

## Susanne M. Brander, Ph.D.

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### Education

- 2013 Post-Doctoral Scholar, School of Veterinary Medicine, Department of Anatomy, Physiology and Cell Biology, University of California, Davis / Department Biology and Marine Biology, University of North Carolina Wilmington
- 2011 Ph.D. Toxicology. University of California, Davis
- 2005 M.S. Environmental Science and Policy. Johns Hopkins University, MD
- 1999 B.S. Business Administration, Minor: Biology. Elizabethtown College, PA

### Employment

- 2017 – present Assistant Professor, Department of Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR
- 2017 - present Adjunct Professor, Department of Biology and Marine Biology, University of North Carolina, Wilmington
- 2013 – 2017 Assistant Professor, Department of Biology and Marine Biology, University of North Carolina, Wilmington
- 2012 – 2013 Research Assistant Professor, Department of Biology and Marine Biology, University of North Carolina, Wilmington.
- 2011 – 2012 Lecturer / Adjunct Professor, Department of Biology and Marine Biology, University of North Carolina, Wilmington.
- 2007 – 2011 Delta Science Pre-Doctoral Fellow, Department of Environmental Toxicology and Bodega Marine Laboratory, University of California, Davis.
- 2009 – 2010 National Science Foundation, CAMEOS, GK-12 Pre-Doctoral Fellow, Bodega Marine Laboratory, University of California, Davis.
- 2007 Graduate Student Researcher, Water Quality Objectives Methodology, Department of Environmental Toxicology, University of California, Davis.
- 2005 – 2006 Project Scientist, Weston Solutions, Inc., Tiburon, CA.
- 2004 – 2005 Environmental Analyst, Weston Solutions, Inc., Tiburon, CA.

### Publications

- in prep Brander, S.M. Endocrine disruption in the aquatic environment. Toxicology for Professionals. *Current Opinion in Toxicology*. Invited chapter (book title TBD).
- in prep Connon, R.E., Hasenbein S., Cherr G.N., Whitehead A., Todgham A., Young T., Breur R.S., Orland J.L., Collier T.K., Scholz N.L., Colburne J.K., Hajibabbe M., Hamdoun A., Incardona J., Perkins E.J., Garcia-Reyero N., Denlow N.D., Gallagher E.P., Schlenk D., Brown J.B., Deng X., Erickson G., Poynton H., Brander S.M. Considerations for evaluating contaminant effects in the San Francisco Bay-Delta. Planned submission to *San Francisco Estuary and Watershed Sciences*.

- in prep Frank, D.F.\*\*, Hasenbein, S., Harvey, D.J., Brander, S.M., Geist, J., Connon, R.E. Exposure to environmentally relevant bifenthrin concentrations results in behavioral and transcriptomic alterations during early development of *Menidia beryllina*. Planned submission to *PeerJ*.
- in prep Diaz R.N.\*, R.E. Connon, S.M. Brander. Differential effects of salinity on gene expression in larval *Menidia beryllina* exposed to bifenthrin, 4-hydroxy bifenthrin, and ethinylestradiol. *Environmental Toxicology and Pharmacology*.
- in prep DeCourten, B.D.\*\*, Romney A., Brander S.M. The heat is on: Aquatic endocrine disruption in the context of climate change. Invited chapter (book title TBD).
- in prep Athey, S.A., S.D. Albotra, C.A. Gordon, M.L. Echevarria, B. Monteleone, P. Seaton, A.R. Taylor, S.M. Brander. Microplastics in microzooplankton: effects of direct ingestion and trophic transfer. Invited to *Limnology and Oceanography*.
- in review DeCourten, B.D.\*\*, Connon R.E., Brander S.M. Combined effects of warming and pollutants on gene expression across generations in a euryhaline fish. Submitted to *Peer J*.
- 2018 McConville, M.\*\*, Roberts J.\*\*, Boulais, M., Woodall, B., Guyomarch, J., LeFloch, S., Redman, A., Arnold, R., Parkerton, T., Bytingsvik, J., Camus, L., Volety, A., Brander, S. The sensitivity of the deep sea fish species *Anoplopoma fimbriae* to single oil-associated aromatic compounds, dispersant, and chemical enhanced Alaskan North Slope oil. *Environmental Toxicology and Chemistry*.
- 2018 Frank, D.F.\*\*, G.W. Miller, R.E. Connon, D.J. Harvey, S.M. Brander, J. Geist, P.J. Lein. Developmental bifenthrin exposure causes delayed hyperactivity and transcriptomic alterations in mTOR and ryanodine receptor-dependent signaling in zebrafish (*Danio rerio*). *Aquatic Toxicology*.
- 2017 Brander, S.M., Biales, A., Connon R.E. The role of epigenomics in aquatic toxicology. Invited Focus paper. *Environmental Toxicology and Chemistry*.
- 2017 DeCourten B.M.\*\*, S.M. Brander. Combined effects of warming and pollutants on sex determination, survival, and development across generations. *Scientific Reports*: 7, 9310.
- 2017 Goff A.D.\*\*, P. Saranjampour\*\*, M. Hladik, K. Armbrust, S.M. Brander. The effects of fipronil and its photodegradation product fipronil desulfinyl on growth and gene expression in juvenile blue crabs, *Callinectes sapidus*, at different salinities. *Aquatic Toxicology* 186: 96-104.
- 2017 J.W. White, B.C. Cole, G.N. Cherr, R.E. Connon, S.M. Brander. Scaling up the individual-level effects from individuals to populations: Outcomes depend on how many males a population needs. *Environmental Science and Technology* 51: 1802-1810.
- 2016 Brander S.M., M.K. Gabler\*\*, N.L. Fowler\*\*, R.E. Connon, D. Schlenk. Pyrethroid pesticides as endocrine disruptors: Molecular mechanisms in vertebrates with a focus on fishes. *Environmental Science and Technology* 50: 8977-8992.
- 2016 Cole B.J., S.M. Brander, K.M. Jeffries, G. Hu, S. Hasenbein, N.A. Fanguie, M.S. Denison, R.E. Connon. Differential changes in gene expression in *Menidia beryllina* and hormone receptor activation caused by exposure to estuarine waters near wastewater outfalls with different treatment processes. *Archives of Environmental Contamination & Toxicology* 71: 210-223.
- 2016 Brander S.M., B.J. Cole, K.M. Jeffries, B.M. DeCourten\*\*, N.A. Fanguie, R.E. Connon. Transcriptomic changes underlie altered egg protein production and reduced fecundity in an estuarine model fish exposed to bifenthrin. *Aquatic Toxicology* 174: 247-260. (Invited)

- 2015 Jeffries K.M., S.M. Brander, M.T. Britton, N.A. Fanguie, R.E. Connon. Chronic exposures to low and high concentrations of ibuprofen elicit different gene response patterns in a euryhaline fish. *Environmental Science and Pollution Research* 22: 17397-17413. (Invited)
- 2015 Heintz M.M.\*\*, S.M. Brander, J.W. White. Endocrine disrupting compounds alter risk-taking behavior in fish. *Ethology* 121: 480-491.
- 2015 Brander S.M., S. Hecht, J. Incardona, K. Kidd, K. Kuivila, S. Kullman, N. Scholz. "Bridging the gap" with fish: Advances in assessing exposure and effects across biological scales. *Environmental Toxicology and Chemistry* 34: 459-466. \*Invited contribution.
- 2014 DeGroot B.D.\*, S.M. Brander. The role of metabolism in the estrogenicity of bifenthrin in fish. *Aquatic Toxicology* 156: 17-20.
- 2013 Brander S.M., R.E. Connon, G. He, J.A. Hobbs, K.L. Smalling, S.J. Teh, J.W. White, I. Werner, M.S. Denison, G.N. Cherr. From 'omics to otoliths: Correlated responses of an estuarine fish to endocrine disrupting compounds across biological scales. *PLoS One* 8(9): e74251. doi:10.1371/journal.pone.0074251
- 2013 Brander S.M. Thinking outside the box: Assessing endocrine disruption in aquatic life. In: Ajuha, S., editor. *Monitoring water quality: Pollution assessment, analysis, and remediation*. Elsevier. pp. 395. \*Invited contribution.
- 2012 Brander S.M., G. He, K.L. Smalling, M.S. Denison, G.N. Cherr. The *in vivo* estrogenic and *in vitro* anti-estrogenic activity of permethrin and bifenthrin. *Environmental Toxicology and Chemistry* 31: 2848-2855.
- 2012 Brander S.M., C.M. Mosser, J.P. Geist, M.L. Hladik, I. Werner. Esfenvalerate toxicity to the cladoceran *Ceriodaphnia dubia* in the presence of the green algae, *Pseudokirchneriella subcapitata*. *Ecotoxicology* 21: 2409-2418.
- 2012 Brander S.M., B.J. Cole, G.N. Cherr. An approach to detecting estrogenic endocrine disruption via choriogenin expression in an estuarine model fish species. *Ecotoxicology* 21: 1272-1280.
- 2011 Brander S., R. Fontana, T. Mata, S. Gravem, A. Hettinger, J. Bean, A. Szoboszlai, M. Marrero, C. Keiper. The Ecotoxicology of Marine Debris. *Journal of the American Biology Teacher* 73: 474-478.
- 2009 Brander S.M., I. Werner, J.W. White, L.A. Deavonic. Toxicity of a pyrethroid mixture to *Hyalella azteca* at environmentally relevant concentrations. *Environmental Toxicology and Chemistry* 28: 1493-1499.
- 2008 S. Bodensteiner, Zinkl M., McCloskey J., Brander S., Grabow L., Sellier P. Effects of desalination brine waste blended with treated wastewater in the aquatic environment of San Francisco. *Water Practice* 2: 1-9.
- 2007 Brander S.M., J.A. Royle, M. Eames. Evaluation of the status of anuran populations on a refuge in suburban Maryland. *Journal of Herpetology* 41: 51-59.

\* undergraduate student

\*\*graduate student

### Non- Peer Reviewed / Technical Reports

- 2015 Brander, S.M. The case against pesticides. Cape Fear's Going Green, Fall-Winter 2015 issue. [www.goinggreenpublications.com](http://www.goinggreenpublications.com)
- 2014 Goff, A.D., Brander, S.M. Evaluating water quality in the lower Cape Fear: Effects on the health and survival of migratory fishes. Report to the Cape Fear River Partnership.

- 2011 The Pulse of the Delta: Monitoring and Managing Water Quality in the Sacramento–San Joaquin Delta. Re-thinking Water Quality Monitoring. Contribution 630. Aquatic Science Center, Oakland, CA.
- 2010 Palumbo, A.J., Fojut, T.L., Brander, S.M., and Tjeerdema, R.S. Methodology for derivation of pesticide water quality criteria for the protection of aquatic life. Phase III: Bifenthrin criteria derivation. Prepared for the Central Valley Regional Water Quality Control Board. Department of Environmental Toxicology, University of California, Davis, CA.
- 2007 Werner, Inge, Linda Deavonic, Joy Kamphanh, Juergen Geist, Dan Markiewicz, Kevin Reece, Marie Stillway, and Susanne Brander. Pelagic organism decline: acute and chronic invertebrate and fish toxicity testing. Progress Report II. Aquatic Toxicology Laboratory, School of Veterinary Medicine, University of California, Davis, California.

### Media / Press Coverage

- 2018 Clean Water week. Scientific Expert Panel. Cape Fear Community College, Wilmington, NC. <https://www.coastalreview.org/2018/06/whats-in-our-water-panel-discussion-set/> Held in June 2018.
- 2018 NOAA Marine Debris Project interview. WECT. <http://m.wect.com/story/37671929/uncw-researchers-find-plastic-in-certain-fish-caught-off-our-coast> Aired March 2018.
- 2017 *Special Report: GenX, A Toxic Year*. Interview. WHQR. Aired December 2017.
- 2017 *Combination of warmer water, chemical exposure intensifies harmful effects in a coastal fish*. Phys.org. <https://phys.org/news/2017-12-combination-warmer-chemical-exposure-effects.html>. December 2017.
- 2017 *Combination of warmer water, chemical exposure intensifies harmful effects in a coastal fish*. Oregon State Extension. Interview and press release. December 2017.
- 2017 *The role of epigenomics in aquatic toxicology*. Article featured for one month on *Environmental Toxicology and Chemistry* home page carousel.
- 2017 *GenX: The tale of two studies*. WHQR. Interview. <http://whqr.org/post/genx-tale-two-studies> Aired July 2017.
- 2017 Brunswick County residents get answers during GenX forum. Scientific Expert Panel. <https://www.wwaytv3.com/2017/07/19/residents-get-answers-during-genx-forum/>. July 2017.
- 2017 *GenX: New Water Testing Begins Monday*. WHQR. Interview. <http://whqr.org/post/genx-new-water-testing-begins-monday>. Aired June 2017.
- 2017 *GenX: A Question of Chemistry*. WHQR. Interview. <http://whqr.org/post/genx-question-chemistry>. Aired June 2017.
- 2017 *To use or not to use? A local expert on the drinking water*. WECT TV6. <http://www.wect.com/story/35739905/to-use-or-not-to-use-a-local-expert-on-the-drinking-water>. Aired June 2017.
- 2017 *GenX*. Spectrum News. Interview. Aired June 2017.
- 2017 *Questions about GenX*. Coastline. WHQR. Interview. Aired June 2017.
- 2017 Toxic Tap Water FAQs. Star News. <http://www.starnewsonline.com/news/20170611/toxic-tap-water-faqs-june-20-update>. Quoted.
- 2017 Panel: More than GenX in water. Star News. Quoted. <http://www.starnewsonline.com/news/20170621/panel-more-than-genx-in-water>

- 2017 PHOTOS: GenX and water quality forum. Star News. June 2017.  
<http://www.starnewsonline.com/photogallery/NC/20170621/NEWS/621009991/PH/1>
- 2017 Cape Fear River Watch holding community forum. WECT TV6. Quoted.  
<http://www.wect.com/story/35698341/cape-fear-river-watch-holding-community-forum..>
- 2017 *Meet Dr. Susanne Brander. The Female Scientist.*  
<https://thefemalescientist.com/portrait/susanne-brander/>. June 2017.
- 2017 *Researchers work to rid oceans of plastic.* Coastal Review Online. Interview.  
<http://www.coastalreview.org/2017/05/researchers-work-rid-oceans-plastic/>
- 2017 *The oceans are drowning in plastic – And no one’s paying attention.* Huffington Post. Interview. [http://www.huffingtonpost.com/entry/plastic-waste-oceans\\_us\\_58fed37be4b0c46f0781d426](http://www.huffingtonpost.com/entry/plastic-waste-oceans_us_58fed37be4b0c46f0781d426)
- 2016 *UNCW Researchers’ Work Used in New Documentary.* WWAY TV News (interviewed on “A Plastic Ocean” documentary) <http://www.wwaytv3.com/2016/02/23/uncw-researchers-work-used-in-new-documentary/>
- 2016 *UNCW researchers among international scientists featured in “A Plastic Ocean” documentary.* UNCW website. <http://www.uncw.edu/news/2016/02/uncw-researchers-among-international-scientists-featured-in-a-plastic-ocean-documentary.html>
- 2015 *A Plastic Ocean.* (film) Plastic Oceans Foundation, Producer Jo Ruxton.  
[www.plasticoceans.org](http://www.plasticoceans.org) Features footage from collaborative research on microplastics by Brander, Taylor, and Monteleone of UNCW. Airing January 2016.
- 2015 *Fish Tales.* WILMA Wilmington’s Successful Women. Monthly Magazine Online Profile Feature. <http://www.wilmaontheweb.com/December-2015/Fish-Tales/>
- 2015 *UNCW awarded \$400K grant from EPA.* Lumina News, Star News, WWAY TV News, Newstral, Enewsire, Wopular. (Press release regarding EPA STAR early career award)
- 2015 UNCW receives substantial grant from EPA. UNCW website.  
<http://uncw.edu/news/2015/08/uncw-receives-substantial-grant-from-epa.html>
- 2015 *This Week on Wingspan: Episode 2.* UNCW Wingspan. <http://www.uncwingspan.com> (interview)
- 2015 *Current water issues in North Carolina.* UNCTV – OVEE. Aired September 2015. (interactive online interview) <http://www.unctv.org/content/ovee>
- 2015 *Veterans Organization takes VA Concerns to Washington.* WWAY TV News (interviewed on potential health effects of metal contamination in drinking water at local hospital)  
<http://www.wwaytv3.com/2015/05/06/veterans-organization-take-va-concerns-to-washington/>
- 2014 *We all live downstream.* UNCTV (University of North Carolina Public Television). NC Science NOW. <http://science.unctv.org/content/we-all-live-downstream> Aired January 2015. (coverage of blue crab research)
- 2013 *Urban fish masculinized by hormone-mimicking chemicals.* Davis Enterprise, Contra Costa Times, Underwater Times, Daily Democrat, eScienceNews, FishBio, Phys.org, Technology.org. (Press release: *PLoS One* 8(9): e74251. doi:10.1371/journal.pone.0074251).

## Invited Presentations

*Invited Platform*

- 2018 Effects of early life exposure on adult and offspring health: Considerations for risk assessment in aquatic ecosystems. Brander, S. Environmental Health Sciences Center, Oregon State University, Corvallis, OR.
- 2018 Transgenerational effects of early life stage exposure to endocrine disruptors across biological scales in a euryhaline model fish. Brander S, DeCourten B, Forbes J, Roark H, Burns N, Mehinto A, White W, Settles M, Connon R. Society for Environmental and Molecular Toxicology Europe, Rome, Italy.
- 2018 Using model estuarine and marine organisms to assess environmental stress. Brander S. Environmental Health Sciences Center. Oregon State University, Corvallis, OR.
- 2018 The transgenerational effects of endocrine disrupting compounds. Brander S. Plenary talk. Pacific Northwest Society of Environmental Toxicology and Chemistry Annual Meeting. CH2M Hill, Corvallis, OR.
- 2018 Using model estuarine and marine organisms to assess environmental stress. Brander S. College of Earth, Oceanic, and Atmospheric Sciences Seminar Series. Oregon State University, Corvallis, OR.
- 2018 From the benchtop to the beach: Assessing responses to environmental stressors in marine and estuarine organisms. Brander S. Hatfield Marine Science Center Seminar Series. Oregon State University, Newport, OR.
- 2018 Combined effects of warming and pollutants on temperature-dependent sex determination, survival, and development across generations. DeCourten B, Connon R, Brander S. Ocean Sciences Meeting, Portland, OR.
- 2017 Using model estuarine organisms to assess environmental stress across biological scales. Environmental and Molecular Toxicology Seminar Series. Oregon State University, Corvallis, OR.
- 2017 At what cost? Ecosystem services of shellfish cultivation in an estuarine reserve. Darrow E, Alphin T, Brander S, Puckett B, Lytle M, Billet K, Posey M. Coastal and Estuarine Research Foundation (CERF) Annual Meeting, Providence, RI.
- 2017 Combined effects of warming and pollutants on temperature-dependent sex determination, survival, and development across generations. DeCourten B, Brander S. Coastal and Estuarine Research Foundation (CERF) Annual Meeting, Providence, RI.
- 2017 The potential for transgenerational effects of early life stage exposure to endocrine disruptors across biological scales, in a euryhaline model fish species. Brander S. Environmental Protection Agency Science to Achieve Results Symposium. Minneapolis, MN.
- 2017 Transgenerational effects of early life stage exposure to endocrine disruptors on reproduction and development in an estuarine fish. DeCourten B, Forbes J, Burns N, Mehinto A, Settles M, White W, Connon R, Brander S. Society of Environmental Toxicology and Chemistry North America, Minneapolis, MN.
- 2017 Multiple stressors in coastal ecosystems: Measuring responses in model estuarine organisms. Brander, S. American Chemical Society Annual Meeting, San Francisco, CA.
- 2017 Multiple stressors in coastal ecosystems: Measuring responses in model estuarine organisms. Brander, S. University of North Carolina at Greensboro, Greensboro, NC.
- 2016 Multiple stressors over multiple generations: Assessing the combined effects of climate change and endocrine disruptors. DeCourten B, Connon R, Brander S. Bay-Delta Science, Sacramento, CA.



- 2016 Multiple stressors over multiple generations: Assessing the combined effects of climate change and endocrine disruptors. DeCourten B, Connon R, Brander S. SETAC North America, Orlando, FL.
- 2016 Microplastic debris ingestion and evaluation of trophic transfer in the estuarine fish, *Menidia beryllina*. S Brander. North Carolina Marine Debris Symposium, Wrightsville, NC.
- 2016 From the benchtop to the beach: Model organisms for the study of endocrine disruption in marine and estuarine ecosystems. S Brander. Stony Brook University, New York, NY.
- 2016 Multiple stressors over multiple generations: Assessing the combined risk of climate change and endocrine disruptors. DeCourten, B., Brander, S. Interagency Ecological Program Meeting, Sacramento, CA.
- 2015 Linking biological scales across generations: An estuarine and marine model for measuring the ecological impact of EDCs. S Brander, A Mehinto, J White, R Connon, B DeCourten, K Maruya. EPA STAR Awards Kick Off Session. SETAC North America, Salt Lake City, Utah, USA.
- 2015 Linking molecular level responses to apical endpoints: The development of relevant model systems for evaluating effects across the biological hierarchy. S Brander. Swiss Federal Institute of Aquatic Science and Technology (eawag), Dübendorf, Switzerland.
- 2014 Bifenthrin as endocrine disruptor in fishes: effects at the molecular, reproductive, and population levels. S Brander, K Jeffries, B Cole, B DeCourten\*\*, J White, N Fangue, R Connon. Society for Environmental Toxicology and Chemistry North America, Vancouver, Canada.
- 2014 Predicted population decline in fish due to bifenthrin exposure: Implications for aquatic ecosystems in the Bay-Delta. S Brander, K Jeffries, B Cole, B DeCourten\*\*, B DeGroot\*, J White, N Fangue, R Connon. San Francisco Bay-Delta Conference.
- 2014 Use of an estuarine model teleost to evaluate pollutant impacts at multiple biological scales. S Brander, K Jeffries, B Cole, B DeCourten\*\*, B DeGroot\*, J White, N Fangue, R Connon. Society for Environmental Toxicology and Chemistry Europe, Basel, Switzerland.
- 2014 Validating inland silversides as a bioindicator species for the San Francisco Estuary. R. Connon, K Jeffries, B Cole, B DeCourten\*\*, B DeGroot\*, J White, N Fangue, S Brander. Interagency Ecological Program Annual Workshop, Folsom, CA.
- 2013 Effects of bifenthrin and bifenthrin metabolite exposure on the endocrine system of *Menidia beryllina*. S Brander, K Jeffries, B Cole, B DeCourten\*\*, B DeGroot, J White, N Fangue, R Connon. Society for Environmental Toxicology and Chemistry North America, Nashville, TN.
- 2013 Mechanistic effects of exposure to ibuprofen on inland silversides (*Menidia beryllina*). K Jeffries, S Brander, B De Courten\*\*, N Fangue, R Connon, Society for Environmental Toxicology and Chemistry, Nashville, TN.
- 2013 Linking the benchtop to the bay: *Menidia* species as indicators of endocrine disruption. S Brander, K Jeffries, B Cole, B DeCourten\*\*, B DeGroot\*, J White, G Cherr, N Fangue, R Connon. Biomarkers Workshop. University of California, Davis.
- 2013 From molecules to metapopulations: Using native model organisms to assess endocrine disruption. Cape Fear River Watch, Wilmington, NC. S Brander.
- 2013 From 'omics to otoliths: Using *Menidia* species to assess endocrine disruption at multiple biological scales. North Carolina State University, Raleigh, NC. S Brander.

- 2013 From molecules to metapopulations: Assessing endocrine disruption in aquatic life. Davidson College, Davidson, NC. S Brander.
- 2012 From 'omics to otoliths: Using *Menidia* species to assess endocrine disruption. Society for Environmental Toxicology and Chemistry, Long Beach, CA. S Brander, G Cherr.
- 2012 From 'omics to otoliths: Using responses to endocrine disrupting compounds at multiple biological scales to predict population dynamics. Ecological Society of America, Portland, OR. S Brander, G Cherr.
- 2011 From 'omics to otoliths: Linking responses to estrogenic and androgenic endocrine disrupting compounds at multiple biological scales. Office of Environmental Health Hazard Assessment, Sacramento, CA. S Brander, G Cherr.
- 2010 Pyrethroids as endocrine disruptors: bifenthrin and permethrin act as estrogens and anti-estrogens. Society of Environmental Toxicology and Chemistry, Portland, OR.
- 2010 Pyrethroids as endocrine disruptors: bifenthrin and permethrin acting as estrogens and anti-estrogens. California Department of Pesticide Regulation, Sacramento, CA.
- 2010 Linking environmentally relevant responses to EDCs at multiple scales. Northern CA Society for Environmental Toxicology and Chemistry, Berkeley, CA. S Brander, G Cherr.
- 2010 Endocrine disruption in a California estuary: Individual and population level effects in a resident fish species. San Francisco Estuary Interagency Ecological Program, Sacramento, CA. S Brander, G Cherr.

*Invited Poster*

- 2018 An assessment of potential microplastic impacts on the health of the *Centropristis striata* fishery. Brander S, Athey S, Stienbarger C, Andrady T, Seaton P, Watanabe W, Monteleone B, Taylor A. International Marine Debris Conference, San Diego, CA.
- 2017 Impacts of marine plastics on a mid-trophic level estuarine fish (*Menidia* species). Athey S, Nickel K, Hall K, Ruiz G, Green Z, Mongo M, Monteleone B, Seaton P, Taylor A, Brander S. Ocean Plastics, Expo 216, Wilmington, NC.
- 2017 The development and evaluation of protocols for fluorescently labeling microplastics for use in feeding experiments with larval fish. Gordon C, Monteleone B, Avery G, Taylor A, Brander S. Ocean Plastics, Expo 216, Wilmington, NC.
- 2017 Microplastics: the potential for trophic transfer in a model marine system. Albotra S, Echevarria M, Monteleone B, Seaton P, Taylor A, Brander S. Ocean Plastics, Expo 216, Wilmington, NC.
- 2016 Impacts of marine plastics on a mid-trophic level estuarine fish (*Menidia* species). Athey, S.\*\*, Nickel, K.\*\*, Hall, K. \*\*, Ruiz, G. \*\*, Green, Z. \*\*, Mongo, M. \*\*, Monteleone, B., Seaton, P., Taylor, A., Brander, S. North Carolina Marine Debris Symposium, Wrightsville Beach, NC.
- 2015 Investigating the potential for endocrine disruption in wild populations of blue crabs (*Callinectes sapidus*). Goff, A.\*\*, Ryan, L.\*\*, Covi, J., Brander, S. Society for Environmental Toxicology and Chemistry North America, Vancouver, Canada.
- 2015 Multiple stressors over multiple generations: assessing the combined effects of climate change and endocrine disruptors. DeCourten, B.\*\*, Connon, R., Brander, S. Society for Environmental Toxicology and Chemistry North America, Vancouver, Canada.
- 2015 Microplastics: the potential for bioaccumulation and trophic transfer in a model marine system. S Albotra\*, M Echevarria\*\*, B Monteleone, P Seaton, A Taylor, S Brander. Society for Environmental Toxicology and Chemistry North America, Vancouver, Canada.



- 2015 The effects of early-life bifenthrin exposure on gene expression in *Menidia beryllina*, at different salinities. R Diaz\*, R Connon, S Brander. Society for Environmental Toxicology and Chemistry North America, Vancouver, Canada.
- 2014 Ibuprofen exposure reduced reproductive output in adult inland silversides. K Jeffries, S Brander, N Fanguie, R Connon. San Francisco Bay-Delta Conference, 8<sup>th</sup> Biennial, Sacramento, California.

## Other Presentations

### Oral

- 2018 Towards development of environmental criteria for siting of bivalve mariculture siting in reserves. Darrow E, Alphin T, Billet K, Brander S, Bricker S, Ferreira J, Lytle M, Posey M, Volety A, Weirich C, Wilbur A. Atlantic Estuarine Research Society, Rehobeth Beach, DE.
- 2017 Impacts of oyster structures (reefs and culture operations) on adjacent infaunal community assemblages. Lytle M, Posey M, Darrow E, Brander S, Alphin T. Coastal and Estuarine Research Foundation (CERF) Annual Meeting, Providence, RI.
- 2017 Combined effects of warming and pollutants on temperature-dependent sex determination, survival, and development across generations. DeCourten B, Connon R, Brander S. Carolinas Society of Environmental Toxicology and Chemistry, Charleston, SC.
- 2017 The effect of a microplastic-associated legacy pollutant on the feeding preferences of microzooplankton and their predators. Athey S, Echevarria M, Andrady A, Taylor A, Brander S. Carolinas Society of Environmental Toxicology and Chemistry, Charleston, SC
- 2016 How many males does a population need? White JW, Easter E, Cole B, Cherr G, Connon R, Brander S. Western Society of Naturalists, Monterrey, CA.
- 2016 Multiple stressors over multiple generations: Assessing the combined effects of climate change and endocrine disruptors. DeCourten B, Brander S. 2016 Bay-Delta Science Conference, Sacramento, CA.
- 2016 Multiple stressors over multiple generations: assessing the combined effects of climate change and endocrine disruptors. DeCourten, B.\*\* , Brander, S. Carolinas SETAC, Wilmington, NC.
- 2016 Behavioral responses and sublethal impacts of dispersed oil and PAHs on juvenile sablefish, *Anoplopoma fimbria*. McConville, M.\*\* , Roberts, J.\*\* , Brander, S., Volety, A. Graduate Symposium, College of William and Mary, Williamsburg, VA.
- 2016 Assessing the impacts of endocrine disruption in wild populations and laboratory reared blue crabs, *Callinectes sapidus*, by evaluating gene expression, morphology, and population-level endpoints. Goff, A.\*\* , Brander, S. Benthic Ecology Meeting, Portland, ME.
- 2015 Multiple stressors over multiple generations: assessing the combined effects of climate change and endocrine disruptors. DeCourten, B.\*\* , Brander, S. SETAC North America, Salt Lake City, Utah, USA.
- 2015 Effects of bifenthrin across multiple biological scales in a euryhaline model fish species. Brander, S., Cole, B., Jeffries, K., DeCourten, B.\*\* , White, J., Fanguie, N., Connon, R. Pollutant Responses in Marine Organisms: PRIMO 18<sup>th</sup> biannual meeting.
- 2014 Physiological effects of exposure to ibuprofen in *Menidia beryllina*. Jeffries, K., Brander, S., Cole, B., Fanguie, N., Connon, R. SETAC Europe 2014, Society of Environmental Toxicology and Chemistry Europe, Basel, Switzerland.
- 2014 Use of an estuarine model teleost to evaluate pollutant impacts at multiple

biological scales. Brander, S., Jeffries, K., Cole, B., DeCourten, B.\*\*, DeGroot, B.\*, White, J., Fanguie, N., Connon, R. SETAC Europe 2014, Society of Environmental Toxicology and Chemistry Europe, Basel, Switzerland

- 2014 Generalized mixed models for ecotoxicology: avoiding pseudoreplication and unnecessary data transformations. White, J., Brander, S. SETAC Europe 2014, Society of Environmental Toxicology and Chemistry
- 2013 Guppy gladiators: endocrine disrupting compounds alter risk-taking behaviors when facing a predator in the arena. Heintz, M. M.\*\*, Brander, S., White, J. 42nd Benthic Ecology Meeting, Savannah, GA.
- Poster
- 2018 Trophic transfer of microplastics and an associated legacy pollutant from microzooplankton to their predators. Athey S, Echevarria M, Taylor A, Andrady A, Brander S. International Association for Great Lakes Research Annual Meeting, Toronto, Ontario, Canada.
- 2018 The effects of a microplastic-associated legacy pollutant on the feeding preferences of microzooplankton and their predators. Athey S, Echevarria M, Andrady A, Taylor A, Brander S. International Marine Debris Conference, San Diego, CA.
- 2018 Roles of physiological rates on farm-scale nutrient removal. Kinsella J, Darrow E, Ferreira JG, Bricker S, Volety A, Alphin T, Posey M, Brander S, Puckett B. Atlantic Estuarine Research Society, Rehobeth Beach, DE.
- 2017 Effects of new oyster cultivation on sediment characteristics within Masonboro Island, NC. Carlton J, Darrow E, Alphin T, Brander S, Puckett B, Posey M. Coastal and Estuarine Research Foundation (CERF) Annual Meeting, Providence, RI.
- 2017 Scaling up endocrine disruption effects from individuals to populations: Outcomes depend on how many males a population needs. White JW, Cole BJ, Cherr GN, Connon RE, Brander SM. Society of Environmental Toxicology and Chemistry North America, Minnesota, MN.
- 2017 The effects of a microplastic-associated legacy pollutant on the feeding preferences of microzooplankton and their predators. Athey S, Echevarria M, Andrady A, Taylor A, Brander S. Society of Environmental Toxicology and Chemistry North America, Minnesota, MN.
- 2017 The immune response of *Menidia beryllina* exposed to endocrine disrupting compounds in early life. Roark H, DeCourten B, Forbes J, Brander S. Society of Environmental Toxicology and Chemistry North America, Minnesota, MN.
- 2017 Histological assessment of endocrine disrupting compounds on the inland silverside, *Menidia beryllina*. Forbes J, DeCourten B, Burns N, Brander S. Carolinas Society of Environmental Toxicology and Chemistry, Charleston, SC
- 2017 The immune response of *Menidia beryllina* exposed to endocrine disrupting compounds in early life. Roark H, DeCourten B, Forbes J, Brander S. Carolinas Society of Environmental Toxicology and Chemistry, Charleston, SC
- 2017 Hierchy development in juvenile *A. ocellaris*. Hudson K, Brander S. Undergraduate Research Symposium, UNCW, Wilmington, NC.
- 2016 Evaluation of ecosystem services associated with shellfish culture operations in coastal regions served by the National Estuarine Research Reserve. Darrow ES, Alphin TD, Brander SM, Puckett B, Posey MH. National Estuarine Research Reserve Annual Meeting, Williamsburg, VA.

- 2016 Impacts of marine plastics on a mid-trophic level estuarine fish (*Menidia* species). Athey, S.\*\*, Nickel, K.\*\*, Hall, K. \*\*, Ruiz, G. \*\*, Green, Z. \*\*, Mongo, M. \*\*, Monteleone, B., Seaton, P., Taylor, A., Brander, S. State of North Carolina Undergraduate Research Symposium, Durham, NC.
- 2016 Effects of three crude oil aromatic constituents on a model fish species *Anoplopoma fimbria*. J Roberts, M Boulais, B Woodall, M McConville, J Guyomarch, S LeFloch, L Camus, S Brander, A Volety. SETAC North America, Orlando, FL, USA.
- 2016 Visualizing skeletal defects in inland silverside (*Menidia beryllina*) exposed to levonorgestrel. M McConville, B DeCourten, B Woodall, A Taylor, S Brander. SETAC North America, Orlando, FL, USA.
- 2016 Behavioral response and sublethal impacts of dispersed oil and PAHs on juvenile sablefish, *Anoplopoma fimbria*. McConville, M.\*\*, Roberts, J.\*\*, Brander, S., Volety, A. Carolinas SETAC, Wilmington, NC.
- 2016 The effects of fluoxetine on social hierarchy formation in *A. ocellaris* juveniles. Chrisos, A. \*, Hudson, K.\*, Johnson, M., Leso, A.\*, Brander, S. Carolinas SETAC, Wilmington, NC.
- 2016 Assessing the effects of estrogenic and androgenic endocrine disruptors over multiple generations in an estuarine model species. Burns, N., DeCourten, B.\*\*, Brander, S.. Carolinas SETAC, Wilmington, NC.
- 2015 Microplastics: the potential for bioaccumulation and trophic transfer in a model marine system. S Albotra\*, M Echevarria\*\*, B Monteleone, P Seaton, A Taylor, S Brander. North Carolina Marine Debris Symposium, Nags Head, NC.
- 2015 Fluorescently labeled microplastics for use in marine ecotoxicology studies. C Gordon\*, B Monteleone, B Avery, P Seaton, A Taylor, S Brander. North Carolina Marine Debris Symposium, Nags Head, NC.
- 2015 Microplastics: the potential for bioaccumulation and trophic transfer in a model marine system. S Albotra\*, M Echevarria\*\*, B Monteleone, P Seaton, A Taylor, S Brander. Society for Environmental Toxicology and Chemistry North America, Vancouver, Canada.
- 2015 Investigating the potential for endocrine disruption in wild populations of blue crabs (*Callinectes sapidus*). Goff, A.\*\*, Ryan, L.\*\*, Covi, J., Brander, S. Carolinas SETAC Annual Meeting, Raleigh, NC.
- 2015 Multiple stressors over multiple generations: assessing the combined effects of climate change and endocrine disruptors. DeCourten, B.\*\*, Connon, R., Brander, S. Carolinas SETAC Annual Meeting, Raleigh, NC.
- 2015 Multiple stressors over multiple generations: assessing the combined effects of climate change and endocrine disruptors. DeCourten, B.\*\*, Connon, R., Brander, S. Southeastern Estuarine Research Society Annual Meeting, Carolina Beach, NC.
- 2015 The effects of trophically transferred Deepwater Horizon oil on *Menidia beryllina*. Gross, J.\*, Condon, R., Brander, S. Carolinas SETAC Annual Meeting, Raleigh, NC.
- 2014 The potential for endocrine disruption in the blue crab, *Callinectes sapidus* . Goff, A.\*\*, Ryan, L.\*\*, Covi, J., Brander, S. North Carolina Sea Grant Review, NC Sea Grant, Raleigh, NC.
- 2014 Examining the impact of endocrine disrupting compounds on sex determination and development in the blue crab, *Callinectes sapidus* . Goff, A.\*\*, Ryan, L.\*\*, Covi, J., Brander, S. North Carolina Sea Grant Symposium, NC Sea Grant, Raleigh, NC.

- 2014 Multiple stressors over multiple generations: assessing the combined effects of climate change and endocrine disruptors. DeCourten, B.\*\*, Brander, S. Carolinas SETAC Annual Meeting, Carolinas Society of Environmental Toxicology and Chemistry, Clemson, SC.
- 2014 The effects of toxicants on the production of ecdysteroids by the Y-organ in *Callinectes sapidus*. Ryan, L.\*\*, Brander, S., Chang, E., Chang, S., Covi, J. SICB Annual Meeting, Society of Integrative and Comparative Biology, Austin, TX.
- 2013 The effects of bifenthrin exposure on initial phase *Thalassoma bifasciatum* (bluehead wrasse) brain aromatase (CYP19A2) expression and aggression. Burnsed, K.\*, Brander, S. SETAC North America, 24th Annual Meeting, Society of Environmental Toxicology and Chemistry, Nashville, TN.
- 2013 The effects of bifenthrin exposure on initial phase *Thalassoma bifasciatum* (bluehead wrasse) brain aromatase (CYP19A2) expression and aggression. Burnsed, K.\*, Brander, S. SNCURCS 2013, State of North Carolina Undergraduate Research and Creativity Symposium, Charlotte, NC.
- 2013 Development of molecular tools to assess fish health in the San Francisco Estuary Jeffries, K. M., Brander, S., Fangué, N. A., Connon, R. E. The 11th Biennial State of the San Francisco Estuary Conference, Delta Science Council, Oakland, CA, "
- 2013 Impacts of endocrine disrupting chemicals on *Menidia beryllina*, a resident fish in the SSJ Delta. Cole, B. J., Brander, S., Jeffries, K. M., Connon, R. E., Cherr, G. N. The 11th Biennial State of the San Francisco Estuary Conference, Delta Science Council, Oakland, CA.
- 2013 The effects of sub-lethal chronic exposure to the pesticide bifenthrin on inland silversides (*Menida beryllina*). Jeffries, K.M., Brander, S., DeCourten, B. M.\*, Stillway, M. V., Deanovic, L. A., Fangué, N. A., Connon, R.E. American Fisheries Society Cal-Nev, AFS California and Nevada, Davis, CA.
- 2013 Endocrine disrupting compounds alter risk-taking and anti-predator behavior in fish (*Poecilia reticulata*). Heintz, M.\*\*, Brander, S., White, J. Carolinas Society of Environmental Technology and Chemistry Annual Meeting, Raleigh, NC.
- 2013 The role of metabolism in the estrogenicity of bifenthrin in *Menidia beryllina*. DeGroot, B.C.\*, Brander, S. Carolinas Society of Environmental Technology and Chemistry Annual Meeting, Raleigh, NC.
- 2012 Transfected vs. native: The potential for conflicting measurements of endocrine activity from different cell lines. Brander, S., Davies, B. H., He, G., Connon, R. E., Denison, M. S., Society of Environmental Toxicology and Chemistry, SETAC, Long Beach, CA.
- 2012 Transfected vs. native: The potential for conflicting measurements of endocrine activity from different cell lines. Brander, S., Davies, B. H., He, G., Connon, R. E., Denison, M. S., Bay Delta Science Conference, Delta Science, Sacramento, CA.

\* undergraduate student

\*\*graduate student

## Public Presentations

- 2017 Multiple stressors in estuarine ecosystems. St. James Plantation, Southport, NC.
- 2016 Water quality and effects on aquatic organisms. NC Sorosis Society, Guest Speaker.
- 2016 An introduction to toxicology. UNCW College Day, Lecturer. Continuing education opportunity for UNCW community
- 2016 Blue crab basics & beyond. UNCW Center for Marine Science Lecture Series, Guest Speaker. Sponsored by the Masonboro National Estuarine Research Reserve.

- 2015 Blue crab basics & beyond. UNCW Center for Marine Science Lecture Series, Guest Speaker. Sponsored by the Masonboro National Estuarine Research Reserve.
- 2014 Blue crab basics & beyond. UNCW Center for Marine Science Lecture Series, Guest Speaker. Sponsored by the Masonboro National Estuarine Research Reserve.
- 2015 From molecules to metapopulations: using native model organisms to gauge the impact of pollutants. UNCW Osher Institute for Lifelong Learning, Guest Speaker.
- 2014 An introduction to toxicology. UNCW College Day, Lecturer. Continuing education opportunity for UNCW community.

## Grants and Awards

- Pending California Department of Fish and Wildlife Prop 1 Funding Request. Wildfire-related contaminants: Potential for detrimental effects of wildfire suppression chemicals and ash leachates on early life stages of important Bay-Delta fishes. Lead PI Connon, Co-PIs Brander and Young. \$450,000.
- Pending University of Southern California Sea Grant. Trends in marine microplastics across a historical rockfish dataset from Southern CA. Lead PI Caselle, Co-PI Brander. \$240,000
- Pending Strategic Environmental Research and Development Program (SERDP). Per- and polyfluoroalkyl substances associated with estuaries near military bases: Characterizing bioconcentration and bioaccumulation, and establishing toxicity reference values for AFFF-associated PFAS across a salinity gradient in the field and laboratory. Lead PI Brander, Co-PIs Field, Stubblefield, Donahue, Stallings. \$1.67 million
- Not funded NOAA National Estuarine Research Reserve Catalyst. Marine plastic debris accumulation in estuarine commercial fishery species: Raising awareness through research and education in Pacific Northwest National Estuarine Research Reserves. Lead PI S. Brander, Co-PI E. Granek. (\$234,838)
- Not funded Eder Foundation Grant. Multiple stressors in Dungeness crab: the effect of combined exposure to hypoxia and microplastics on growth, predator avoidance, and population dynamics. Lead PI S. Brander, Co-PI W. White. (\$18,000)
- 2018-2019 Agricultural Research Foundation, OSU. The potential for marine plastic ingestion in a coastal commercial and recreational fishery. Lead PI S. Brander (\$12,500 at OSU)
- 2017-2019 NOAA Marine Debris Research. Microplastic ingestion by the black sea bass, *Centropristis striata*: An assessment of potential impacts on the health of an Atlantic commercial fish species. Lead PI S. Brander, with Co-PIs A. Andrady, W. Watanabe, P. Seaton, B. Monteleone, A. Taylor (\$289,000)
- 2017-2020 California Department of Fish and Wildlife, Prop 1 Funding Request. Contaminant effects on two California fish species and the food web that supports them. Lead PI R. Connon, with Co-PIs N. Fanguie, T. Hung, S. Brander, H. Poynton, M. Lydy. (\$1,700,000) – **54 K at OSU**
- 2016-2019 NERR Science Collaborative. Evaluation of Ecosystem Services Associated with Shellfish Culture Operations in Coastal Regions Served by the National Estuarine Research Reserve. Lead PI M. Posey, Co-PIs T. Alphin, B. Darrow Condon, S. Brander (\$673,500) – **11K at OSU**
- 2016 University of North Carolina, Wilmington. Center for Marine Science Pilot Project. Near-shore impacts of microplastics: An investigation of coastal and estuarine occurrence,

- associated pollutants, and biological effects in a native euryhaline fish. Lead PI Brander, with Co-PIs A. Taylor, B. Monteleone, P. Seaton (\$21,150).
- 2015-2016 University of North Carolina, Wilmington. eTEAL Supported Pedagogy Initiative. The impact of microplastics and associated pollutants on the foundation of aquatic food webs. Lead PI Brander, with Co-PIs B. Monteleone, A. Taylor, and P. Seaton (\$3,800).
- 2015-2019 U.S. Environmental Protection Agency, Science to Achieve Results (EPA-G2014-STAR-E1/E2). Linking biological scales across generations: An estuarine and marine model for measuring the ecological impact of endocrine disrupting compounds. Lead PI Brander (\$399,971), with Co-PI W.White, Associate Investigators A. Mehinto, R. Connon. – **141K remaining being transferred to OSU**
- 2015-2017 American Petroleum Institute. Toxicity of oil dispersants for deep sea species. Lead PI Volety, Co-PI Brander. (\$113,500)
- 2014-2016 University of North Carolina, Wilmington. Center for Marine Science Pilot Project. What flips the switch?: The role of aromatase in the sex determination of protandrous fishes. PI Brander (\$20,000)
- 2014 The Nature Conservancy, North Carolina. Nutrients and fish health. Lead PI Brander. (\$5,000)
- 2014 University of North Carolina, Wilmington. Cahill grant. The neuroendocrinological basis for sex change and social behavior in *Amphiprion ocellaris*. PI Brander (\$2,969)
- 2013 - 2014 University of North Carolina, Wilmington. eTEAL (experiential teaching and applied learning) Supported Pedagogy Initiative. Applied Environmental Endocrinology. PI Brander (\$3,000)
- 2012 North Carolina Sea Grant. Developing an approach to monitoring potential endocrine disruption in *Callinectes sapidus*. PI Brander (\$5,000)
- 2012 Friends of UNCW. Research on the impact of hormone-disrupting pollutants on fish in the Cape Fear River. PI Brander (\$1,000)
- 2012 - 2015 California Department of Fish and Game. A systems biology assessment of EDCs in the Delta. (with co-PI Richard Connon) (\$486,000)
- 2011 University of North Carolina, Wilmington, Center for Marine Science. Scaling up endocrine disruption effects in the Lower Cape Fear: from individual behavior to population dynamics. (with co-PI W. White) (\$35,000)
- 2010 Northern California Society for Environmental Toxicology and Chemistry. First Place Student Platform Presentation.
- 2009 – 2010 National Science Foundation CAMEOS GK-12 Graduate Fellowship.
- 2009 University of California, Davis. Research Scholarship. (\$1,000)
- 2009 Sacramento County Sanitation and Wastewater District. Research Grant. (\$5,000)
- 2007 - 2011 Delta Science. Pre-Doctoral Fellowship (3 years).
- 2007 University of California, Davis. Jastro-Shields Research Scholarship. (\$3,000)
- 2007 - 2011 Phi Sigma, Graduate Honors Society.
- 2006 University of California Davis. Pharmacology and Toxicology Graduate Group Block Grant.

## Teaching / Course Development



2018 Guest Lecturer, Tox 455-555, Aquatic Toxicology, Oregon State University

2017-2018 Course Development, Marine Studies Initiative BACC core proposal, Oregon State University

2015-2017 Instructor, Toxicology, University of North Carolina, Wilmington

2014 Guest Lecturer, Honors 120, Honors Principles of Biology: Cells, Behavioral Ecology, University of North Carolina, Wilmington

2013 – 2017 Instructor, Applied Learning in Environmental Endocrinology, University of North Carolina, Wilmington

2013 – 2017 Division of Student Affairs, annual recognition by multiple graduating seniors

2014 Instructor, Teaching Assistantship in Cell Biology, University of North Carolina, Wilmington

2013 – 2017 Instructor, Beyond DNA: Gene Expression and the Environment, University of North Carolina, Wilmington.

2012 – 2014 Instructor, Principles of Biology: Cells, University of North Carolina, Wilmington.

2011 – 2016 Instructor, Endocrinology, University of North Carolina, Wilmington.

2009 – 2010 NSF GK-12 Mentor, Biology, El Molino High School, Sonoma County, CA.

2008 Teaching Assistant, Physiology of Marine Organisms, University of California, Davis.

2007 Teaching Assistant, Biological Effects of Toxicants, University of California, Davis.

### **Mentoring**

2018 Mentor (REU Undergraduate), Anika Agrawal, Hatfield Marine Science Center, Oregon State University

2018 Mentor (Graduate), Summer Lab Rotation, Stephanie Krail, Oregon State University

2018 Mentor (Graduate), Spring Lab Rotation, Claudia Santillan, Oregon State University

2018 – present Mentor (Undergraduate), Beginning CAS Researcher, Jordan Laundry, Oregon State University

2018 – present Co-mentor, Post-doctoral scholar, Jincy Joseph, University of North Carolina, Wilmington

2018 – present Co-advisor, Masters Thesis, Cheyenne Stienbarger, University of North Carolina, Wilmington.

2017 – present Co-mentor, Post-doctoral scholar, Amie Romney, University of California, Davis

2017 – present Committee Member, Masters Thesis, Emily Vebrosky, Louisiana State University.

2017 – present Faculty Supervisor, Masters Thesis, University of North Carolina, Wilmington. Effects of oyster aquaculture on gene expression in wild oysters. Kelsey Billet.

2016 – 2018 Faculty Supervisor, Masters Thesis, University of North Carolina, Wilmington. Tropic transfer of microplastics and an associated legacy pollutant from microzooplankton to their predators. Samantha Athey.

2016 – 2018 Faculty Supervisor, Masters Thesis, University of North Carolina, Wilmington. Transgenerational effects on gonadal histology in a euryhaline fish model. Joshua Forbes.

2016 – 2017 Faculty Supervisor, Undergraduate Honors Thesis. University of North Carolina, Wilmington. Effects of endocrine disrupting chemicals on immune response in *Menidia beryllina* across generations. Hunter Roark.

- 2015 – 2018 Committee Member, Masters Thesis. University of North Carolina, Wilmington. Determination of the aquatic toxicity of irradiated suspensions of sediments impacted by petroleum. Mekiyah Bailey.
- 2015 – 2017 Committee Member, Masters Thesis. University of North Carolina, Wilmington. A species-sensitivity distribution for select PAHs. John Roberts.
- 2015 – 2017 Faculty Supervisor, Masters Thesis. University of North Carolina, Wilmington. Behavioral responses of sablefish to PAHs. Megan McConville.
- 2015 – 2017 Committee Member, Doctoral Dissertation. University of California, Davis. Early life stage exposure to bifenthrin in zebrafish and silversides. Daniel Frank.
- 2013 – present Faculty Supervisor, Doctoral Dissertation. University of North Carolina, Wilmington. Multiple stressor effects in *Menidia beryllina*. Bethany DeCourten.
- 2014 – 2016 Faculty Supervisor, Masters Thesis. University of North Carolina, Wilmington. Endocrine disruption in *Callinectes sapidus*. Andrew Goff.
- 2014 – 2016 Faculty Supervisor, Undergraduate Honors Project. University of North Carolina, Wilmington. Fluorescent labeling of marine microplastics for use in marine toxicology studies. Cessely Gordon.
- 2014 – 2015 Faculty Supervisor, Undergraduate Honors Project. University of North Carolina, Wilmington. Trophic transfer of Macondo oil from the Deepwater Horizon spill, effects on swimming behavior and gene expression in *Menidia beryllina*. Jacqueline Gross.
- 2014 – 2015 Faculty Supervisor, Undergraduate Honors Project. University of North Carolina, Wilmington. Effects of the trophic transfer of styrene on *Menidia beryllina*. Samantha Albotra.
- 2013 – 2014 Faculty Supervisor, Undergraduate Honors Project. University of North Carolina, Wilmington. The effect of the endocrine disrupting pesticide bifenthrin at varied salinities on larval *Menidia beryllina*. Roxanne Diaz.
- 2013 – 2015 Committee Member, Masters Thesis. University of North Carolina, Wilmington. The effects of toxicants on the production of ecdysteroids by the Y-organ in *Callinectes sapidus*. Lauren Ryan.
- 2013 – 2014 Committee Member, Undergraduate Honors Project. University of North Carolina, Wilmington. Assessment of susceptibility to lipophilic toxicants in local zooplankton embryos. Jamie Gerlach.
- 2012 – 2013 Faculty Supervisor, Undergraduate Honors Project. University of North Carolina, Wilmington. The effect of an estrogenic pesticide on gene expression and behavior in *Thalassoma bifasciatum*. Kelsey Burnsed.
- 2012 – 2018 Faculty Supervisor, Directed Individual Study (Undergraduate Research Assistants). University of North Carolina, Wilmington. The effect of endocrine disrupting compounds on vertebrates and invertebrates. Brooke Conner, Brian Graham, Amanda Jones, Maria Bent, Alexandra Teague, Emily Welch, Courtney Coleman, Rachael Cannon, David Huffman, Rachel Pollara, Jaclyn Zerbato, James Andrews, Andrew Goff, Paige Millsap, Hannah Sipe, Amanda Cobb, Corinne Linder, Ameilia Sosnowski, Andrew Piper, Michael Simmonds, Amanda Cobb, Nicole Burkhead, Jordan Critcher, Samantha Albotra, Julie Hurst, Jacob Rennert, Samian Roy, Christopher Cantrell, William Squires, Jacqueline Gross, Kelsey McManus, Nikolas Newton, Nick Burns, Kelsey Mueller, Nicholas Jernack, Savannah Kennedy, Jonathan Cowart, James Lee, Cessely Gordon, Kory Enneking., Griffin Huck, Ryan Harding, Melinda Lambert, Katherine Martin, Ariel Fitzgerald, Adam Keyser,

Alexa Chrisos, Kaitlyn Hudson, Todd Lysiak, Allison Leso, Shannon Bryant, Elizabeth Chason

- 2012 – 13 Committee Member, Masters Thesis. University of North Carolina, Wilmington. Endocrine disrupting compounds affect fish (*P. reticulata*) risk-taking behavior. Melissa Heintz.
- 2012 – 13 Faculty Supervisor, Undergraduate Honors Project. University of North Carolina, Wilmington. The role of metabolism in the endocrine activity of bifenthrin in fishes. Breanna Degroot.
- 2011 – 12 Committee Member, Undergraduate Honors Project. University of North Carolina, Wilmington. Methylmercury accumulation in Antarctic krill and silver fish. Jennifer Lang.

## Professional Activities

### Leadership

Carolinas Society of Toxicology and Chemistry, Chapter Vice President (2013-14)  
Carolinas Society of Toxicology and Chemistry, Chapter President (2014-15)  
Carolinas Society of Toxicology and Chemistry, Annual Meeting Host (2016)

### Letters

NIEHS, wrote letter of recommendation for grant proposal “Assessing impact of drinking water exposure to GenX (hexafluoropropylene oxide dimer acid) in the Cape Fear River Basin, North Carolina.” July 2017.

### Conferences

1. Session Co-Chair (with K. Kuivila and S. Hecht, day-long session). Contaminants of Emerging Concern for Fish: Assessing Exposure and Effects Across Biological Scales. Society of Environmental Toxicology and Chemistry North America Annual Meeting, 2013.
2. Session Co-Chair (with R. Connon and A. Biales, half-day session). Epigenetics and Environmental Exposures: Mechanisms and Effects from Invertebrates to Fishes. Society of Environmental Toxicology and Chemistry North America Annual Meeting, 2016.
3. Session Co-Chair (with A. Todgham and N. Fangué, half-day session). Impacts of Multiple Stressors in Coastal Ecosystems on Organism Health. Ocean Sciences Meeting, 2018.
4. Two session proposals submitted to the Society of Environmental Toxicology and Chemistry, Sacramento, CA 2018.

### Editor

PeerJ 2017 - present

### Peer Review

*Environmental Science and Technology; Aquatic Toxicology; Environmental Pollution; Journal of Freshwater Ecology; Asian Journal of Andrology, GAIA, Pesticide Biochemistry and Physiology; Science of the Total Environment; PLoS ONE; Toxicology Letters, Archives of Environmental Contamination and Toxicology, Environmental Toxicology and Chemistry, Environmental Toxicology and Pharmacology, Ecotoxicology and Environmental Safety, Journal of Epigenomics, Journal of Environmental Science, Conservation Physiology, Ecosystems, Chemosphere, Animal Reproduction, Archives of Environmental Contamination and Toxicology, Biological Reviews*

**Grant Review** *Smith Fellowship, USC Sea Grant, NSF PIRE, California Sea Grant College Program), EPA STAR, NOAA Gulf of Mexico, California Sea Grant, Department of Defense*

**Memberships/  
Affiliations** Marine Studies Initiative, Oregon State University (2017 – present)  
Environmental Health Sciences Center, Oregon State University (2017 – present)  
Center for Genome Research and Biocomputing, Oregon State University (2017 – present)  
Hatfield Marine Science Center (2017 – present)  
Pacific Northwest Society of Environmental Toxicology and Chemistry (2017 – present)  
National Society of Environmental Toxicology and Chemistry (2006 – present)  
SETAC Endocrine Disruptors Advisory Group (2014 – present)  
Carolinas Society of Environmental Toxicology and Chemistry (2012-2017)  
Northern California Society of Environmental Toxicology and Chemistry (2007-2010)  
Northern California Society of Toxicology (2007-2010)  
American Chemical Society (2010 – present)

**Workshops** Transformative Curriculum, Marine Studies Initiative (OSU, 2017)  
RNA Seq Workshop, UC Davis Genome Center (2017)  
eTEAL Summer Institute (ALTC / eTEAL, UNCW, 2016)  
eTEAL Summer Institute (ALTC / eTEAL, UNCW, 2015)  
Let’s Publish This Summer (ALTC / eTEAL, UNCW, 2014)  
“Lean In” book circle (UNCW Center for Teaching Excellence, 2014)  
The Art and Science of Negotiation (Women in SETAC, 2013)  
eTEAL-Supported Pedagogy Initiative Workshop (ALTC / eTEAL, UNCW, 2013)

*\*ALTC = Applied Learning and Teaching Community, eTEAL = experiential teaching and learning*

**Service**  
2018 – present Diversity Committee, Environmental and Molecular Toxicology, Oregon State University  
2017 – present 500 Women Scientists Corvallis, Officer  
2017 – present Marine Science Initiative Committee, Environmental and Molecular Toxicology, Oregon State University  
2016 – 2017 Chairs Advisory Committee, University of North Carolina, Wilmington  
2016 – 2017 Laboratory Safety Committee, University of North Carolina, Wilmington  
2016 - 2017 Center for Marine Science Seawater Committee, University of North Carolina, Wilmington  
2015 - 2016 Equipment Committee Chair, University of North Carolina, Wilmington  
2015 – 2017 Management of Departmental DEA Permit  
2015 - 2016 Long Term Planning Committee, University of North Carolina, Wilmington  
2014 - 2015 Equipment Committee, University of North Carolina, Wilmington  
2014 - 2015 Biotechnology Curriculum Committee, University of North Carolina, Wilmington  
2013 Seminar Committee, University of North Carolina, Wilmington

2013                      Wrightsville Beach Elementary, Wrightsville Beach, NC: Science Fair Judge  
2012                      Hoggard High School, Wilmington, NC: Faculty Mentor for Senior Project  
2011                      Holly Shelter Middle School, Castle Hayne, NC: Science Fair Judge

**Collaborators** (last 48 months)

J.W.White (UNCW), B. Darrow (UNCW), M. Posey (UNCW), T. Alphin (UNCW), R. Mead (UNCW), P. Seaton (UNCW), J. Covi (UNCW), A. Taylor (UNCW), B. Monteleone (UNCW), W. Watanabe (UNCW), R. Connon (UCD), M. Denison (UCD), J. Hobbs (UCD), G. He (UCD), B. Cole (UCD), K. Armbrust (LSU), M. Hadlik (USGS), K. Jeffries (UCD), M. Hawkins (NCSU), A. Mehinto (SCWWRP), K. Maruya (SCWWRP), N. Denslow (UF), N. Fangué (UCD), M. Brooks (USI), A. Andrady (NCSU), H. Poynton (UMASS), M. Lydy (USI), D. Weston (UCB), J. Caselle (UCSB), J. Field (OSU), B. Stubblefield (OSU), E. Granek (PSU), C. Stallings (USF), M. Donahue (UH)