

CURRICULUM VITAE

Aaron W. E. Galloway, Ph.D.

Assistant Professor
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Signed: Aaron W. E. Galloway



Updated: Oct 30, 2020

ACADEMIC APPOINTMENTS (courses taught in bold)

Assistant Professor. **Marine Conservation Biology, Marine Ecology, Open Access Tools for Ecological Research.** University of Oregon, Oregon Institute of Marine Biology. Fall 2015-present.

Affiliate Assistant Professor. University of Washington (UW) Civil & Environmental Engineering. March 2017-2018.

Instructor. **Ecology Between & Below Pacific Tides** (with Scientific Diving option). Session B Summer 2015. **Marine Subtidal Ecology** (with Scientific Diving option). Session A Summer 2018. UW, Friday Harbor Labs (FHL).

Postdoctoral Research Associate. Washington State University, School of the Environment, Pullman WA, USA. Supervisor: Prof. S. Hampton. September 2014-15.

Visiting Postdoctoral Researcher. Stockholm University, Department of Ecology, Environment and Plant Sciences, Sweden (Home Instit.: UC Davis). Supervisor: Prof. M. Winder. November 2013-14.

Postdoctoral Researcher. University of Eastern Finland, Department of Biology, Joensuu, Finland. Supervisor: Dr. P. Kankaala. June-November 2013.

Graduate Research Assistant. UW, School of Aquatic and Fishery Sciences, FHL. Supervisors: Profs. Sebens, Duggins, Dethier, Brett, Simenstad. 2007-2013.

Graduate Teaching Fellow. National Science Foundation (NSF) Ocean and Coastal Interdisciplinary Science (OACIS) GK-12 Program Fellowship, **Biology.** Spring Street Int. School, FHL, UW. 2012-13.

Graduate Teaching Assistant. **Marine Invertebrate Zoology, Marine Botany.** FHL, UW. 2011-2012.

Graduate Teaching Fellow. **Oceanography, Physics, Chemistry.** NSF OACIS GK-12, Friday Harbor High School, FHL, UW. 2010-11.

EDUCATION

<i>University of Washington</i>	Aquatic and Fishery Sciences (Ecology)	Ph.D. 2013
<i>Central Washington University</i>	Resource Management (Wildlife Biology)	M.S. 2004
<i>The Evergreen State College</i>	Environmental Science and Policy	B.A. 1999

PEER-REVIEWED PUBLICATIONS (47) (♦=student coauthors, ^=postdoc coauthor, ‡=supervising author)

47. Whalen, MA, R Whippo♦, AWE Galloway, and 63 additional authors. 2020. Climate drives the geography of marine consumption by changing predator communities. **Proceedings of the National Academy of Sciences** doi: 10.1073/pnas.2005255117

46. Galloway, AWE‡, G von Dassow, JB Schram^, T Klinger, TM Hill, AT Lowe^, F Chan, RM Yoshioka♦, KJ Kroeker. 2020. Ghost factors of laboratory carbonate chemistry are haunting our experiments. **The Biological Bulletin** 239:pp-pp doi: 10.1086/711242

45. Lowe, AT[^], AWE Galloway. *In press*. Urchin Searchin': Red urchins and drift kelp found at 284 m in the mesophotic zone. **Ciencias Marinas** (WSN 2019 special issue).
44. Schram, JB[^], HL Sorensen [◆], RD Brodeur, AWE Galloway, KR Sutherland. 2020. Abundance, distribution, and feeding ecology of *Pyrosoma atlanticum* in the Northern California Current. **Marine Ecology Progress Series** 651:97-110. doi: 10.3354/meps13465
43. Galloway, AWE[‡] and SM Budge. 2020. The critical importance of experimentation in biomarker-based trophic ecology. Guest Editors for special issue "The next horizons for lipids as trophic biomarkers". **Philosophical Transactions of the Royal Society B** 375:20190638. doi: 10.1098/rstb.2019.0638
42. Jardine, TD, MJ Kainz, and AWE Galloway. 2020. Unlocking the power of fatty acids as dietary tracers and metabolic signals in aquatic food webs. **Philosophical Transactions of the Royal Society B** 375: 20190639. doi: 10.1098/rstb.2019.0639
41. Thomas, M [◆], JB Schram[^], Z Clark-Henry [◆], B Yednock, AL Shanks, AWE Galloway[‡]. 2020. Juvenile Dungeness crab (*Metacarcinus magister*) selectively integrate and modify the fatty acids of their experimental diets. **Philosophical Transactions of the Royal Society B** 375:20200038. doi:10.1098/rstb.2020.0038
40. Knorek, ZR [◆], BP Hansen, SS Rumrill, SD Groth, AWE Galloway[‡]. 2020. Seasonal variability in a nascent population of a non-indigenous colonial ascidian (*Didemnum vexillum*) near Winchester Bay, Oregon. **Aquatic Ecology**. doi:10.1007/s10452-020-09774-w
39. Dundas, SJ, AS Levine, RL Lewison, AN Doerr, C White, AWE Galloway, C Garza, EL Hazen, J Padilla-Gamiño, JF Samhuri, A Spalding, A Stier, JW White. 2020. Integrating the Oceans into climate policy: any green new deal needs a splash of blue. **Conservation Letters** e12716. doi:10.1111/cons.12716
38. Schram, JB[^], MO Amsler, AWE Galloway[‡], CD Amsler, JB McClintock. 2019. Fatty acid trophic transfer of Antarctic algae to a sympatric amphipod consumer. **Antarctic Science** 31:315-316 doi:10.1017/S0954102019000397
37. Yoshioka, RM [◆], JB Schram[^], and AWE Galloway[‡]. 2019. Eelgrass pathogen *Labyrinthula zosterae* synthesizes essential fatty acids. **Diseases of Aquatic Organisms** 135:89-95 doi:10.3354/dao03382
36. Taipale, SJ, SL Aalto, AWE Galloway, K Kuoppamäki, P Nzobeuh, and E Peltomaa. 2019. Differing eutrophication and browning influence on *Daphnia* nutritional ecology. **Inland Waters** 9:374-394 doi: 10.1080/20442041.2019.1574177
35. Dethier, MN, G Hoins [◆], J Kobelt [◆], AT Lowe, AWE Galloway, JB Schram[^], M Raymore, and DO Duggins. 2019. Feces as food: the nutritional value of urchin feces and implications for benthic consumers. **Journal of Experimental Marine Biology and Ecology** 514-515:95-102 doi:10.1016/j.jembe.2019.03.016
34. Zuercher R [◆], and AWE Galloway. 2019. Coastal marine ecosystem connectivity: pelagic ocean to kelp forest subsidies. **Ecosphere** 10(2):e02602 doi:10.1002/ecs2.2602
33. Hakim, JA [◆], JB Schram[^], AWE Galloway, CD Morrow, MR Crowley, SA Watts, and AK Bej. 2019. The purple sea urchin *Strongylocentrotus purpuratus* demonstrates a compartmentalization of gut bacterial microbiota, predictive functional attributes, and taxonomic co-occurrence. **Microorganisms** 7(2):35 doi.org/10.3390/microorganisms7020035
32. Sutherland, K, O Blondheim, R Brodeur, H Sorensen [◆], SR Marion, and AWE Galloway. 2018. Range expansion of tropical pyrosomes in the northeast Pacific Ocean. **Ecology** 99:2397-2399 doi:10.1002/ecy.2429
31. Hampton, SE, AWE Galloway, and 14 additional authors (including one undergraduate student I mentored, M DiCarlo [◆]). 2018. Recent ecological change in ancient lakes. **Limnology and Oceanography** 63(5):2277-2304 doi: 10.1002/lno.10938
30. Schram, JB[^], JN Kobelt [◆], MN Dethier, and AWE Galloway[‡]. 2018. Trophic transfer of macroalgal fatty acids in two urchin species: digestion, egestion, and tissue building. **Frontiers in Ecology and Evolution** 6:Art83 doi:10.3389/fevo.2018.00083

29. Winder, M, J Carstensen, AWE Galloway, H Jakobsen, J Cloern. 2017. The land-sea interface: a source of high-quality phytoplankton to support secondary production. **Limnology and Oceanography** 62(S1):S258-S271 doi:10.1002/lno.10650
28. Galloway, AWE‡ and AL Shanks. 2017. Opening the black box of coastal crab life history: observation of an exceptionally high-density settlement event. **Bulletin of the Ecological Society of America** 98:236-239 doi:10.1002/bes2.1325
27. Galloway, AWE‡, AL Shanks, S Groth, SR Marion, AR Thurber. 2017. Massive crab recruitment events to the shallow subtidal zone. **Ecology** 98:1468-1470 doi:10.1002/ecy.1740
26. Brett, MT, SE Bunn, S Chandra, AWE Galloway, F Guo, MJ Kainz, DCP Lau, P Kankaala, TP Moulton, ME Power, JB Rasmussen, SJ Taipale, JH Thorp, JD Wehr. 2017. How important are terrestrial organic carbon inputs for secondary production in freshwater ecosystems? **Freshwater Biology** 62:833-853 doi:10.1111/fwb.12909
25. Hampton, SE, AWE Galloway*, and 60 additional authors (including one undergraduate student I mentored, M Pruetz ♦). 2017. Ecology under lake ice. **Ecology Letters** 20:98-111 (*2nd Author, where author order is organized by level of contribution) doi:10.1111/ele.12699
24. Brett, MT, ME Eisenlord ♦, and AWE Galloway‡. 2016. Using multiple tracers and directly accounting for trophic modification improves dietary mixing model performance. **Ecosphere** 7(8):e01440 doi:10.1002/ecs2.1440 [Special Issue on Biomarkers in Trophic Ecology]
23. Dalu, T, AWE Galloway, NB Richoux, and PW Froneman. 2016. Effects of substrate on biologically important fatty acids produced by phytobenthos in an austral temperate river. **Freshwater Science** 35(4):1189-1201 doi:10.1086/688698
22. Taipale, SJ, AWE Galloway, SL Aalto, KK Kahilainen, U Strandberg, and P Kankaala. 2016. Terrestrial carbohydrates support freshwater zooplankton during phytoplankton deficiency. **Scientific Reports** 6:30897 doi:10.1038/srep30897
21. Lowe, AT ♦, EA Roberts ♦, and AWE Galloway‡. 2016. Improved marine-derived POM availability and increased pH related to freshwater influence in an inland sea. **Limnology and Oceanography** 61:2122-2138 doi: 10.1002/lno.10357
20. Duggins, DO, M Gómez-Buckley, R Buckley, AT Lowe, AWE Galloway, and MN Dethier. 2016. Islands in the stream: kelp detritus as faunal magnets. **Marine Biology** 163:art17. doi:10.1007/s00227-015-2781-y
19. Galloway, AWE, M Winder. 2015. Partitioning the relative importance of phylogeny and environmental conditions on phytoplankton fatty acids. **PLoS ONE** 10(6):e0130053. doi:10.1371/journal.pone.0130053
18. Galloway, AWE, MT Brett, GW Holtgrieve, EJ Ward, AP Ballantyne, CW Burns, MJ Kainz, DC Muller-Navarra, J Persson, JL Ravet, U Strandberg, SJ Taipale, and G Ahlgren. 2015. A fatty acid based algorithm for inferring diet in aquatic consumers. **PLoS ONE** 10(6):e0129723. doi:10.1371/journal.pone.0129723
17. Hampton, SE, MV Moore, T Ozersky, E Stanley, CM Polashenski, and AWE Galloway. 2015. Heating up a cold subject: prospects for under-ice research in lakes. **Journal of Plankton Research** 37:277-284. doi:10.1093/plankt/fbv002
16. Strandberg, U, SJ Taipale, M Hiltunen ♦, AWE Galloway, MT Brett, and P Kankaala. 2015. Inferring heterogeneous phytoplankton composition with a fatty acid mixing model. **Ecosphere** 6:art16. doi:10.1890/ES14-00382.1
15. Lowe, AT, R Whippo ♦, AWE Galloway, KH Britton-Simmons, and MN Dethier. 2015. Sedentary urchins influence benthic community composition below the macroalgal zone. **Marine Ecology** 36:129-140 doi: 10.1111/maec.12124
14. McDonald, PS, AWE Galloway, K McPeck ♦, and GR VanBlaricom. 2015. Effects of geoduck (*Panopea generosa* Gould, 1850) aquaculture gear on resident and transient macrofauna communities of Puget Sound, Washington, USA. **Journal of Shellfish Research** 34:189-202. doi:10.2983/035.034.0122

13. McDonald, PS, TE Essington, JP Davis, AWE Galloway, BC Stevick♦, GC Jensen, GR VanBlaricom, and DA Armstrong. 2015. Distribution, abundance, and habitat associations of a large bivalve (*Panopea generosa*) in a eutrophic fjord estuary. **Journal of Shellfish Research** 34:137-145. doi:10.2983/035.034.0117
12. Galloway, AWE, S Taipale, M Hultunen♦, E Peltomaa, U Strandberg, MT Brett, and P Kankaala. 2014. Diet specific biomarkers show that high quality phytoplankton fuel herbivorous zooplankton in large boreal lakes. **Freshwater Biology** 59:1902-1915. doi:10.1111/fwb.12394
11. Galloway, AWE, ME Eisenlord♦, MN Dethier, GW Holtgrieve, and MT Brett. 2014. Quantitative estimates of isopod resource utilization using a Bayesian fatty acid mixing model. **Marine Ecology Progress Series** 507:219-232. doi:10.3354/meps10860
10. Raymond, WR♦, AT Lowe, and AWE Galloway‡. 2014. Degradation state of algal diets affects fatty acid composition but not size of red urchin gonads. **Marine Ecology Progress Series** 509:213-225. doi:10.3354/meps10888
9. Dethier, MN, A Brown♦, S Burgess♦, ME Eisenlord♦, AWE Galloway, J Kimber♦, AT Lowe, CM O'Neil♦, WR Raymond♦, EA Sosik, and DO Duggins. 2014. Degrading detritus: changes in food quality of aging kelp tissue varies with species. **Journal of Experimental Marine Biology and Ecology** 460:72-79. doi:10.1016/j.jembe.2014.06.010
8. Lowe, AT, AWE Galloway, JS Yeung♦, MN Dethier, and DO Duggins. 2014. Broad sampling and diverse biomarkers allow characterization of nearshore particulate organic matter. **Oikos** 123:1341-1354 doi:10.1111/oik.01392
7. Galloway, AWE, AT Lowe, EA Sosik♦, JS Yeung♦, and DO Duggins. 2013. Fatty acid and stable isotope biomarkers suggest microbe-induced differences in benthic food webs between depths. **Limnology and Oceanography** 58:1452-1462. doi:10.4319/lo.2013.58.4.1451
6. Taipale, S, E Peltomaa, U Strandberg, AWE Galloway, A Ojala, and MT Brett. 2013. Fatty acid composition as biomarkers of freshwater microalgae: analysis of 37 strains of microalgae in 22 genera and in 7 classes. **Aquatic Microbial Ecology** 71:165-178. doi:10.3354/ame01671
5. Dethier, MN, EA Sosik♦, AWE Galloway, DO Duggins, and CA Simenstad. 2013. Addressing assumptions: variation in stable isotopes and fatty acids in marine macrophytes can confound conclusions of food web studies. **Marine Ecology Progress Series** 478:1-14. (*Feature Article*). doi:10.3354/meps10310
4. Galloway, AWE, KH Britton-Simmons, DO Duggins, PW Gabrielson, and MT Brett. 2012. Fatty acid signatures differentiate marine macrophytes at ordinal and family ranks. **Journal of Phycology** 48:956-965. doi:10.1111/j.1529-8817.2012.01173.x
3. Britton-Simmons, KH, AL Rhoades♦, RE Pacunski, AWE Galloway, AT Lowe, EA Sosik♦, MN Dethier, and DO Duggins. 2012. Habitat and bathymetry influence the landscape-scale distribution and abundance of drift macrophytes and associated invertebrates. **Limnology and Oceanography** 57:176-184. doi:10.4319/lo.2012.57.1.0176
2. Galloway, AWE, RJ Hickey, and GM Koehler. 2011. A Survey of ungulates by students along rural school bus routes. **Society and Natural Resources** 24:201-204. doi:10.1080/08941920903222572
1. Galloway, AWE, MM Tudor, and M Vander Haegen. 2006. The reliability of citizen science: a case study of Oregon white oak stand surveys. **Wildlife Society Bulletin** 34:1425-1429. doi:10.2193/0091-7648(2006)34[1425:TROCSA]2.0.CO;2

MANUSCRIPTS in REVISION and REVIEW

2. Salant, CD♦, AL Shanks, JB Schram^, AWE Galloway‡. *In review*. Trophic biomarkers indicate coastal surfzone hydrodynamics affect resource assimilation of mussels and barnacles. **Estuaries and Coasts** (submitted October 2020).

1. Lee, L, D McNeill, P Ridings, M Featherstone, D Okamoto, N Spindel ♦, AWE Galloway, G Saunders, E Adamczyk ♦, L Reshitnyk, O Pontier, M Post, R Irvine, N Wilson, V Bellis. *In review*. Chiixuu TII iinasdli: Indigenous ethics and values lead to ecological restoration for people and place in Gwaii Haanas. Invited article in special issue of **Ecological Restoration** (submitted Apr-2020).

NON-PEER REVIEWED PUBLICATIONS, SOFTWARE, and DATA SETS

6. Barth, J, C Braby, F Barcellos, AWE Galloway, A Lanier, A Pazar, F Recht, J Schaefer, J Sumich, S Walker, J Wigal, L Xin. 2019. **Oregon Ocean Acidification and Hypoxia Action Plan**. Developed by the Oregon Ocean Acidification and Hypoxia Council. Available at: [\[https://www.oregonocean.info/index.php/oah-action-plan\]](https://www.oregonocean.info/index.php/oah-action-plan). Also see Service Portfolio appendix.
5. Hampton, SE, SG Labou, KH Woo ♦, AWE Galloway, and 10 additional authors. 2016. Dataset: Winter and summer comparison of biological, chemical, and physical conditions in seasonally ice-covered lakes. **Knowledge Network for Biocomplexity**. doi:10.5063/F12V2D1V
4. Galloway, AWE, GW Holtgrieve, EJ Ward and MT Brett. 2015. Software/program: FASTAR (Fatty Acid Source Tracking Algorithm in R) mixing model approach. Last updated June 2015. Shared upon request.
3. Galloway, AWE. 2013. Trophic transfer of nearshore basal resources: interpreting fatty acid and stable isotope biomarkers. **PhD Dissertation**, UW.
2. Galloway, AWE, BL Murphie. 2007. Harbor seal haulout verification in Hood Canal, WA. Unpublished internal report, Washington Department of Fish and Wildlife, Wildlife Science Program, Marine Mammal Investigations. 22 pp.
1. Galloway, AWE. 2004. The use of rural school bus routes and students for monitoring ungulate distribution in Kittitas County, Washington. **Master's Thesis**, CWU.

RECENT PRESENTATIONS (of 45) at scientific meetings (*indicates presenter)

Effects of lakeside development on nearshore benthic communities along the southwestern shore of Lake Baikal (Siberia). *MF Meyer ♦, T Ozersky, KH Woo, K Schapov, D Snow, EJ Rosi, MA Timofeyev, EA Silow, YM Zvereva, DY Karanaukhov, MR Brousil, AWE Galloway, JB Schram^, SE Hampton.

- Ecological Society of America Annual Meeting, 8/2020, Salt Lake City, UT (**online**)

Fatty acid trophic transfer from Antarctic algae to amphipod consumers. *JB Schram^, MA Amsler, CD Amsler, AWE Galloway, JB McClintock.

- Scientific Committee on Antarctic Research (SCAR) Open Science Conference, 8/2020, Hobart, Tasmania, Australia (**online**)

Macroalgal community variation correlated with annual sea ice coverage along a 450 kilometer north-south gradient in the central western Antarctic Peninsula. *CD Amsler, MO Amsler, AG Klein, S Heiser ♦, AWE Galloway, K Iken, JB McClintock, AT Lowe^, JB Schram^, R Whippo ♦. (**online**)

- SCAR Open Science Conference, 8/2020, Hobart, Tasmania, Australia

Correcting for trophic modification of fatty acids improves their use as dietary source tracers in aquatic food webs. *TD Jardine, AWE Galloway, MJ Kainz. [**cancelled conference**]

- Joint Aquatic Sciences Meeting, 6/2020, Madison, WI

Omnivory and fitness in coastal *Strongylocentrotus purpuratus* urchins inferred from trophic biomarkers. *Sa.L Hamilton ♦, JB Schram^, AWE Galloway, BA Menge, and KA Grorud-Colvert. [**cancelled conference**]

- 9th North American Echinoderm Conference, 6/2020, Charleston OR

Fatty acids reveal large-scale geographic variation in the trophic niche of lingcod. *AWE Galloway‡, MD Thomas ♦, BL Basnett ♦, Sc.L Hamilton, L Lam ♦, JF Samhuri.

- Western Society of Naturalists Annual Meeting, 11/2019, Ensenada, Baja, Mexico
Trophic mysteries of the shallows: Unraveling eelgrass ecosystems in Southeast Alaska. *WW Raymond ♦, JB Schram ^, AWE Galloway ‡, GL Eckert.
- 25th Biennial Coastal and Estuarine Research Federation Conference, 11/2019, Mobile, AB
Diet reconstruction of juvenile suckers of Upper Klamath Lake using fatty acids as biomarkers. *JB Schram ^, MT Brett, J Nielson, AWE Galloway ‡.
- Oregon Lakes Association Annual Conference, 10/2019, Bend, OR
Using fatty acid biomarkers to untangle trophic pathways in hypereutrophic Upper Klamath Lake. *MT Brett, JB Schram ^, J Nielson, AWE Galloway.
- Oregon Lakes Association Annual Conference, 10/2019, Bend, OR
Unravelling the trophic ecology of wild and captive juvenile Dungeness crab (*Metacarcinus magister*) using fatty acid biomarkers. *AWE Galloway ‡, MD Thomas ♦.
- Pacific Coast Shellfish Growers Association Annual Meeting, 9/2019, Portland, OR
Growth and abundance of juvenile and sub-adult Dungeness crabs in the South Slough Estuary. *MD Thomas ♦, AWE Galloway, B Yednock, AL Shanks.
- Pacific Coast Shellfish Growers Association Annual Meeting, 9/2019, Portland, OR

RECENT POSTERS (of 23) at scientific meetings (*indicates presenter)

Fatty-acid composition of 34 species of Antarctic macroalgae across a gradient of annual mean ice cover.

*R Whippo ♦, JB Schram ^, S Heiser ♦, CD Amsler, A Klein, AWE Galloway ‡. **[submitted abstract]**

- Scientific Committee on Antarctic Research Open Science Conference, 8/2020, Hobart, Tasmania, Australia **[cancelled conference]**

The importance of a BioBlitz to inform ecological studies. M Lundin ♦, Dylan Bipat, RE Emlet, AWE Galloway, M Granquist, J Hodder, S Maslakova, M Morgan, M O'Mahoney, S Pecnik, A Uehling, M Watts, RM Yoshioka ♦, G Paulay, C Meyer. **[accepted abstract]**

- Ecological Society of America Annual Meeting, 8/2020, Salt Lake City, UT

Trophic analysis armed with a trident: A three-pronged approach to characterizing the role of the ctenophore *Pleurobrachia bachei* in pelagic food webs. *JA Masterman ♦, AWE Galloway, RK Cowen, S Sponaugle, KR Sutherland.

- Ocean Sciences Meeting, 2/2020, San Diego, CA

Taking inventory of our invertebrates: Oregon Institute of Marine Biology's BioBlitz. *RM Yoshioka ♦, J Hodder, G Paulay, C Meyer, RE Emlet, M Watts, S Maslakova, AWE Galloway ‡.

- State of the Coast Annual Meeting, 11/2019, Gleneden Beach, OR

Juvenile Dungeness crab try to avoid low pH seawater, but when forced into such unfavorable conditions, they may take longer to find their prey. *SA Manos ♦, HG Hayes ♦, JB Schram ^, AWE Galloway ‡. **Winner of the Best Student Poster Award**

- State of the Coast Annual Meeting, 11/2019, Gleneden Beach, OR

Interaction of trophic stressors and the role of cannibalism on newly recruited coastal Dungeness crab exposed to reduced seawater pH. *JB Schram ^, AWE Galloway ‡.

- Gordon Research Seminar: Ocean Global Change Biology, 7/2018, Waterville Valley, NH

INVITED WORKING GROUPS and SYNTHESIS

Oregon Kelp Alliance (ORKA) Strategy Meeting. Invited participant (25 experts from Oregon) in scoping and strategy meeting to develop a potential restoration project for bull kelp on the Southern Oregon Coast. Port Orford, OR, Zoom meeting, March 25, 2020.

Oregon Marine Size and Spacing Workshop 2.0. Invited participant (50 experts from across the West Coast) a scoping and strategy meeting to prepare for possible future marine reserves in Oregon. Corvallis, OR, March 3-4, 2020.

Oregon Marine Reserves Science Communication Workshops. Invited participant (6 scientists) for initial scoping meeting to prepare for a future marine reserve COMPASS communication training in 2020. Corvallis, OR, September 12, 2019.

Oregon Coast 'BioBlitz'. This effort was made in collaboration with the Smithsonian, the Western Association of Marine Labs, and ~15 invited taxonomic experts from a diverse list of institutions. I was the Co-initiator (with Dr. Jan Hodder and Reyn Yoshioka) of a two-week intertidal and subtidal specimen collection BioBlitz. Our collections ultimately documented (with genetic tools) >1000 invertebrate species. I was the lead diver for subtidal collections.

Navigating West Coast Ocean Change: A COMPASS Communications Workshop. Invited participant in COMPASS (<https://www.compasscicomm.org/>) workshop designed to advance public dialogue and identify solutions to ocean changes. This workshop has an emphasis on ocean acidification and hypoxia. One of 20 invited experts. Asilomar Conference Center, Pacific Grove, CA, January 16-18, 2018.

Department of Fisheries and Oceans (DFO) Canada Nearshore Habitat Productivity Workshop and Gap Analysis. Invited contributor and presenter to DFO Canada working group to guide development and research focus of a new governmental initiative for new support for collaborative research on coastal ecosystems. Summary of state of the science of fatty acids as trophic biomarkers. One of 30 invited international scientists. Vancouver, BC, Canada, February 22-23, 2018.

The 4th U.S. Ocean Acidification Principal Investigators Meeting. Contributor to a synthesis group on quantifying the relative effectiveness of OA mitigation strategies. One of ~100 attendees. Portland OR, February 17-19, 2018. [<https://web.whoi.edu/ocb-0a/>]

Smithsonian and Hakai Institute BioBlitz. Invited research diver and contributor to 2-week expedition to survey the biodiversity of the outer coast of Calvert Island, British Columbia. One of 25 participants on an international team. July 7 – August 12, 2017.

[<https://www.hakai.org/blog/life-at-hakai/BioBlitz-Species-Never-Met>]

Food quality of basal producers at the land-sea interface. Contributor to invited working group on plankton food quality in global estuaries. Aarhus University, Copenhagen, Denmark, August 18-24, 2014. One of five in-person participants: M Winder, J Cloern, HH Jacobsen, J Carstensen, and AWE Galloway.

Ecology under lake ice. Co-organizer for National Center for Ecological Analysis and Synthesis (NCEAS) working group for synthesizing and analyzing data on under-ice biology in global lakes. One of 13 in-person participants. Working group additionally included 25 online participants. April 8-10, 2015. Group leaders: SE Hampton, AWE Galloway, TO Ozersky, E Stanley, and K Woo. [<https://www.nceas.ucsb.edu/workinggroups/ecology-under-lake-ice>]

RECENT INVITED TALKS and SEMINARS

“Take a dive! Underwater observations can unlock a treasure trove of new ideas”. 29-Jul-2020. Invited seminar (Zoom and in person) for the Friday Harbor Labs summer seminar series, University of Washington. Friday Harbor, WA.

“Diving the seaweed forests of the Western Antarctic Peninsula”. 26-Jun-2019. Invited Institute Seminar. Charleston, OR.

“Searching for the limits of red urchins in the Salish Sea”. 28-Feb-2019. Invited Talk. OceanGate Foundation *Scientists in Submersibles*. MadArt Studio, Seattle, WA.

- “Update on the Oregon Ocean Acidification and Hypoxia Coordinating Council”. 27-Oct-2018. Invited ‘Coastal Snapshot’ presentation to the full conference body, at the State of the Coast Annual Meeting, Coos Bay, OR.
- “Fatty acids as tracers for trophic interactions among coastal consumers”. 19-Mar-2018. Invited Departmental Seminar. San Diego State University; San Diego, CA.
- “Fatty acids as trophic biomarkers for nearshore marine trophic ecology: opportunities and limitations”. 22-Feb-2018. Invited talk. DFO Canada Nearshore Habitat Productivity Workshop and Gap Analysis (see above). Vancouver, BC, Canada.
- “Combining traditional and novel approaches for observing trophic relationships in nearshore subtidal coastal zones”. 4-Dec-2017. Invited Departmental Seminar. Oregon State University, Hatfield Marine Science Center; Newport OR.
- “Is Dungeness crab prey-sensing affected by exposure to ocean acidification?”. 17-Oct-2017. Invited talk. Annual Meeting of the Oregon Dungeness Crab Commission; Brookings, OR.
- “Preparing undergraduates for 'publish or perish' using model journals of course-related research”. 31-Mar-2017. Invited seminar. Annual Cyamus Regional Meeting of the International Association of Aquatic and Marine Science Libraries and Information Centers; Charleston OR.

RESEARCH METRICS

Google Scholar; h-index=21; i10-index=28; citations=1685

ResearchGate; RG-score=36; >16,000 publication reads, RG-percentile=92.5%

AWARDS, FELLOWSHIPS, and CERTIFICATIONS

- Recipient of the **UO 2019 Outstanding Early Career Award**, which is the UO’s highest university award for early career faculty to recognize and celebrate an emerging and significant record of scholarship and research at the UO – 2019.
- School of Aquatic and Fishery Sciences **Faculty Merit Award** for dissertation – 2013
- University of Eastern Finland postdoctoral research grant – 2013
- NSF Ocean and Coastal Interdisciplinary Science GK-12 Program Fellowship – 2012
- Richard and Megumi Strathmann Fellowship, Alan and Marian Kohn Fellowship; (FHL) – 2012
- International Phycological Society Paul C. Silva Student Grant – 2011
- Pacific Northwest Shell Club Scholarship Award – 2011
- PADI Foundation Research Funding Award – 2011
- UW SAFS Graduate Research Funds Scholarship Award – 2011
- American Acad. Underwater Scientists Kathy Johnston Award – 2010
- NSF Ocean and Coastal Interdiscip. Science GK-12 Program Fellowship – 2010
- National Shellfisheries Association Castagna Research Grant – 2009
- American Acad. Underwater Scientists (AAUS) Lead Research Diver – since 2007
- Corps member of the quarter award, Washington Conservation Corps – 2001

INVITED GOVERNMENTAL COUNCILS and PANELS

Oregon Coordinating Council on Ocean Acidification and Hypoxia. Invited council member (1 of 13); 2-year appointment. The council met monthly in 2018, and quarterly in 2019, with a mandate to make recommendations to the Oregon Governor and State Legislature on actions to take to better understand and mitigate ocean acidification and hypoxia. We issued an Action Plan in 2019 (see unpublished products list above and the Appendix of the Service Portfolio for a copy of the Action Plan) [<https://www.oregonocean.info/index.php/ocean-acidification>]