

Erica Goetze

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University of Hawaii at Mānoa
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Education

- 2004 Ph.D. in Oceanography, Scripps Institution of Oceanography, University of California, San Diego.
1995 B.A. in Biology, Wesleyan University, Middletown, Connecticut

Professional History

- 2020 – current Professor, Department of Oceanography, University of Hawaii at Mānoa
Associate Chair, Department of Oceanography, 2021– 2022
Biological Oceanography Division Head, 2020 – 2022
Graduate Faculty in Oceanography, Marine Biology
2014 – 2020 Associate Professor, Department of Oceanography, University of Hawaii at Mānoa
2008 – 2014 Assistant Professor, Department of Oceanography, University of Hawaii at Mānoa *
2005 – 2008 Postdoctoral Scholar and Marie Curie Incoming International Fellow, Danish Institute for Fisheries Research, Charlottenlund, Denmark *
2005 Postdoctoral Research Assistant, The Natural History Museum, London UK
1998 – 2004 Graduate Research Assistant and EPA STAR Fellow, Scripps Institution of Oceanography, UCSD
(* maternity leave, 9/10 – 11/10, 1/06 – 7/06)

Publications, Peer-Reviewed

1. Jungbluth*, M.J., Hanson, K., Lenz, P., Robinson, E., **Goetze, E.** (in revision) Species-specific biomass estimation from gene copy number in metazoan plankton. *Limnology & Oceanography Methods*
2. Smith, C. R., Glover, A., Clark, M. R., **Goetze, E.**, Howell, K. (2021) A new synthesis of seafloor biodiversity across the Clarion Clipperton Zone and its application to management. Editorial. *Frontiers in Marine Science* 8: 797516. doi: 10.3389/fmars.2021.797516
3. Wall-Palmer, D., Mekkes, L., Danmer, L., **Goetze, E.**, Bakker, K., Peijnenburg, K. T. C. A. (2021) Current and future ocean chemistry negatively impacts calcification in predatory planktonic snails. *Royal Society Open Science* 8: 202265. doi: 10.1098/rsos.202265
4. Matthews S. A., **Goetze, E.**, Ohman, M. D. (2021) Recommendations for interpreting zooplankton metabarcoding observations and integrating molecular methods with morphological analyses. *ICES Journal of Marine Science, special issue* 78(9): 3387-3396. doi: 10.1093/icesjms/fsab107
5. Choo, L. Q., Bal, T. M. P., **Goetze, E.**, Peijnenburg, K. T. C. A. (2021) Oceanic dispersal barriers in a holoplanktonic gastropod. *Journal of Evolutionary Biology* 34: 224-240. doi: 10.1111/jeb.13735
6. Wall-Palmer, D., Janssen, A. W., **Goetze, E.**, Choo, L. Q., Mekkes, L. Peijnenburg, K. T. C. A. (2020). Fossil-calibrated molecular phylogeny of atlantid heteropods (Gastropoda, Pterotracheoidea). *BMC Evolutionary Biology* 20: 124. doi: 10.1186/s12862-020-01682-9
7. Peijnenburg, K.T.C.A., Janssen, A. W., Wall-Palmer, D., **Goetze, E.**, Maas, A., Todd, J. A., Marlétaz, F. (2020) The origin and diversification of pteropods precede past perturbations in the Earth's carbon cycle. *Proceedings of the National Academy of Sciences* 117(41): 25609-25617. doi: 10.1073/pnas.1920918117
8. Laroche, O., Kersten*, O., Smith, C. R., **Goetze, E.** (2020) From sea surface to seafloor: a benthic allochthonous eDNA survey for the abyssal ocean. *Frontiers in Marine Science* 7: 682.

Preprint version: <https://doi.org/10.1101/2020.05.07.082602>

9. Drazen, J. C., Smith, C. R., Gjerde, K. M., Haddock, S. H. D., Carter, G., S., Choy, C. A., Clark, M. R., Dutrieux, P., **Goetze, E.**, Hauton, C., Hatta, M., Koslow, A., Leitner, A. B., Pacini, A., Perelman, J. N., Peacock, T., Sutton, T. T., Watling, L., Yamamoto, H. (2020) Consideration of midwater ecosystems is required to fully evaluate the environmental risks of deep-sea mining. *Proceedings of the National Academy of Science* 117 (30): 17455-17460. doi: 10.1073/pnas.2011914117
10. Laroche, O., Kersten*, O., Smith, C. R., **Goetze, E.** (2020) Environmental DNA surveys detect distinct metazoan communities across abyssal plains and seamounts in the western Clarion Clipperton Zone. *Molecular Ecology* 29: 4588-4604. doi: 10.1111/mec.15484
11. Gonzalez[^], C. E., **Goetze, E.**, Escribano, R., Ulloa, O., Victoriano, P. (2020) Genetic diversity and novel lineages in the cosmopolitan copepod *Pleuromamma abdominalis* in the Southeast Pacific. *Scientific Reports* 10: 1115. doi: 10.1038/s41598-019-56935-5
12. Wall-Palmer, D., Hegmann, M., **Goetze, E.**, Peijnenburg, K. T. C. A. (2019). Resolving species boundaries in the *Atlanta brunnea* species group (Gastropoda, Pterotracheoidea). *ZooKeys* 899: 59-84. doi: 10.3897/zookeys.899.38892
13. Kersten*, O., Vetter, E., Jungbluth*, M. J., Smith, C. R., **Goetze, E.** (2019) Larval assemblages over the abyssal plain in the Pacific are highly diverse and spatially patchy. *PeerJ* 7: e7691. <https://doi.org/10.7717/peerj.7691>
14. Faithfull, C. and **Goetze, E.** (2019) Copepod nauplii use phosphorous from bacteria, creating a short circuit in the microbial loop. *Ecology Letters* 22: 1462-1471. doi: 10.1111/ele.13332
15. Burrige, A. K., van der Hulst, R., **Goetze, E.**, Peijnenburg, K. T. C. A. (2019) Assessing Species Boundaries in the Open Sea: Applying an Integrative Taxonomic Approach to a Genus of Pelagic Molluscs. *Zoological Journal of the Linnean Society* 187: 1016-1040. <https://doi.org/10.1093/zoolinnea/zlz049>
16. Selph, K.E., **Goetze, E.**, Jungbluth*, M. J., Lenz, P. H., Kolker, G., (2018) Microbial food web connections and rates in a subtropical embayment. *Marine Ecology Progress Series* 590: 19-34. doi: 10.3354/meps12432
17. Gloeckler, K., Choy, C. A., Hannides, C., Close, H., **Goetze, E.**, Popp, B. N., Drazen, J. C. (2018) Amino acid – compound specific stable isotope analysis of micronekton around Hawaii reveals suspended particles are an important nutritional source in the mesopelagic. *Limnology and Oceanography* 63: 1168-1180. doi:10.1002/lno.10762
18. Wall-Palmer, D., Burrige, A. K., **Goetze, E.**, Stokvis, F., Janssen, A. W., Mekkes, L., Moreno-Alcántara, M., Bednaršek, N., Kirby, R., Schiøtte, T., Sørensen, M. V., Smart, C. W., Peijnenburg, K. T. C. A. (2018) Global biogeography and genetic diversity of the atlantid heteropods. *Progress in Oceanography* 160: 1-25. doi: 10.1016/j.pocean.2017.11.004
19. Geringer, M. E., Linley, T. D., Jamieson, A. J., **Goetze, E.**, Drazen, J. C. (2017) *Pseudoliparis swirei*: A newly-discovered hadal liparid (Scorpaeniformes: Liparidae) from the Mariana Trench. *ZooTaxa* 4358 (1): 161-177. doi: 10.11646/zootaxa.4358.1.7
20. Keul, N., Peijnenburg, K. T. C. A., Andersen, N. Kitidis, V., **Goetze, E.**, Schneider, R. (2017) Pteropods are excellent recorders of surface temperature and carbonate ion concentration. *Scientific Reports* 7: 12645. doi:10.1038/s41598-017-11708-w
21. Sommer*, S. A., Van Woudenberg*, L., Lenz, P. H., Cepeda, G., **Goetze, E.** (2017) Vertical gradients in species richness and community composition across the twilight zone in the North Pacific Subtropical Gyre. *Molecular Ecology* 26: 6136-6156. doi: 10.1111/mec.14286

22. Jungbluth*, M. J., Selph, K. E., Lenz, P. H., **Goetze E.** (2017) Species-specific grazing and significant trophic impacts by two species of copepod nauplii, *Parvocalanus crassirostris* and *Bestiolina similis*. *Marine Ecology Progress Series* 572: 57-76. doi: 10.3354/meps12139
23. Jungbluth*, M. J., Selph, K. E., Lenz, P. H., **Goetze E.** (2017) Incubation duration effects on copepod naupliar grazing estimates. *Journal of Experimental Marine Biology and Ecology* 494: 54-62. doi:10.1016/j.jembe.2017.05.005
24. Iacchei, M., Butcher*, E., Portner†, E., **Goetze, E.** (2017) It's about time: Insights into temporal genetic patterns in oceanic zooplankton from biodiversity indices. *Limnology and Oceanography* 62: 1836-1852. doi: 10.1002/lno.10538
25. Burrige, A., Tump, M., Vonk, R., **Goetze, E.**, Peijnenburg, K. T. C. A. (2017) Diversity and distribution of hyperiid amphipods along a latitudinal transect in the Atlantic Ocean. *Progress in Oceanography* 158: 224-235. Online Sep 2016, *AMT special issue*. doi:10.1016/j.pocean.2016.08.003
26. Burrige, A. K., **Goetze, E.**, Wall-Palmer, D., Le Double, S., Huisman, J., Peijnenburg, K. T. C. A. (2017) Diversity and abundance of holoplanktonic gastropods and heteropods along a latitudinal diversity gradient across the Atlantic Ocean. *Progress in Oceanography* 158: 213-223. Online Oct 2016, *AMT special issue*. doi:10.1016/j.pocean.2016.10.001
27. **Goetze, E.**, Hüdepohl, P., Chang*, C., Iacchei, M., Van Woudenberg*, L., Peijnenburg, K. T. C. A. (2017) Ecological dispersal barrier across the equatorial Atlantic in a migratory planktonic copepod. *Progress in Oceanography* 158: 203-212. Online July 2016, *AMT special issue*. doi:10.1016/j.pocean.2016.07.001
28. Wall-Palmer, D., Burrige, A. K., Peijnenburg, K. T. C. A., **Goetze, E.**, Janssen, A., Kirby, R., Hart, C. B., Smart, C. W. (2016) Evidence for the validity of *Protatlanta sculpta* (Gastropoda: Pterotracheoidea). *Contributions to Zoology* 85 (4): 423-435.
29. Hirai^, J. Tsuda, A., **Goetze, E.**, (2015). Extensive genetic diversity and endemism across the global range of the oceanic copepod *Pleuromamma abdominalis*. *Progress in Oceanography* 138: 77-90. doi:10.1016/j.pocean.2015.09.002
30. **Goetze, E.**, Andrews, K., Peijnenburg, K. T. C. A., Portner†, E., Norton*, E. L. (2015) Temporal Stability of Genetic Structure in a Mesopelagic Copepod. *PLoS One* 10(8): e0136087. doi:10.1371/journal.pone.0136087
31. Burrige^, A., **Goetze, E.**, Raes, N., Huisman, J., Peijnenburg, K. T. C. A. (2015) Global biogeography and evolution of *Cuvierina* pteropods. *BMC Evolutionary Biology* 15: 39. doi:10.1186
32. Andrews, K. R., Norton*, E. L., Fernandez-Silva, I., Portner†, E. **Goetze, E.** (2014) Multilocus evidence for globally-distributed cryptic species and distinct populations across ocean gyres in a mesopelagic copepod. *Molecular Ecology* 23(22): 5462-79. doi: 10.1111/mec.12950.
33. Halbert*, K. M. K., **Goetze, E.**, Carlon, D. B. (2013) High cryptic diversity across the global range of the migratory planktonic copepods *Pleuromamma piseki* and *P. gracilis*. *PLoS One* 8(10): e77011. doi:10.1371/journal.pone.0077011
34. Jungbluth*, M. J., **Goetze, E.**, Lenz, P. (2013) Measuring copepod naupliar abundance in a subtropical bay using quantitative PCR. *Marine Biology* 160(12): 3125-3141. doi: 10.1007/s00227-013-2300-y.
35. Norton*, E. L., **Goetze, E.** (2013) Equatorial dispersal barriers and limited connectivity among oceans in a planktonic copepod. *Limnology and Oceanography* 58: 1581-1596.
36. Peijnenburg, K. T. C. A., **Goetze, E.** (2013) High evolutionary potential of marine zooplankton. *Ecology & Evolution* 3(8): 2765-2781. doi: 10.1002/ece3.644 (both authors contributed equally)
37. **Goetze, E.**, Jungbluth*, M. J. (2013) Acetone preservation for zooplankton molecular studies. *Journal of Plankton Research* 35(5): 972-981. doi: 10.1093/plankt/fbt035.

38. Fernandez-Silva, I., Whitney, J., Wainwright, B., Andrews, K. R., Ylitalo-Ward, H., Bowen, B. W., Toonen, R. J., **Goetze, E.**, Karl, S. A. (2013) Microsatellites for Next-Generation Ecologists: A Post-Sequencing Bioinformatics Pipeline. *PLoS One* 8(2): e55990. doi:10.1371/journal.pone.0055990
39. Bron, J. E., Frisch, D., **Goetze, E.**, Johnson, S. C., Lee, C. E., Wyngaard, G. A. (2011) Observing Copepods through a Genomic Lens. *Frontiers in Zoology* 8: 22.
40. **Goetze, E.** (2011) Population differentiation in the open sea: Insights from the pelagic copepod *Pleuromamma xiphias*. *Integrative and Comparative Biology* 51: 580-597.
41. Holmborn, T., **Goetze, E.**, Pöllupüü, M., Pöllumäe, A. (2011) Genetic species identification and low genetic diversity in *Pseudocalanus acuspes* of the Baltic Sea. *Journal of Plankton Research* 33 (3): 507-515.
42. **Goetze, E.**, Ohman, M. D. (2010) Integrated molecular and morphological biogeography of the calanoid copepod family Eucalanidae. *Deep Sea Research II* 57: 2110-2129.
43. **Goetze, E.** (2010) Species discovery in marine planktonic invertebrates through global molecular screening. *Molecular Ecology* 19 (5): 952-967.
44. **Goetze, E.**, Kiørboe, T. (2008) Heterospecific mating and species recognition in the planktonic marine copepods *Temora longicornis* and *Temora stylifera*. *Marine Ecology Progress Series* 370: 185-198.
45. Not, F., Latasa, M., Scharek, R., Viprey, M., Karleskind, P., Balagué, V., Ontoria, I., Cumino, A., **Goetze, E.**, Vaulot, D., Massana, R. (2008) Protistan assemblages across the Indian Ocean, with a specific emphasis on the picoeukaryotes. *Deep Sea Research I* 55: 1456-1473.
46. Drillet, G., **Goetze, E.**, Jepsen, P. M., Højgaard, J. K., Hansen, B. W. (2008) Strain-specific vital rates in four *Acartia tonsa* cultures, I: Strain origin, genetic differentiation and egg survivorship. *Aquaculture* 280(1-4): 109-116.
47. **Goetze, E.** (2008) Heterospecific mating and partial prezygotic reproductive isolation in the planktonic marine copepods *Centropages typicus* and *Centropages hamatus*. *Limnology and Oceanography* 53(2): 433-445.
48. **Goetze, E.** (2006) Elongation factor 1- α in marine copepods (Calanoida: Eucalanidae): Phylogenetic utility and unique intron structure. *Molecular Phylogenetics and Evolution* 40 (3): 880-886.
49. Glover, A.G., **Goetze, E.**, Dahlgren, T., Smith, C. R. (2005) Morphology, reproductive biology and genetic structure of the whale-fall and hydrothermal vent specialist, *Bathyporeia guaymasensis* Pettibone 1989 (Annelida: Polynoidae). *Marine Ecology* 26 (3-4): 223-234.
50. **Goetze, E.** (2005) Global population genetic structure and biogeography of the oceanic copepods, *Eucalanus hyalinus* and *E. spinifer*. *Evolution* 59 (11): 2378-2398.
51. **Goetze, E.**, Bradford-Grieve, J. (2005) Genetic and morphological description of *Eucalanus spinifer* T. Scott 1894 (Calanoida: Eucalanidae), a circumglobal sister species of *E. hyalinus* s. s. (Claus 1866). *Progress in Oceanography* 65 (1): 55-87.
52. **Goetze, E.** (2003) Cryptic speciation on the high seas: global phylogenetics of the copepod family Eucalanidae. *Proceedings of the Royal Society London B*. 270 (1531): 2321-2331.
53. Mullin, M.M., **Goetze, E.**, Beaulieu, S.E., Lasker, J.M. (2000) Comparisons within and between years resulting in contrasting recruitment of Pacific hake (*Merluccius productus*) in the California Current System. *Canadian Journal of Fisheries and Aquatic Sciences* 57: 1434-1447

* student, postdoc, and † technician co-authors on research conducted in my laboratory, typically supported by Goetze extramural grants. ^ visiting graduate student co-authors in my laboratory. Last author position (2013 – current) indicates research that was conducted under my mentorship and within my group, with author order following ‘first-last-author-emphasis’. Research reported in Halbert et al. 2013, Jungbluth et al. 2013 also was conducted under my mentorship.

Publications, Non-reviewed

1. Smith, C. R., Clark, M., Amon, D., Bonifácio, P., Bribiesca-Contreras, G., Christodoulou, M., Church, M., Cuvier, D., Dahlgren, T., Drazen, J. C., Durden, J. M., Fukushima, T., Glover, A., **Goetze, E.**, Gooday, A. J., Howell, K., Hwan, Y. O., Jones, D. O. B., Laming, S., Leitner, A., Lejzerowicz, F., Lim, S. C., Martinez Arbizu, P., McQuaid, K., Menot, L., Orcutt, B., Simon-Lledó, E., Pape, E., Ju, S-J., Stedman, G., Stratmann, T., Sweetman, A., Vanreusel, A., Washburn, T., Wear, E. K., Wenzhoefer, F., Yeeting, K., Young, R., Zeppilli, D. (2019) Deep CCZ Biodiversity Synthesis Workshop Report. International Seabed Authority (ISA). Friday Harbor, Washington, Oct 2019. ISA Technical Report.
2. Drazen, J. C., Church, M., Dahlgren, T., Durden, J., Glover, A., **Goetze, E.**, Leitner, A., Smith, C. R., Sweetman, A. (2019) Exploration of Biodiversity and Ecosystem Structure on Seamounts in the Western CCZ. *Oceanography* 32 (1): 120
3. Drazen, J. C., Gjerde, K., Smith, C. R. S., Au, W., Black, J., Carter, G., Clark, M., Durden, J., Dutrieux, P., **Goetze, E.**, Haddock, S., Hatta, M., Hauton, C., Hill, P., Koslow, T., Leitner, A., Measures, C., Pacini, A., Parrish, F., Taymans, C., Peacock, T., Perelman, Sutton, T., Tunnicliffe, V., Watling, L., Yamamoto, H., Young, E., Ziegler, A. (2019) Workshop Report: Evaluating the nature of midwater mining plumes and their potential effects on midwater ecosystems. *Research Ideas and Outcomes* 5: e33527. <https://doi.org/10.3897/rio.5.e33527>
4. Peijnenburg, K., **Goetze, E.**, Machida, R. (2011) Workshop Report: Advances in genomic and molecular studies of zooplankton. *PICES Press* Vol. 19 (No. 2): 22-24.
5. Bron, J., Frisch, D., **Goetze, E.**, Johnson, S., Lee, C. E., Wyngaard, G. (2009) Copepod Genomics Initiative. White paper for the development of large-scale genomics resources for copepods. Mar 30, 2009. Prepared by Workshop participants of World Association of Copepodologists.
6. **Goetze, E.** (2004) Speciation in the Open Ocean: the Phylogeography of the Oceanic Copepod Family Eucalanidae. PhD Dissertation, University of California, San Diego, La Jolla, California. 236 pp.

Grant activity and Awards

Current research support

Characterization and monitoring of the water column ecosystem in the eastern CCZ (NORI-D) – Supplement for eDNA surveys

PIs: E. Goetze, J. C. Drazen (U Hawaii)

Nauru Ocean Resources, Inc.; contract for baseline environmental surveys in the NORI-D mining exploration area

\$ 111,006.40 (Goetze portion). 06/30/2021 – 06/31/2022

Characterization and monitoring of the water column ecosystem in the eastern CCZ (NORI-D)

PI: J. C. Drazen (U Hawaii), co-PIs: G. Carter (UH Manoa), J. Fitzsimmons (Texas A & M U), S.

Ferrón (U Hawaii), E. Goetze (U Hawaii). M. Hatta (U Hawaii), D. Lindsay (JAMSTEC), C. Measures (U Hawaii), B. Popp (U Hawaii), A. White (U Hawaii).

Nauru Ocean Resources, Inc.; contract for baseline environmental surveys in the NORI-D mining exploration area

\$ 3,111,273 (Total), \$601,124 (Goetze portion). 04/10/2020 – 12/31/2022

Ecosystem-wide survey of biodiversity, connectivity and ecosystem function across the deep seafloor biome of the CCZ to help assess and manage the impacts of polymetallic nodule mining

PI: C. Smith, co-PIs: J. C. Drazen, M. Church, A. Sweetman, A. Glover, T. Dahlgren, E. Goetze, E. Vetter

Gordon and Betty Moore Foundation

\$2,403,687 (Total), \$236,908 (Goetze portion). 03/01/2017 – 09/30/2022.

Past research support (at UH Manoa)

EAGER Collaborative Research: Early career chief scientist training for biological and chemical oceanographers

PI: M. Church (U Montana), co-PIs: E. Goetze [UH lead], A. White, S. Ferrón (U Hawaii).

NSF Biological Oceanography, UNOLS

\$297,637 (Total), \$215,068 (U Hawaii portion). 04/15/2019 – 12/31/2021.

Environmental DNA biodiversity surveys across the abyssal seafloor in the CCZ

PI: E. Goetze, Co-PI: C. R. Smith

Pew Charitable Trust.

\$137,171, 10/03/2017 – 12/31/2019.

Exploration of biodiversity and ecosystem structure on seamounts in the western CCZ

PI: J. Drazen, Co-PIs: C. Smith, E. Goetze, E. Vetter

NOAA Ocean Exploration.

\$749,000 (total), 2017 – 2018. Funded shiptime and ROV support on R/V Kilo Moana

EAGER: New molecular methods for studying copepod nauplii in the field

PI: E. Goetze, Co-PIs: P. Lenz, Pacific Biosciences Research Center, K. Selph, Department of Oceanography, UH Manoa.

National Science Foundation, Division of Ocean Sciences, Biological Oceanography.

\$298,507, 2013 – 2016. NSF OCE-1255697

RAPID: Basin-scale genetics of marine zooplankton

PI: E. Goetze.

National Science Foundation, Division of Ocean Sciences, Biological Oceanography.

\$199,405, 2013 – 2016. NSF OCE-1338959

R/V Falkor University of Hawaii student cruise – station ALOHA. Schmidt Ocean Institute, 6 shiptime days and technical support at sea (Goetze chief scientist), June 2014.

2014 Atlantic Meridional Transect (AMT) cruise - Three days shiptime

National Science Foundation & USA-UK shiptime barter system. Wire-time for zooplankton sampling in association with NSF grant OCE-1338959. PI: Goetze.

Plankton food web dynamics and storm events in Kaneohe Bay

PI: E. Goetze, AIs: P. Lenz, Pacific Biosciences Research Center, K. Selph, Department of Oceanography, UH Manoa.

UH Sea Grant, 2012 – 2014.

\$94,568 including graduate assistant support (2 years).

Does habitat specialization drive population genetic structure of oceanic zooplankton?

PI: E. Goetze.

National Science Foundation, Division of Ocean Sciences, Biological Oceanography.

\$561,994, 2010 – 2014. NSF OCE-1029478

2012 Atlantic Meridional Transect (AMT) cruise – Two shiptime days

National Science Foundation & USA-UK shiptime barter system. Wire-time for zooplankton sampling in association with NSF grant OCE-1029478. PI: Goetze.

Copepod recruitment in Kaneohe Bay following storm events

PI: Petra Lenz, Pacific Biosciences Research Center, UH Manoa. Collaborators: E. Goetze, D. Hartline. UH Sea Grant

\$91,138 and graduate assistant support (3 years), 2009 – 2012.

National Geographic Society, Waitt Grant.

PI: E. Goetze. \$12,000, 2010 – 2011.

Fellowships & Honors

Megacalanus ericae sp. nov. Bradford-Grieve, Blanco-Bercial, Boxshall 2017

Keynote speaker, ICES/PICES 6th Zooplankton Production Symposium, 2016

Martin Fellowship, Naturalis Biodiversity Center, Leiden, Netherlands, sabbatical, 2016

Marie Curie Incoming International Fellowship (EU), postdoctoral, 2007-2008

Frieda Daum Urey Endowment Fellowship, graduate, 2003

Environmental Protection Agency Science To Achieve Results (STAR) Graduate Fellowship, 1999-2002

Teaching

OCN 627 *Ecology of Pelagic Marine Animals*. Graduate level; lecture, laboratory, discussion. Spring 2009, 2010, 2011, 2012, 2014, 2017, 2018, 2019, 2020, 2021, 2022 – *in progress*.

Student training cruises in 2009, 2011, 2014.

OCN621 *Biological Oceanography*. Graduate level; lecture, discussion. Spring 2018, 2019, 2021, 2 weeks teaching in zooplankton & pelagic ecology

OCN750 *Professional development for marine scientists*. Graduate level; seminar. Spring 2020.

OCN/MET/OEST 310 *Global Environmental Change*. Undergraduate level. Fall 2008, Fall 2009, Spring 2011, Spring 2012

OCN 201 *Science of the Sea*. Undergraduate level, 2 sections. Spring 2013, Spring 2014, Spring 2015, Fall 2016, Spring 2017, Spring 2018, Spring 2019 (Lead instructor), Spring 2020 (Lead Instructor), Spring 2021, 2022 – *in progress*. Lead for OCN201Lab in spring 2022.

OCN780 *Oceanography Seminar*. Spring 2010.

Mentoring

Postdoctoral mentor for Kimberly Andrews (2012), Katherine Hanson (2013 – 2015), Carolyn Faithfull-Mathisen (2014 – 2016), Matthew Iacchei (2013 – 2014, 2015 – 2017), Olivier Laroche (2018 – 2019). Carolyn and Matthew had postdoctoral fellowships (Swedish Research Council, NSF Ocean Sciences).

Graduate advisor for Emily Norton, Oceanography (MS 2013), Michelle Jungbluth, Oceanography (MS 2012, PhD 2016), Lauren Van Woudenberg, Marine Biology (MS 2016), Gabrielle Stedman (2018 – current; Oceanography), Alexis Cazares (2020 – current, Oceanography), Reece James (2021 – current, Oceanography, co-advised with Angel White)

Undergraduate thesis mentor for Elizabeth Butcher (2014), Stephanie Sommer (2016), Reilly Merlo (2018 – 2020)

Provided significant research mentoring to MS students Kristin Halbert (Zoology, MS 2013), Oliver Kersten (Marine Science, MS 2015, Hawaii Pacific University). Publications under Halbert et al. 2013; Kersten et al. 2019 report on research conducted in my laboratory.

Served or Serving on MS and PhD thesis committees for 13 students (Oceanography, Marine Biology, Zoology, Marine Science), in addition to students listed above that are/were in my group

Served or Serving on other graduate student committees for 17 students (Oceanography, Marine Biology; Advisory and/or Examination committees)

Mentored 15 additional undergraduate students in research in my laboratory (duration 1 summer – 2 years)

Served as academic advisor for 21 Global Environmental Science BSc students

Hosted visiting researchers and graduate students: H. Jenkins (2019 – 3 months, NOC/U Southampton, PhD research), S. Sommer (2019 – 1 month, SIO/UCSD, PhD research), C. Gonzalez (2018 – 3 months, IMO Concepción Chile, PhD research), S. Bader (2018 – 8 months, U Amsterdam, Netherlands, MS research), G. Cepeda (2014 – 3 months, National Council of Scientific and Technical Research (CONICET), Argentina, visiting postdoctoral), P. Hüdepohl (2014 – 3 months, U Hamburg, Germany, DAAD

internship), R. Hopcroft (2014 – 2015, U Alaska, sabbatical visitor), J. Hirai (2014 – 3 weeks, U Tokyo, PhD research), A. Burridge (2011, 2014 – 3 weeks each, U Amsterdam, MS & PhD research), K.T.C.A. Peijnenburg (2017, 2015 – 2-3 weeks each, Naturalis Biodiversity Centre, Netherlands, collaborator).

Research Cruises

- 2021 *Scientist*, Maersk Launcher. DeepGreen environmental baseline surveys, pelagic campaign 5B. 2/28/2021 – 4/23/2021. Lead for midwater zooplankton research component.
- 2019 *Co-Instructor & Scientist*, R/V Kilo Moana. NSF-UNOLS early career training cruise in biological and chemical oceanography. 06/15/2019 – 06/24/2019. Co-coordinator of the cruise.
- 2018 *Scientist*, R/V Kilo Moana. Clarion Clipperton Fracture Zone (CCZ) ecosystem survey cruise. 05/14/2018 – 06/16/2018
- 2017 *Scientist*, R/V Ka'imikai-o-Kanaloa, HOT cruise 298. 12/11/17-12/15/17
- 2017 *Scientist*, RRS Discovery, Atlantic Meridional Transect Programme Cruise 27 (AMT27), 09/21/2017 – 11/5/2017
- 2017 *Scientist*, NOAA ship Oscar Elton Sette. Plankton & Micronekton cruise, LOPEC. 03/29/17 – 04/04/2017
- 2017 *Scientist*, R/V Ka'imikai-o-Kanaloa. HOT cruise ST-19B. 03/6/17 – 03/10/17
- 2014 *Scientist*, RRS James Clark Ross, Atlantic Meridional Transect Programme cruise 24 (AMT24), 09/22/14 – 11/06/14. Dedicated wire time for zooplankton sampling in association with NSF OCE-1338959.
- 2014 *Chief Scientist and Instructor*. Training cruise, R/V Falkor. 06/13/11 – 06/19/14. Station ALOHA
- 2013 *Scientist*, R/V Kilo Moana, HOT 258. 12/19/13-12/23/13
- 2013 *Scientist*, field work and paired laboratory experiments, Kaneohe Bay. June 2013
- 2012 *Scientist*, RRS James Cook, Atlantic Meridional Transect Programme - AMT22, 10/10/2012-11/24/2012. Dedicated wire time for zooplankton sampling in association with NSF OCE-1029478.
- 2012 *Co-Instructor*, Keala Kai, OCN627 student training cruise, 1-day, 3/17/2012.
- 2011 *Scientist*, R/V Kilo Moana, NAV sea trials, and MOCNESS testing cruise. 8/17/11-8/18/11
- 2011 *Co-Instructor*, R/V Kilo Moana, OCN627 student training cruise. 3/4/11-3/10/11
- 2010 *Scientist*, routine plankton sampling in Kaneohe Bay
- 2009 *Co-Instructor*, R/V Kilo Moana, OCN627 student training cruise. 2/12/09-2/15/09
Scientist, begin plankton sampling in Kaneohe Bay
- 2008 *Scientist*, R/V Kilo Moana, HOT 203. 7/25/08-7/29/08
- 2005 *Postdoctoral Researcher*, R/V Western Flyer. 2/25/05-3/4/05
- 2003 *Lead PI-Biology*, R/V Melville. 5/14/03-6/13/03
- 2001 *Chief Scientist*, R/V Roger Revelle. Transit cruise, 12/16/01-1/2/02
- 2001 *Graduate student researcher*. R/V Melville. Tropical Western Pacific. 10/6/01-10/28/01
- 2001 *Graduate student researcher*. R/V Knorr. North Atlantic. 6/14/01-7/22/01
- 2001 *Graduate student researcher*. R/V Sproul. California Current. 4/18/01-4/27/01
- 2000 *Graduate student researcher*. R/V Sproul. 10 24-hour cruises in the California Current.
- 1999 *Graduate student researcher*. R/V McArthur. Eastern Tropical Pacific. 7/28/99-8/26/99
- 1998 *Graduate student researcher*. R/V New Horizon. CalCOFI summer cruise in California Current. 7/12/98-7/26/98

Service

National & International

Session Co-Chair, Ocean Sciences meeting, Feb 2022. (session1) Deep-sea mining: Environmental risks & ecological baselines. (session2) Zooplankton diversity through space and time.

Guest Associate Editor, *Frontiers in Marine Science* special issue on Biodiversity, Connectivity and Ecosystem Function Across the Clarion-Clipperton Zone: A Regional Synthesis for an Area Targeted for Nodule Mining, 2021

NSF proposal review panel, 2019

Instructor and co-PI on NSF-UNOLS early career training cruise for biological and chemical oceanographers. June 2019, station ALOHA.

Associate Member of SCOR Working Group 157 – MetaZooGene: Toward a new global view of zooplankton biodiversity based on DNA metabarcoding and reference DNA sequence databases. 2018 – 2022

Workshop participant, Deep-sea Mining Impacts on Midwater Ecosystems, Honolulu, HI. Drazen, Smith, Gjerde organizers, August 2018

Session Co-Chair, Aquatic Sciences meeting Feb 2017. Aquatic genomics, with G. Hoorau & K. T. C. A. Peijnenburg.

Session Co-Chair, Ocean Sciences meeting Feb 2014. Examining genetic connectivity, from unicells to metazoans, using novel and integrated approaches, with T. Rynearson, D. Hogan, B. Walther.

Convener, Workshop on ‘Advances in genomic and molecular studies of zooplankton’, 5th International Zooplankton Production Symposium, March 2011. Workshop report: PICES Press Vol. 19 (No. 2): 22-24.

Steering Committee and DNA Barcoding Committee member, Census of Marine Zooplankton (CMarZ), 2008 – 2010

Executive Council member, World Association of Copepodologists, 2008 – 2011

External reviewer for faculty reappointment / tenure & promotion, international & national

Manuscript reviewer for Biology Letters, BMC Genomics, Molecular Ecology, Marine Ecology Progress Series, Marine Biology, Progress in Oceanography, Deep-Sea Research I, Deep-Sea Research II, Journal of Plankton Research, Invertebrate Systematics, Journal of Crustacean Biology, Zoological Journal of the Linnean Society, PLoS One

Proposal reviewer for National Science Foundation – Biological Oceanography, Office of Polar Programs, Dimensions of Biodiversity; NOAA Ocean Exploration Program; NOAA SeaGrant [other states]; International funding agencies (Netherlands, France)

Departmental & UH Manoa

Dept of Oceanography, Associate Chair, 2021 – current

Biological Oceanography Division Head, July 2020 – current

Dept of Oceanography, Space Committee, 2020 – current, Chair 2021 – current

Graduate Student Handbook Committee, Aug 2020 – current

SOEST Research Council, 2019 – current

Steering committee, Global Environmental Science BSc degree program, 2009 – 2021

Women in SOEST (WiS) and Oceanography (WiO) ad hoc committees, 2012 – current

Search committee, Biological Oceanography faculty position, 2019. Deep Sea biologist. [cancelled search]

SOEST Open House, designed and coordinated an outreach exhibit on Ocean Drifters (with P. Lenz’s lab), reaching > 5000 school children biannually, 2011, 2013, 2015, 2019.

Admissions Committee, Marine Biology Graduate Program, 2018

Search committee, Biological Oceanography faculty position, 2017. HOT program lead, microbial oceanographer

Guest speaker, Maximizing Access to Research Careers program, 2016.

Coordinated and led a 6-day student training cruise on R/V Falkor (SOI) in June 2014, with 5 postdoctoral scholars, 5 graduate students, and 2 undergraduate students. Goetze – Chief Scientist.

Invited guest speaker, Bytemarks Café 2014 – science outreach related to the Falkor student cruise

Invited guest speaker, All Things Marine radio show 2014 – science outreach related to the Falkor student cruise

Search committee, GES Undergraduate chair, faculty specialist position, 2013
Department ombudsperson committee, 2013
Oceanography Departmental Personnel Committee (DPC), 2012 – 2013
Departmental PhD exam committee, to oversee restructuring of the examinations in our graduate program (PhD), 2011 – 2012
Search committee, Biological Oceanography faculty position, 2011 – 2013. Plankton ecologist, with an emphasis on phytoplankton, primary production or bio-optics
Search committee, Oceanography faculty position, Winter/Spring 2012. Modeler, in ocean biology or chemistry.
Instructor on a 6-day student training cruise on R/V Kilo Moana, with J. C. Drazen, K. Ruttenburg, J. Schoonmaker, B. Popp. 20 undergraduates and 24 graduate students received at-sea training. March 2011
Search committee, Biological Oceanography faculty position, Fall/Winter 2010 – 2011. Phytoplankton ecologist.
Co-PI, ADVANCE Institutional Transformation – Catalyst proposal (NSF) to evaluate the status and success of women in STEM fields at UH Manoa. Proposal submitted Nov 12, 2009. Lead PI: P. Cooper. Declined 5/20/2010.
Graduate curriculum review committee, 2010 – 2011
STAR student presentation judge, 2009
Undergraduate Summer Research Award Committee, 2009
Instructor on a 3-day student training cruise on R/V Kilo Moana, with J. C. Drazen, B. Popp. 11 graduate students and 1 postdoc received at-sea training, with 3 people involved in science outreach (Waikiki Aquarium, high school science teacher, photographer). March 2009
Facilitated acquisition of shared-use facilities at SOEST: (1) Dissecting and compound microscopes for the teaching laboratories, Department of Oceanography, and (2) Multiple Opening and Closing Net and Environmental Sensing System (1m) for UH Marine Center (ship-board equipment). Service included preparation of text for inclusion in proposals, obtaining quotes and/or purchasing equipment.