015. Elevated  $\text{CO}_2$  concentrations facilitate development in microscopic life stages of *Macrocystis pyrifera*. 44<sup>th</sup> Annual Benthic Ecology Meeting, Québec City, Canada.
- Shukla, P.** and Edwards, M.S. 2014. Elevated  $\text{CO}_2$  concentrations facilitate development in microscopic life stages of *Macrocystis pyrifera*. 95<sup>th</sup> Western Society of Naturalists Conference, Tacoma, WA.
- †**Shukla, P.** and Edwards, M.S. 2013. Characterizing the effects of climate change on photosynthesis for embryonic and juvenile sporophytes of *Pterygophora californica* and *Laminaria farlowii*. 94<sup>th</sup> Western Society of Naturalists Conference, Oxnard, CA.
- †**Shukla, P.** and Edwards, M.S. 2013. Characterizing the effects of climate change on photosynthesis for embryonic and juvenile sporophytes of *Pterygophora californica* and *Laminaria farlowii*. 22<sup>nd</sup> Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA.
- †**Shukla, P.**, Hill, T.M., Gaylord, B., Hosfelt, J., and Nickols, K.J. 2011. Understanding impacts of ocean acidification on seagrass and salt marsh ecosystems based on studies in Bodega Harbor, California. 92<sup>th</sup> Western Society of Naturalists Conference, Vancouver, WA.
- †**Shukla, P.** Hobbs, J., Kurth, R., Kindopp, J., and Cavallo, B. 2010. Determining run-type using otolith  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios among Feather River Chinook salmon spawners, 2002-2008. 6<sup>th</sup> Biennial Bay-Delta Science Conference, Sacramento, CA.

## GRANTS & AWARDS

- 2022** Dissertation Year Fellowship, UC Davis (\$49,300)

2022	<i>[DECLINED]</i> Dissertation Year Fellowship, American Association of University Women (\$20,000)
2022	<i>[DECLINED]</i> Graduate Group in Ecology Fellowship, UC Davis (\$23,928)
2021	Jastro & Shields Graduate Research Award, UC Davis (\$2,530)
2021	Sustainable Oceans National Science Foundation Research Traineeship (NRT) Extension, UC Davis (\$5,000)
2020	Scientist Sentinels: Civic Engagement & Leadership Program, COMPASS
2020	Graduate Research Fellowship, California Sea Grant (\$40,000)
2019	Dennis and Patricia Salisbury Graduate Student Award, UC Davis (\$3,993)
2019	Sustainable Oceans National Science Foundation Research Traineeship (NRT), UC Davis (\$51,892)
2019	Russell J. and Dorothy S. Bilinski Bodega Marine Lab Fellowship, UC Davis (\$20,000)
2018	Scholars Strategy Network Graduate Fellowship, Sacramento-Davis Chapter (\$2,000)
2018	Publicly Active Graduate Education (PAGE) Fellowship, Imagining America (\$500)
2018	Graduate Group in Ecology Fellowship, UC Davis (\$23,928)
2018	Western Society of Naturalists Student Travel Award (\$45)
2017	Climate Engagement Fellowship, UC Santa Cruz
2016	Monetary Award from Kung Guerra Foundation, Awarded to the Marine Science Institute (\$10,000)
2015	Most Valuable Member Award, SDSU MEBSA
2014-2015	Council on Oceanic Affairs, Science and Technology Graduate Student Research Award (\$3,000)
2014	San Diego State University Farris/EPEF Travel Award (\$1000)
2014	Western Society of Naturalists Student Travel Award (\$300)
2013-2014	Harold and June Grant Memorial Scholarship (\$2,195)
2013	Council on Oceanic Affairs, Science and Technology (COAST) Travel Award (\$500)
2013	San Diego State University Research Foundation Award (\$495)
2013	Maritime Alliance Environmental Leadership Award, co-recipient with MEBSA
2013	San Diego Ocean's Foundation Ocean Leadership Award, co-recipient with MEBSA
2012-2015	San Diego State University Grant (\$9,765)
2010	Dean's List, Biological Sciences, UC Davis (Spring Quarter)

## TEACHING & UNDERGRADUATE MENTORSHIP EXPERIENCE

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### Instructor

2020	Professional Development in Marine Science (ANS 198), UCD
2021	Career Discovery in Marine Science (ANS 198), UCD

### Guest Lectures

2020	Career Discovery, University of California, Irvine, Virtual
2020	Marine Conservation Ecology, California State University, Northridge, Virtual
2020	Climate Change Biology, Doane University, Virtual
2020	Coastal Oceanography, UCD, Virtual
2020	Marine Invertebrate Ecology, Texas A&M University at Galveston, Virtual

### Teaching Assistant

2015	Marine Ecology (BIOL 517), SDSU
2014	Ecology and the Environment (BIOL 354), SDSU
2012-2013	General Biology Laboratory (BIOL 100L), SDSU
2011-2012	AP Environmental Science, American High School, Fremont, CA

### Mentor to Undergraduate Laboratory Assistants

**Tenzing Sherpa.** 2021. Measuring oyster growth and mortality in the field across a temperature gradient.

**Olivia Zanzonico.** 2018. Techniques for measuring and analyzing seawater carbonate chemistry data.

**Amanda Nordstrom.** 2017. Techniques for measuring and analyzing seawater carbonate chemistry data.

**David Gamez-Alvarez.** 2015. Analysis of  $^{13}\text{C}/^{12}\text{C}$  and  $^{15}\text{N}/^{14}\text{N}$  in giant kelp blades from Southern California.

**Marina Gandara.** 2015. Analysis of  $^{13}\text{C}/^{12}\text{C}$  and  $^{15}\text{N}/^{14}\text{N}$  in giant kelp blades from Southern California.

**David Logue.** 2014. Measuring and analyzing microscopic kelp densities.

**Wesley Leonard.** 2013. Building a system for manipulating seawater carbonate chemistry.

## SHORT COURSE EXPERIENCE

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2019	Expert Witness Training Academy, National Science Foundation, Mitchell Hamline School of Law
2019	Communications Training for Storytelling and Messaging, UCD

2019	<b>Story Circles Narrative Training</b> , Randy Olson
2018	<b>Improv for Academics</b> , UCD
2016	<b>Science Communication Short Course</b> , Bodega Marine Laboratory, UCD
2013	<b>SciFund Introduction to Outreach</b> , #SciFund University
2013	<b>Design and Analysis of Ecological Experiments</b> , SDSU

## PROFESSIONAL SERVICE

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2019-2022	<b>Referee</b> , <i>Marine Ecology</i>
2019	<b>Reviewer</b> , UCD Graduate Group in Ecology Awards Committee
2019	<b>Panelist</b> , Northern California Forum for Diversity in Graduate Education: "What to do in a Gap Year", UC Davis
2019	<b>Panelist</b> , Scholars Strategy Network National Convening: "Partnering with the Media", Washington, D.C.
2018-Present	<b>Founding Board Member</b> , Rowan Institute
2018-2020	<b>Co-Chair, Graduate Student Affairs Committee</b> , Coastal and Marine Sciences Institute, UC Davis
2017-2019	<b>Pod Coordinator</b> , 500 Women Scientists, San Francisco Bay Area Pod
2016-2018	<b>Science Adviser</b> , Time to Lead on Climate, Marin County, CA
2017-2018	<b>Bodega Marine Lab Diversity Committee Co-Founder</b>
2017-2018	<b>Staff Diversity Administrative Advisory Committee to UCD's Provost and Chancellor</b>
2016-2018	<b>Bodega Marine Lab Sponsorship Program Co-Founder</b>
2018	<b>[DECLINED] Student Ambassador</b> , Planetary Health Center of Expertise, University of California
2017	<b>Referee</b> , <i>Phycologia</i>
2017	<b>Referee</b> , Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
2017	<b>Twitter Conversation Panelist</b> , Union of Concerned Scientists Science Network
2016	<b>Contributor</b> , Seagrass-Ocean Acidification Working Group
2015	<b>Invited Expert</b> , SDSU Climate Action Planning Retreat
2012-2015	<b>Seminar Series Coordinator</b> , SDSU Marine Ecology and Biology Student Association (MEBSA)
2014	<b>Student Grant Writing Group Leader and Editor</b> , SDSU
2014	<b>External Reviewer</b> , High Tech High School Fire Ecology Journal Articles
2012-2013	<b>Member-at-Large</b> , SDSU Marine Ecology and Biology Student Association (MEBSA)
2008-2009	<b>Member &amp; Chair</b> , UCD Environmental Policy and Planning Commission

## PUBLIC ENGAGEMENT & ACTIVISM

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### Writing

2022	<b><u>Border Patrol's Answer To Climate Change Is Robot Dogs. And, It's The Wrong One</u></b> , <i>Currently</i>
2020	<b><u>What Civically Engaged Science Can Look Like: Our Work Doesn't End With Elections</u></b> , <i>COMPASS Blog</i>
2020	<b><u>Desis Should Celebrate Kamala Harris, But Also Hold Her Accountable</u></b> , <i>Medium</i>
2020	<b><u>Graduate School in a Post-COVID World Requires Reckoning with More than a Virus</u></b> , <i>COMPASS Blog</i>
2019	<b><u>How To: Write A Blog Post About Your Research with Priya Shukla</u></b> , <i>COMPASS Blog</i>
2019	<b><u>Scientists, Meet Twitter</u></b> , <i>The Xylom</i> (co-authored with Dr. Sabah Ul-Hasan & edited by 11 contributors)
2019	<b><u>Will Mussel Aquaculture Be Viable Along The California Coast?</u></b> , Coastal and Marine Sciences Institute, UCD
2018	<b><u>Why California Needs to Strengthen Marine Aquaculture to Endure Climate Change</u></b> , <i>Scholars Strategy Network</i>
2018	<b><u>Combatting the Social Inequity That Climate Change Engenders</u></b> , <i>Imagining America</i>
2018	<b><u>Calling for a Revisionist Natural History</u></b> , <i>Bay Nature Magazine</i>
2018	<b><u>Stand Up for Science: More researchers now see engagement as a crucial part of their job</u></b> , <i>The Conversation</i> (co-authored with Drs. Chelsea Rochman, Susan Williams, and Tessa Hill)
2017	<b><u>Make Public Engagement a Professional Priority</u></b> , Union of Concerned Scientists Blog
2017	<b><u>I Will Be Marching Towards Pervasive Inclusion</u></b>
2017	<b><u>In 2017, I Resolve to Engage Publicly and Politically</u></b>
2017	<b><u>Diversi-tea &amp; Cookies</u></b> , Resources for Supporting Diversity in Science, Blog Series on <i>Toxic Musings</i>
2016	<b><u>The Prosaic Mosaic</u></b> , an Effort to Normalize Diversity in Science, <i>Medium Publication</i> (>1000 reads)
2016	<b><u>Scientific service—for culture and community</u></b> (co-authored by Dr. Sarah E. Myhre)
2016	<b><u>Why Has Climate Change Been Omitted from Debates this Election Season?</u></b>
2015	<b><u>Forests of the Sea: the Role of Kelps in Oceanic Carbon Cycling</u></b> , Friends of CMIL Newsletter, SDSU

### Oral Presentations

2021	<b>"Humanizing Your Science"</b> , Invited Speaker, William & Mary University, Virtual
2020	<b>"Fostering Diversity, Equity &amp; Inclusion Through Mentoring"</b> , California State University COAST

2020 "Science Writing & Communication", Invited Speaker, Reclaiming STEM, Virtual  
 2020 "Science Communication", Invited Speaker, UCD Graduate Group in Ecology Odd-yssey, Virtual  
 2020 "Science Writing", Invited Speaker, Santa Rosa Junior College, Virtual  
 2019 "Science Communication: Best Practices", Invited Speaker, Sonoma State University, Rohnert Park, CA  
 2019 "Exploring the Aquaculture Landscape in California and Beyond", Invited Speaker, Oceana, Washington, D.C.  
 2018 "What 'commitment to diversity' really means", Speed Talk, 99<sup>th</sup> Western Society of Naturalists Conference, Tacoma, WA.  
 2018 "Communicating Science and Publicly Engaging", Invited Speaker, Sonoma State University Geology Club, Rohnert Park, CA  
 2017 "Seeking Solutions in a Sea of Change", Invited Speaker, Science Uncorked, Bodega Bay, CA  
 2017 "Seeking Solutions in a Sea of Change", Invited Speaker, Taste of Science Festival, San Francisco, CA

## Media

2020 "Russia's unfrozen Laptev Sea is not the only warning sign of climate change", *The California Aggie*  
 2020 Oceans Under A Changing Climate, Unfold Podcast  
 2020 "OK To Decay - Under the Bay", Exploratorium, After Dark Online  
 2020 "Warming oceans could mean bad news for oyster aquaculture", CMSI, UCD  
 2020 Profile: Priya Shukla, *46 Questions*  
 2019 #83: Knock Knock. Who's There? Climate Change, Important, Not Important Podcast  
 2019 SROCC Live Discussion!, Ocean Science Radio  
 2019 The Psychological Toll of Working as a Climate Scientist, On The Media, WNYC  
 2019 "It's the End of the World as They Know It: The distinct burden of being a climate scientist", *Mother Jones*  
 2019 "Biodiversity in and out of the field with Priya Shukla", *Therese's Nature Journal*  
 2019 All About Ocean Acidification & Dead Zones, Sustainable Design Master Class  
 2019 Deep Water and Mussels, Green Boater TV  
 2019 #STEMstories: Priya, PhD student, USA, Geeky Girl Reality  
 2018 Science is a Public Good, 500 Women Scientists  
 2017 Sharing the Stories of Marginalized Scientists, Ecological Society of America #MySciComm Series  
 2017 "Meet Three Scientists Ready to March", New York Times 360 Video, March for Science  
 2017 "Here are the voices of women who couldn't strike", *Splinter News*, Day Without a Woman (March 8)  
 2017 "Episode 2: How Dare a Woman", *Femmes of STEM* podcast episode about Rachel Carson's legacy

## RELEVANT SKILLS

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AAUS Scientific Diver (2013), SSI Open Water Scuba Diver (2010), California Boating and Waterways Safety Course (2012), Univariate and Multivariate Statistics (R, SYSTAT, SigmaPlot), Graphic Design, Website Design, Social Media