

## KIM S. BERNARD CURRICULUM VITA

### EDUCATION AND EMPLOYMENT INFORMATION

#### EDUCATION

- Ph.D. 2007 | Marine Biology | Rhodes University, South Africa  
Dissertation: The role of the euthecosome pteropod, *Limacina retroversa*, in the polar frontal zone, Southern Ocean
- M.Sc. 2003 | Marine Biology | Rhodes University, South Africa
- B.Sc. Hons 2001 | Marine Biology | Rhodes University, South Africa
- B.Sc. 2000 | Dual Major in Zoology and Environmental Sciences | Rhodes University, South Africa

#### EMPLOYMENT

- 2019-present Associate Professor | College of Earth, Ocean, and Atmospheric Sciences, Oregon State University | Corvallis, OR, USA
- 2013-2019 Assistant Professor | College of Earth, Ocean, and Atmospheric Sciences, Oregon State University | Corvallis, OR, USA
- 2009-2012 Post-Doctoral Research Associate | Virginia Institute of Marine Science | Gloucester Point, VA, USA
- 2008-2009 Coastal Science and Data Coordinator | South African Environmental Observation Network | Grahamstown, South Africa
- 2007 Coastal Data Scientist | South African Environmental Observation Network | Grahamstown, South Africa
- 2005 Tutor for Zoology I and Biology I | Department of Zoology | Rhodes University | Grahamstown, South Africa
- 2003 Junior Consultant and Assistant | Coastal & Environmental Services | Grahamstown, South Africa

### AWARDS

#### NATIONAL AND INTERNATIONAL AWARDS

*NSF Faculty Early Career Development Award.* July 2018. One of the NSF's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.

*United States Antarctic Service Medal.* March 2012. Presented by the National Science Foundation in recognition of valuable contributions to exploration and scientific achievement under the United States Antarctic Program.

*Mail & Guardian Top 200 Young South Africans, Environment Section.* 2013. Award made to young South African (< 35 years) who have made a difference or contributed to society in a meaningful way.

*Bronze Award for Best Emerging Young Scientist, Women in Science Awards. 2009. South African National Department of Science and Technology Women in Science Awards in conjunction with L'Oréal.*

#### **OREGON STATE UNIVERSITY AWARDS**

*Excellence in Undergraduate Mentoring Award. June 2022. Award given by the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University.*

*Anita L. Grunder Award for Excellence in Undergraduate Teaching. June 2022. Award given by the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University.*

#### **SCHOLARSHIP AND CREATIVE ACTIVITY**

##### **SCIENTIFIC PUBLICATIONS**

*From Google Scholar (as of 08/07/2023): H-index=21 (16 in last 5 years); i10-index=30 (23 in last 5 years); total citations=1603 (860 in last 5 years)*

\* Denotes corresponding author.

\*\* Denotes advisee.

##### PUBLICATIONS IN ADVANCED PREPARATION

47. Bernard KS, Fontana JM\*\*, Steinke KB\*\*, Wood GA\*\*. Growth of juvenile Antarctic krill during the winter: The importance of food quality and quantity. To be submitted to *Frontiers in Marine Science*.
46. Bahl AA, Bahlburg D, Green D, Halfter S, Liszka C, O'Sullivan D, Rombolá EF, Ryabov A, Thorpe SE, Pakhomov EA, Kawaguchi S, Hofmann EE, Johnston N, Veytia D, Sylvester Z, Young E, Conroy JA, Bernard KS, Murphy EJ. Mapping the data landscape for developing and parameterizing Antarctic krill models. Journal has not yet been selected.
45. Wood GA\*\*, Bernard KS, Ciannelli L, Kimmel D. Response of euphausiids in the southeastern Bering Sea to variability in environmental factors between a recent cold (2008-2012) and warm (2014-2018) period. To be submitted to *Marine Ecology Progress Series*.
44. Steinke KB\*\*, Bernard KS, Correa GM, Reiss CS, Walsh J, Stammerjohn SE. Factors impacting the timing of early reproductive development in female Antarctic krill at the northern Antarctic Peninsula. To be submitted to *Marine Ecology Progress Series*.

##### PUBLICATIONS SUBMITTED (FOR PEER REVIEW)

43. Kawaguchi S, Atkinson A, Bahlburg D, Bernard KS, Cavan E, Cox M, Hill S, Meyer B, Veytia D. Impacts of climate change on krill behaviour and population dynamics. Submitted to *Nature Reviews Earth & Environment*.
42. Kaplan RL\*\*, Derville S, Bernard KS, Phillips EM, Torres LG. Too Big, Too Small, and Just Right: Humpback-Krill Relationships Investigated Across Four Spatial Scales. Submitted to *Marine Ecology Progress Series*.
41. Hill SL, Atkinson A, Arata J, Belcher A, Bengtson-Nash S, Bernard KS, Cleary A, Conroy J, Driscoll R, Fielding S, Flores H, Forcada J, Halfter S, Hinke J, Hückstädt L, Johnston N, Kane M, Kawaguchi S, Krafft BA, Krüger L, Sul La H, Liszka C, Meyer B, Murphy E, Pakhomov E, Perry F, Piñones A, Polito M, Reid K, Reiss C, Rombola E, Saunders R, Schmidt K, Sylvester Z, Takahashi A, Tarling GA, Trathan PN, Veytia D, Watters G, Xavier JC, Yang G. Detecting change in zooplankton as sampling methods shift: the case of Antarctic krill. Submitted to *Global Change Biology*.

PEER-REVIEWED PUBLICATIONS

40. Hann AM\*\*, Bernard KS, Carroll LJ (2023) Vessels of Opportunity in Marine Science Outreach and Education: Case Study and Caveats. *Current: The Journal of Marine Education*. 37(2): 48–53. DOI: 10.5334/cjme.76
39. Hann AM\*\*, Bernard KS, Kohut J, Oliver MJ, Statscewich H (2023) New insight into *Salpa thompsoni* distribution via glider-borne acoustics. *Frontiers in Marine Science*. 9: 857560. DOI 10.3389/fmars.2022.857560.
38. Ratnarajah L, Abu-Alhajja R, Atkinson A, Batten S, Bax N, Bernard K, Canonico G, Cornils A, Everett J, Grigoratou M, Ishak NHA, Johns D, Lombard F, Muxagata E, Ostle C, Pitois S, Richardson A, Schmidt K, Stemmann L, Swadling K, Yang G, Yebra L (2023) Monitoring and modeling marine zooplankton in a changing climate. *Nature Communications*. 14: 564. DOI 10.1038/s41467-023-36241-5.
37. Steinke KB\*\*, Bernard KS, Copeman LA, Fontana JM\*\*, Garcia LM\*\* (2022) Energy allocation and the onset of maturation in overwintering juvenile Antarctic krill at the Western Antarctic Peninsula. *Frontiers in Marine Science*. 9: 1009385. DOI: 10.3389/fmars.2022.1009385.
36. Hudson K, Oliver MJ, Kohut J, Dinniman MS, Klinck JM, Cimino MA, Bernard KS, Statscewich H, Fraser W (2022) A subsurface eddy associated with a submarine canyon increases availability and delivery of simulated Antarctic krill to penguin foraging regions. *Marine Ecology Progress Series*. 702: 105-122. DOI: 10.3354/meps14211.
35. Díaz Astudillo M\*\*, Riquelme-Bugueño R, Bernard KS, Saldías GS, Rivera R, Letelier J (2022) Disentangling species-specific krill responses to local oceanography and predator's biomass: the case of the Humboldt krill and the Peruvian anchovy. *Frontiers in Marine Science*. 9: 979984. DOI: 10.3389/fmars.2022.979984.
34. Bernard KS, Steinke KB\*\*, Fontana JM\*\* (2022) Winter condition, physiology, and growth potential of juvenile Antarctic krill. *Frontiers in Marine Science*. 9: 990853. DOI: 10.3389/fmars.2022.990853.
33. Hudson K, Oliver MJ, Kohut J, Cohen J, Dinniman M, Klinck J, Statscewich H, Bernard K, Fraser W (2022) Subsurface eddy facilitates retention of diel vertical migrators in a biological hotspot. *Journal of Geophysical Research Oceans*. 127(5): e2021JC017482. DOI: 10.1029/2021JC017482.
32. Hudson K, Oliver MJ, Kohut J, Dinniman M, Klinck J, Moffat C, Statscewich H, Bernard K, Fraser W (2021) A recirculating eddy promotes subsurface particle retention in an Antarctic biological hotspot. *Journal of Geophysical Research Oceans*. 126: e2021JC017304. DOI 10.1029/2021JC017304.
31. Hildebrand L\*\*, Bernard KS, Torres LG (2021) Do gray whales count calories? Comparing energetic values of gray whale prey across two different feeding grounds in the eastern North Pacific. *Frontiers in Marine Science*. 8: 683634. DOI: 10.3389/fmars.2021.683634.
30. Steinke KB\*\*, Bernard KS, Ross RM, Quetin LB (2021) The environmental drivers of the physiological condition of mature female Antarctic krill during the spawning season: implications for krill recruitment. *Marine Ecology Progress Series*. 669: 65-82. DOI 10.3354/meps13720.
29. O'Loughlin JH\*\*, Bernard KS\*, Daly E, Zeman S, Fisher J, Brodeur R, Hurst T (2020) Implications of *Pyrosoma atlanticum* range expansion on phytoplankton standing stocks in the Northern California Current. *Progress in Oceanography* 188: 102424. DOI 10.1016/j.pocean.2020.102424.
28. Meyer B, Atkinson A, Bernard KS, Driscoll R, Hill SL, Kawaguchi S, Marshoff E, Maschette D, Perry F, Reid K, Reiss CS, Rombola E, Tarling GA, Thorpe SE, Trathan PN, Zhu GP, Brierley A (2020) Successful ecosystem-based management of Antarctic krill should address uncertainties in krill

- recruitment, behaviour and ecological adaptation. *Nature Earth & Environment* 1: 28. DOI 10.1038/s43247-020-00026-1.
27. Barlow DR\*\*, Bernard KS, Escobar-Flores P, Palacios DM, Torres LG (2020) Links in the trophic chain: Modeling functional relationships between in situ oceanography, krill, and blue whale distribution under different oceanographic regimes. *Marine Ecology Progress Series* 642: 207-225. DOI 10.3354/meps13339.
  26. Hudson K, Oliver MJ, Bernard K, Cimino MA, Fraser W, Kohut J, Statscewich H, Winsor P (2019) Reevaluating the canyon hypothesis in a biological hotspot in the Western Antarctic Peninsula. *Journal of Geophysical Research: Oceans* 124(8): 6345-6359. DOI 10.1029/2019JC015195.
  25. Bernard KS, Gunther, LA\*\*, Mahaffey SH\*\*, Qualls KM\*\*, Sugla M\*\*, Saenz, BT, Cossio AM, Walsh J, Reiss CS (2018) The contribution of ice algae to the winter energy budget of juvenile Antarctic krill in years with contrasting sea ice conditions. *ICES Journal of Marine Science* 76(1): 206-216. DOI 10.1093/icesjms/fsy145.
  24. Kohut J, Oliver M, Bernard KS, Fraser W, Winsor P, Statscewich H, Fredj E, Cimino M, Patterson-Fraser D, Carvalho F (2018) Central place foragers select Lagrangian coherent structures based on foraging strategy. *Nature Scientific Reports* 9: 157. DOI 10.1038/s41598-018-35901-7.
  23. Kohut JT, Winsor P, Statscewich H, Oliver MJ, Fredj E, Couto N, Bernard K, Fraser W (2018) Variability in summer surface residence time within a Western Antarctic Peninsula biological hotspot. *Philosophical Transactions of the Royal Society* 376(2122): 20170165. DOI 10.1098/rsta.2017.0165.
  22. Bernard KS, Cimino M, Fraser W, Kohut J, Oliver M, Patterson-Fraser D, Schofield OME, Statscewich H, Steinberg DK, Winsor P (2017) Factors that affect the nearshore biomass and aggregation structure of Antarctic krill in a biological hotspot. *Deep Sea Research Part I*. 126: 139-147. DOI 10.1016/j.dsr.2017.05.008.
  21. Steinberg DK, Ruck KE, Gleiber MR, Garzio LM, Cope JS, Bernard KS, Stammerjohn SE, Schofield OME, Quetin LB, Ross RM (2015) Long-term changes in zooplankton off the Western Antarctic Peninsula. *Deep Sea Research Part I*. 101: 54-70. DOI 10.1016/j.dsr.2015.02.009.
  20. Kohut J, Bernard K, Fraser W, Oliver MJ, Statscewich H, Winsor P, Miles T (2014) Studying the impacts of local oceanographic processes on Adélie penguin foraging ecology. *Marine Technology Society*. 48(5): 25-34. DOI 10.4031/MTSJ.48.5.10.
  19. Tortell PD, Asher EC, Ducklow HW, Goldman JAL, Dacey JWH, Grzyski JJ, Young JN, Kranz SA, Bernard KS, Morel FMM (2014) Metabolic balance of coastal Antarctic waters revealed by autonomous  $p\text{CO}_2$  and  $\Delta\text{O}_2/\text{Ar}$  measurements. *Geophysical Research Letters*. 41(19): 6803-6810. DOI 10.1002/2014GL061266.
  18. Bernard KS, Steinberg DK (2013) Krill biomass and aggregation structure in relation to tidal cycle in a penguin foraging region off the Western Antarctic Peninsula. *ICES Journal of Marine Science*. 70(4): 834-849. DOI 10.1093/icesjms/fst088.
  17. Schofield O, Ducklow H, Bernard K, Doney S, Fraser-Patterson D, Gorman K, Martinson D, Meredith M, Saba G, Stammerjohn S, Steinberg D, Fraser W (2013) Penguin biogeography along the West Antarctic Peninsula: Testing the canyon hypothesis with Palmer LTER observations. *Oceanography* 26(3): 204-206. DOI 10.5670/oceanog.2013.63.
  16. Goschen WS, Schumann EH, Bernard KS, Bailey SE, Deyzel SHP (2012) Upwelling and ocean structures off Algoa Bay and the south-east coast of South Africa. *African Journal of Marine Science* 34(4): 525-536.

15. Bernard KS, Steinberg DK, Schofield OME (2012) Summertime grazing impact of the dominant macrozooplankton off the Western Antarctic Peninsula. *Deep Sea Research Part I* 62: 111-122. DOI 10.1016/j.dsr.2011.12.015.
14. Cosa S, Mabinya LV, Olaniran AO, Okoh OO, Bernard K, Deyzel S, Okoh AI (2011) Biofloculant production by *Virgibacillus* sp. rob isolated from the bottom sediment of Algoa Bay in the Eastern Cape, South Africa. *Molecules* 16(3): 2431-2442. DOI 10.3390/molecules16032431.
13. Ogunmwonyi IH, Mazomba N, Mabinya L, Ngwenya E, Green E, Akinpelu DA, Olaniran AO, Bernard K, Okoh AI (2010) Studies on the culturable marine actinomycetes isolated from the Nahoon beach in the Eastern Cape Province of South Africa. *African Journal of Microbiology Research* 4(21): 2223-2230. DOI 10.5897/AJMR.9000672.
12. Sibanda T, Mabinya LV, Mazomba N, Akinpelu DA, Bernard K, Olaniran AO, Okoh AI (2010) Antibiotic producing potentials of three freshwater actinomycetes isolated from the Eastern Cape Province of South Africa. *International Journal of Molecular Sciences* 11(7): 2612-2623. DOI 10.3390/ijms11072612.
11. Bernard KS, Froneman PW (2009) The sub-Antarctic euthecosome pteropod, *Limacina retroversa*: Distribution patterns and trophic role. *Deep Sea Research Part I* 56(4): 582-598. DOI 10.1016/j.dsr.2008.11.007.
10. Hunt BPV, Pakhomov EA, Hosie GW, Siegel V, Ward P, Bernard KS (2008) Pteropods in Southern Ocean Ecosystems: a review. *Progress in Oceanography* 78(3): 193-221. DOI 10.1016/j.pocean.2008.06.001.
9. Bernard ATF, Ansoorge IJ, Froneman PW, Lutjeharms JRE, Bernard KS, Swart NC (2007). Entrainment of Antarctic euphausiids across the Antarctic Polar Front by a cold eddy. *Deep-Sea Research I* 54(10): 1841-1851. DOI 10.1016/j.dsr.2007.06.007.
8. van Wyk AWW, Froneman PW, Bernard KS, Davies-Coleman MT (2007) New isocopalane diterpene diester from a sub-Antarctic marine nudibranch. *ARKIVOC* ix: 121-128. DOI 10.3998/ark.5550190.0008.914.
7. Bernard KS, Froneman PW (2005). Trophodynamics of selected mesozooplankton in the west-Indian sector of the Polar Frontal Zone, Southern Ocean. *Polar Biology* 28: 594-606. DOI 10.1007/s00300-005-0728-3.
6. Pakhomov EA, McClellan JW, Bernard KS, Kaehler S, Montoya JP (2004). Spatial and temporal shifts in stable isotope values of the bottom-dwelling shrimp *Nauticaris marionis* at the sub-Antarctic archipelago. *Marine Biology* 144:317-325. DOI 10.1007/s00227-003-1196-3.
5. Ansoorge IJ, Froneman PW, Lutjeharms JRE, Bernard K, Bernard A, Lange L, Lukac D, Backeburg B, Blake J, Bland S, Burls N, Davies-Coleman M, Gerber R, Gildenhuis S, Hayes-Foley P, Ludford A, Manzoni T, Robertson E, Southey D, Swart S, Van Rensburg D, Wynne S, (2004). An interdisciplinary cruise dedicated to understanding ocean eddies upstream of the Prince Edward Islands. *South African Journal of Science* 100: 319-322. DOI 10.10520/EJC96288.
4. Froneman PW, Bernard KS (2004). Trophic cascading in the Polar Frontal Zone of the Southern Ocean in austral autumn 2002. *Polar Biology* 27:112-118. DOI 10.1007/s00300-003-0566-0.
3. Bernard KS, Froneman PW (2003). Mesozooplankton community structure and grazing impact in the Polar Frontal Zone during austral autumn 2002. *Polar Biology* 26:268-275. DOI 10.1007/s00300-002-0472-x.

2. Bernard KS, Froneman PW (2002). Mesozooplankton community structure in the Southern Ocean upstream of the Prince Edward Islands. *Polar Biology* 25:597-604. DOI 10.1007/s00300-002-0380-0.
1. Froneman PW, Ansorge IJ, Vumazonke L, Gulekana K, Webb AM, Leukes W, Risien CM, Thomalla S, Bernard KS, Hermes J, Knott M, Anderson D, Hargey N, Jennings M, Veitch J, Lutjeharms JRE, McQuaid CD (2002). Physical and biological variability in the Antarctic Polar Frontal Zone: Report on the research cruise 103 of the M.V. *S.A. Agulhas*. *South African Journal of Science* 98:534-536. DOI 10.10520/EJC97436.

#### REPORTS (NON-PEER REVIEWED)

6. Sylvester ZT, Dinniman MS, Thorpe SE, Pham V, Williams A, Bernard KS, Brooks CM (2023) The impact of diel vertical migration and sea ice drift on the modeled transport and retention of Antarctic krill. Report submitted to the Commission for the Conservation of Antarctic Living Marine Resources (CCAMLR) Working Group on Ecosystem Monitoring and Management (WG-EMM). Note, in this report I shared senior authorship with Brooks CM.
5. Bernard KS, Leventer A, Prince JM, Sliester R, Swift JH, Weingartner T (2019) Report of the Ad Hoc Subcommittee on the U.S. Antarctic Program's Research Vessel Procurement. National Science Foundation, Office for Polar Programs.
4. Bernard KS, Paterson AW (2008). South African Environmental Observation Network (SAEON) Elwandle Node Science Plan and Implementation Strategy. Versions 1-4. Grahamstown, South Africa.
3. Paterson AW, Bernard KS (2008). South African Environmental Observation Network (SAEON) Elwandle Node Business Plan 2008/09. Version 4. Grahamstown, South Africa.
2. Bernard KS, Jennings ME (2006). Research report: Preliminary findings of the pteropod survey conducted during ANTXXIII/2.
1. Ansorge IJ, Bernard KS (2005). DEIMEC IV – 2005: Hydrographic and Biological Data Report. UCT Oceanographic Report 05-1.

#### BOOK CHAPTERS (NON-PEER REVIEWED)

3. Bernard K, Bernard A (2017). An overview of the impacts of global change on South Africa's coasts and oceans. In Mambo J, Faccar K (eds) *Understanding the Social & Environmental Implications of Global Change*. South African Risk and Vulnerability Atlas, Second Edition. 93-104.
2. Bernard KS (2011). The impacts of ocean acidification on a keystone Southern Ocean species. In Zietsman L (ed) *Observations on Environmental Change*. South African Environmental Observation Network, Pretoria. 303 pp.
1. Bernard KS, Goshen WS, Hermes JC (2011). Climate change and coastal upwelling. Potential implications for South African marine resources. In Zietsman L (ed) *Observations on Environmental Change*. South African Environmental Observation Network, Pretoria. 303 pp.

#### ARCHIVED DATA PRODUCTS

4. Bernard KS. Gerlache Strait Krill Demographics. U.S. Antarctic Program Data Center. DOI 10.15784/601706
3. Bernard KS. Feeding Experiment – Krill Lipid Classes. U.S. Antarctic Program Data Center. DOI 10.15784/601707
2. Bernard KS. 2019 Krill Carbon Content. U.S. Antarctic Program Data Center. DOI 10.15784/601709.
1. Bernard KS. 2019 Krill Morphometrics. U.S. Antarctic Program Data Center. DOI 10.15784/601708.

## PRESENTATIONS

PROFESSIONAL MEETINGS, SYMPOSIA, AND CONFERENCES

\*\* Denotes student advisee

58. Barker M, Pratt M, Risien J, Bernard KS, Rowe SRM, Betjeman P. Broadening participation in polar science through STEAM collaborations with educators, artists, writers and researchers. *American Geophysical Union Fall Meeting 2023*. 11 – 15 December 2023.
57. Steinke KB\*\*, Bernard KS, Correa GM, Reiss CS, Walsh J, Stammerjohn SE. Factors impacting the timing of early reproductive development in female Antarctic krill at the northern Antarctic Peninsula. *Scientific Committee for Antarctic Research (SCAR) XIII Biology Symposium*, Christchurch, New Zealand. 31 July – 4 August 2023.
56. Dinniman M, Bernard KS, Brooks C, Pham V, Sylvester Z, Thorpe S, Williams A. The impact of simulated diel vertical migration and sea ice drift on the connectivity of krill in the Ross Sea. *International Ross Sea Conference*. Naples, Italy. 3 – 7 July 2023.
55. Oliver M, Hudson K, Kohut J, Dinniman M, Klinck JM, Cimino MA, Bernard KS, Statscewich H, Fraser W. Are biological hotspots farms or markets? The importance of resource retention by a subsurface eddy for maintaining an Antarctic biological hotspot. *ASLO Aquatic Sciences Meeting*, Mallorca, Spain. 4 – 9 June 2023.
54. Bernard KS. Winter is coming, krill. Invited keynote. *Annual SKAG (SCAR Krill Action Group) Meeting*. 7 – 11 March 2022.
53. Kaplan R\*\*, Bernard K, Derville S, Barlow D, Fisher J, Jacobson K, Torres LG. Linking Spatial Distributions of Whales and their Euphausiid Prey Within the Northern California Current Ecosystem. *24<sup>th</sup> Biennial Conference on the Biology of Marine Mammals*. 1 – 5 August 2022.
52. Bernard KS, Ross RM, Quetin LB. Variability in growth rates of Antarctic krill at the Western Antarctic Peninsula: Can we predict future growth? *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
51. Hann AM\*\*, Bernard KS, Kohut J, Oliver MJ, Statscewich. New insight into *Salpa thompsoni* distribution via glider-borne acoustics. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
50. Kohut J, Statscewich H, Simmons H, Klinck J, Dinniman M, Bernard K, Oliver M, Fraser W, Veatch J, Voirol G. A purpose-built integrated ocean observatory captures physical mechanisms driving spatial and inter-annual variability within an Antarctic coastal canyon. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
49. Hudson K, Oliver MJ, Kohut J, Cohen JH, Dinniman MS, Cimino MA, Klinck JM, Statscewich H, Bernard KS, Fraser W. Subsurface eddy facilitates retention and increases particle delivery of simulated diel vertical migrators in a biological hotspot. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
48. Hudson K, Oliver MJ, Kohut J, Dinniman MS, Klinck JM, Moffat C, Statscewich H, Bernard KS, Fraser W. A recirculating eddy promotes subsurface particle retention in an Antarctic biological hotspot. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
47. Cervantes SC\*\*, Bernard KS, Ross RM, Quetin LB. Spatial-temporal variability of larval fish communities at the Western Antarctic Peninsula. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.

46. Steinke KB\*\*, Bernard KS, Fontana, JM\*\*. Growth or reproductive development? The allocation of energy by overwintering juvenile Antarctic krill at the Western Antarctic Peninsula. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
45. Kaplan R\*\*, Bernard KS, Derville S, Torres LG. Analysis of Acoustic Backscatter Data Reveals Patterns in Krill Distribution and Structure in Relation to Whale Occurrence off the Coast of Oregon. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
44. Parker J, Bloom E, Norman R, Van Brocklin J, Lasdin K, Hildebrand L, Bernard KS, Henkel S, Torres L. From Zoop to Poop: Microfibers in zooplankton sampled from gray whale feeding areas, implications and confirmation of trophic transfer in an important baleen species. *Ocean Sciences Meeting 2022*, Honolulu, HI. 28 February – 4 March 2022.
43. Mayhall M, Barlow D, Torres L, Bernard K, Garcia M, Hayslip C, Kaplan R, Kennerley W, Klinck H. Cetacean and seabird distribution in Oregon waters in relation to oceanography and prey. *Oregon Chapter of the Wildlife Society Annual Conference*. 23 – 25 February 2022.
42. Kaplan R\*\*, Bernard K, Derville S, Fisher J, Torres LG. Ecosystem Models Reveal Patterns in Krill Distribution and Structure in Relation to Whale Occurrence off the Coast of Oregon. *Oregon Chapter of the Wildlife Society Annual Conference*. 23 – 25 February 2022.
41. Kaplan R\*\*, Bernard K, Derville S, Torres L. Tangled up in blue: Developing ecosystem models to mitigate whale entanglement risk in Oregon. *Oregon State of the Coast*. 28 – 29 October 2021.
40. Parker J, Bloom E, Norman R, Van Brocklin J, Lasdin K, Hildebrand L, Bernard K, Henkel S, Brander S, Torres L. From Zoop to Poop: Microfibers in zooplankton sampled from gray whale feeding areas, implications and confirmation of trophic transfer in an important baleen species. *Oregon State of the Coast*. 28 – 29 October 2021.
39. Bernard KS, Steinke KB\*\*, Fontana JM\*\*. The effect of autumn and winter diet on the physiology of juvenile Antarctic krill. *Ocean Sciences Meeting 2020*, San Diego, CA. 16 – 21 February 2020.
38. Steinke KB\*\*, Bernard KS, Ross R, Quetin L. The environmental drivers of the physiological condition of juvenile and mature female Antarctic krill: Implications for krill recruitment. *Ocean Sciences Meeting 2020*, San Diego, CA. 16 – 21 February 2020.
37. Fontana JM\*\*, Bernard KS. Circadian Rhythms in Respiration Rates of juvenile Antarctic krill. *Ocean Sciences Meeting 2020*, San Diego, CA. 16 – 21 February 2020.
36. Brodeur RD, Bernard KS, Sutherland KR. Causes and consequences of the great pyrosome bloom in the Northern California Current. *6<sup>th</sup> International Jellyfish Bloom Symposium*, Cape Town, South Africa. 4 – 6 November 2019.
35. O'Loughlin JH\*\*, Daly EA, Zeman S, Fisher JL, Brodeur RD, Hurst TP, Bernard KS. Implications of *Pyrosoma atlanticum* grazing on phytoplankton standing stocks in the Northern California Current. *6<sup>th</sup> International Jellyfish Bloom Symposium*, Cape Town, South Africa. 4 – 6 November 2019.
34. Kohut J, Winsor P, Statscewich H, Olive M, Fredj E, Couto N, Bernard K, Fraser W. Horizontal advection critical for maintaining an Antarctic biological hotspot. *2019 IEEE/OES 12<sup>th</sup> Currents, Waves, Turbulence Measurement and Applications Workshop*, San Diego, CA. 10 – 13 March 2019.
33. Statscewich H, Kohut J, Winsor P, Oliver M, Miles T, Bernard K, Fraser W. Ocean circulation patterns in Palmer Deep. *2019 IEEE/OES 12<sup>th</sup> Currents, Waves, Turbulence Measurement and Applications Workshop*, San Diego, CA. 10 – 13 March 2019.



32. Brodeur RD, Bernard K, Sutherland KR, Sorensen HL, Blondheim ON. Causes and consequences of the great pyrosome bloom in the Northern California Current. *Science Board Symposium, PICES Annual Meeting*, Yokohama, Japan. 25 October – 4 November 2018.
31. Barlow D\*\*, Palacios DM, Bernard KS, Escobar-Flores P, Sutton P, Torres LG. Cloudy with a chance of whales: Forecasting blue whale occurrence to mitigate industrial impacts based on tiered, bottom-up models. *Society for Conservation Biology Oceania Congress*, Wellington, Aotearoa, New Zealand, 3 – 5 July 2018.
30. Qualls KM\*\*, Keen EM, Bernard KS, Picard CR. Environmental drivers of euphausiid abundance in the Kitimat Fjord System, BC. *ASLO 2018 Summer Meeting, Water Connects*, Victoria, BC, Canada. 10 – 15 June 2018.
29. Goodrich C, Oliver MJ, Kohut JT, Cimino MA, Miles TN, Nazzaro L, Winsor P, Statscewich H, Fredj E, Bernard K, Patterson-Fraser D, Fraser W. Project CONVERGE: Krill distribution in Palmer Deep Canyon on the West Antarctic Peninsula. *Mid-Atlantic American Fisheries Society Meeting*, St. Jones National Estuarine Research Reserve, Delaware. 26 – 27 October 2017.
28. Goodrich C, Kohut J, Cimino M, Miles T, Palamara L, Winsor P, Statscewich H, Fredj E, Bernard K, Fraser W, Patterson-Fraser D, Oliver MJ. Krill distribution in Palmer Deep Canyon on the West Antarctic Peninsula. *XII<sup>th</sup> SCAR Biology Symposium*. Leuven, Belgium. 10-14 July 2017.
27. Kohut J, Bernard K, Fraser W, Oliver M, Winsor P, Statscewich H, Cimino M, Patterson-Fraser D, Miles T, Carvalho F. Project CONVERGE: Impacts of local oceanographic processes on Adélie penguin foraging ecology. Developing the West Antarctic Peninsula International Network within SOOS. *SOOS WAP Working Group Meeting*. Cambridge, UK. 15 – 16 May 2017.
26. Oliver M, Kohut J, Moline M, Nazzaro L, Miles T, Bernard K, Fraser W, Patterson-Fraser D, Irwin A, Cimino M, Winsor P, Statscewich H, Fredj E. Adélie Penguin Foraging Location Predicted by Tidal Regime Switching. *NSF Mobility Workshop*, The Ohio State University, Columbus, OH. 11 – 12 May 2017.
25. Walsh J, Reiss C, Bernard K, Watters G. How critical is sea ice for the overwinter survival of Antarctic krill? Oral presentation by first author. *XII<sup>th</sup> Scientific Committee on Antarctic Research Biology Symposium*. Leuven, Belgium. 10 – 14 July 2017.
24. Kohut J, Bernard K, Fraser W, Oliver M, Winsor P, Statscewich H, Cimino M, Patterson-Fraser D, Miles T, Carvalho F. Project CONVERGE: Impacts of local oceanographic processes on Adélie penguin foraging ecology. *Gordon Research Conference: Polar Marine Science*. Ventura, CA. 26 – 31 March 2017.
23. Oliver MJ, Kohut J, Bernard K, Fraser W, Winsor P, Statscewich H, Cimino M, Patterson-Fraser D, Miles T, Carvalho F. Project CONVERGE: Estimated physical and biological decorrelation time and space scales from coordinated AUV observations in coastal Antarctica. *Gordon Research Conference: Polar Marine Science*, Ventura, CA. 26 – 31 March 2017.
22. Bernard KS, Gunther LA\*\*, Mahaffey SH\*\*, Qualls KM\*\*, Sugla M\*\*, Dietrich KS, Driscoll RM, Reiss C. The contribution of an algal diet to the winter energy budget of Antarctic krill in the northern sector of the Western Antarctic Peninsula. Poster presented by LA Gunther. *2017 American Society for Limnology and Oceanography Meeting*. Honolulu, Hawai'i. 26 February – 3 March 2017.
21. Bernard KS, Cimino M, Fraser W, Kohut J, Oliver M, Patterson-Fraser D, Paxton D, Raycroft S, Statscewich H, Steinberg D, Winsor P. Antarctic krill cohort determines dominant aggregation structure. Invited poster presentation. *2016 Ocean Sciences Meeting*. New Orleans, Louisiana. February 22-26, 2016.

20. Kohut J, Palamara L, Miles T, Bernard K, Fraser W, Patterson-Fraser D, Oliver M, Cimino M, Winsor P, Statscewich H, Fredj E. Project CONVERGE: Impacts of local oceanographic processes on Adélie penguin foraging ecology. Oral presentation by first author. *2016 Ocean Sciences Meeting*. New Orleans, Louisiana. February 22-26, 2016.
19. Statscewich H, Kohut J, Winsor P, Oliver M, Fraser W, Bernard K, Cimino M, Todoroff K. Project CONVERGE: Initial results from the mapping of surface currents in Palmer Deep. Poster presentation by first author. *2016 Ocean Sciences Meeting*. New Orleans, Louisiana. February 22-26, 2016.
18. Oliver M, Kohut J, Cimino M, Winsor P, Statscewich H, Miles T, Todoroff K, Carvalho F, Bernard K, Fraser W, Patterson-Fraser D. Project CONVERGE: Estimated physical and biological decorrelation time and space scales from coordinated AUV observations in coastal Antarctica. Poster presentation by first author. *2016 Ocean Sciences Meeting*. New Orleans, Louisiana. February 22-26, 2016.
17. Bernard K, Paxton D, Cimino M, Oliver M, Fraser W, Steinberg D. Tidal variability in nearshore Antarctic krill distribution patterns in an Adélie penguin foraging hotspot. Oral presentation. *33<sup>rd</sup> Scientific Committee for Antarctic Research (SCAR) Open Science Conference*. Auckland, New Zealand. August 25-28, 2014.
16. Bernard KS, Fraser WR, Steinberg DK. Krill distribution and Adélie penguin diet and Anvers and Avian Islands, Western Antarctic Peninsula. Poster presentation. *2012 Ocean Sciences Meeting*. Salt Lake City, Utah. February 20-24, 2012.
15. Bernard KS, Steinberg DK, Schofield OME. Summer grazing impact of the dominant macrozooplankton in the Western Antarctic Peninsula. Oral presentation. *31<sup>st</sup> Scientific Committee for Antarctic Research (SCAR) Open Science Conference*. Buenos Aires, Argentina. August 3-6, 2010.
14. Bernard KS, Bornman T, Goschen W, Campbell E, Deyzel S. Summertime near-shore upwelling off Port Alfred, Eastern Cape: Implications for biological productivity and biogeochemistry. Poster presentation. *SAEON Elwandle Node Open Day*. Port Elizabeth, South Africa. March 25, 2010.
13. Dali L\*\*, Bernard KS, Froneman PW, Paterson AW. Baseline investigation towards long term monitoring in zooplankton dynamics in Algoa Bay, South Africa. Poster presentation by first author (Graduate Student). *SAEON Elwandle Node Open Day*. Port Elizabeth, South Arica. March 25, 2010.
12. Goschen W, Schumann E, Bernard K, Paterson A. Aspects of some physical oceanographic processes occurring in northern Algoa Bay. Poster presentation by first author. *SAEON Elwandle Node Open Day*. March 25, 2010.
11. Bernard KS, Hunt BPV, Pakhomov EA, Hosie GW, Siegel V, Ward P. Potential implications of a decline in Southern Ocean pteropod densities due to ocean acidification. Oral presentation. *13<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Cape Town. June 29 – July 3, 2008.
10. Bernard ATF, Ansoorge IJ, Froneman PW, Lutjeharms JRE, Bernard KS, Swart N. Entrainment of Antarctic euphausiids across the Antarctic Polar Front by a cold eddy. Oral presentation by first author. *13<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Cape Town. June 29 – July 3, 2008.
9. Hermes JC, Bernard K, Paterson A, Pauw J. An introduction to the South African Environmental Observation Network's two marine nodes – Elwandle and Egagasini. Plenary presentation by first author. *13<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Cape Town. June 29 – July 3, 2008.
8. Dali L\*\*, Bernard KS, Froneman PW, Paterson AW. Spatial dynamics of mesozooplankton in Algoa Bay, South Africa. Poster presentation by first author (Graduate Student). *13<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Cape Town. June 29 – July 3, 2008.

7. Goschen W, Hermes J, Bernard K, Paterson A, Chuntharpursat A, Pauw J, Grant T, Drapeau L. Towards a data management system for long term monitoring of the marine systems around Southern Africa. Poster presentation by first author. *13<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Cape Town. June 29 – July 3, 2008.
6. Bernard KS, Froneman PW. Implications of the potential removal of a keystone sub-Antarctic species due to ocean acidification. Poster presentation. *Effects of Climate Change on the World's Oceans – International Symposium*. Gijón, Spain. May 19-23, 2008. Dr. Albrecht Götz, presented the poster on my behalf.
5. Bernard KS, Froneman PW. The ecological role of the thecosome pteropod, *Limacina retroversa*, in the Polar Frontal Zone. Oral presentation. *29<sup>th</sup> Scientific Committee for Antarctic Research (SCAR) Open Science Conference*. Hobart, Australia. July 12-14, 2006.
4. Bernard KS, Froneman PW. The trophic role of the thecosome pteropod, *Limacina retroversa*, in the Polar Frontal Zone of the Southern Ocean. Oral presentation. *12<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Durban, South Africa. 2005.
3. Bernard KS, Froneman PW, McQuaid CD. Zooplankton community structure and grazing impact in the Polar Frontal Zone of the Southern Ocean during austral autumn 2002. Poster presentation. *28<sup>th</sup> Scientific Committee for Antarctic Research (SCAR) Open Science Conference*. Bremen, Germany. 2004.
2. Bernard KS, Froneman PW. Ecological role of mesozooplankton in the Polar Frontal Zone. Oral presentation. *9<sup>th</sup> International Conference on Copepoda (ICOC)*. Keelung, Taiwan. 2002.
1. Bernard KS, Froneman PW, McQuaid CD. Mesozooplankton community in the upstream region of the Prince Edward Islands (Southern Ocean). Oral presentation. *11<sup>th</sup> Southern African Marine Science Symposium (SAMSS)*. Swakopmond, Namibia. 2002.

#### SELECTED INVITED SEMINARS

- 2022 Bernard KS “License to Krill: Filling in the gaps to improve population dynamics models and fisheries management in the Southern Ocean”. OEAS OC522/532 Seminar Series, Oregon State University. January 2022.
- 2021 Bernard KS, Piñones A, Dinniman M. “Using Lagrangian simulations to test whether spawning over the WAP shelf can be supported by upward advection”. SCAR Integrating Climate and Ecosystem Dynamics (ICED) Krill Modeling Workshop. Zoom. May 2021.
- 2021 Bernard KS, Watters G. “Emerging techniques: Gliders and AUVs”. SCAR Krill Action Group (SKAG) Workshop. Zoom. April 2021.
- 2017 Bernard KS. “Antarctic krill overwintering strategies in the Bransfield Strait.” School of Oceanography, University of Washington. Seattle, WA. November 2017.
- 2016 Bernard KS. “The Role of Phytoplankton in the Winter Diet of Antarctic Krill”. Institute for the Oceans and Fisheries Fall Seminar Series, University of British Columbia. Vancouver, BC, Canada. October 2016.
- 2016 Bernard KS. “Aggregation characteristics of Antarctic krill”. Andrews Forest Long Term Ecological Research project, Monthly Meeting. Corvallis, OR. April 2016.
- 2014 Bernard KS, Paxton D, Steinberg DK. “Regional and temporal variability in krill distribution patterns and densities: From the sub-mesoscale to the macroscale”. Palmer Antarctic Long Term Ecological Research project, Annual Meeting. Williamsburg, VA. October 2014.

- 2014 Bernard KS. “Why Sea Ice Matters – from the perspective of larval Antarctic krill”. Ocean Ecology and Biogeochemistry (OEB) Seminar Series. College of Earth, Ocean, and Atmospheric Sciences (CEOAS), Oregon State University. Corvallis, OR. May 2014.
- 2013 Bernard KS. “The Influence of Key Antarctic Zooplankton and Food Web Dynamics”. Hatfield Marine Science Center. Newport, OR. November 2013.
- 2012 Bernard KS. “Climate Change Along the Western Antarctic Peninsula”. Dean’s List Lecture, Rhodes University, Grahamstown, South Africa. April 2012.
- 2009 Bernard KS. “Climate Change in Antarctica”. South African Institute for Aquatic Biodiversity (SAIAB) Winter School. Grahamstown, South Africa. July 2009.

**GRANT AND CONTRACT SUPPORT**

<b>Title</b>	<b>Role</b>	<b>Agency</b>	<b>Duration</b>	<b>Grant Amount</b>
ORCC: Marine predator and prey response to climate change: Synthesis of Acoustics, Physiology, Prey, and Habitat In a Rapidly changing Environment (SAPPHIRE)	Co-PI	NSF	07/23-06/27	\$2,019,174
INTERN Supplement	PI	NSF	09/22-03/23	\$53,917
Polar STEAM: Where Curiosity Thrives	Co-PI	NSF	09/22-08/27	\$3,711,998
Enhancing co-occurrence assessment of whales and fishing gear in Oregon waters through incorporation of prey data and residency analysis	Co-PI	NOAA	07/22-06/25	\$637,093
Conserving the Southern Ocean: Informing the design, implementation, and value of protecting the waters around Antarctica	Co-PI	Pew Charitable Trust	01/22-12/24	\$14,761
OSU Research Equipment Reserve Fund Award for Leica THUNDER Imager 3D Tissue	PI	OSU Research Office	06/21	\$53,959
Drivers of Antarctic krill reproductive output	PI	NSF	04/21-03/24	\$680,541
CAREER: “The Omnivore’s Dilemma”: The effect of autumn diet on winter physiology and condition of juvenile Antarctic krill	PI	NSF	09/18-08/23	\$624,621
Collaborative Research: Physical mechanisms driving food web focusing in Antarctic biological hotspots	PI	NSF	06/18-05/21	\$264,575
RAPID: The ecological role of <i>Pyrosoma atlanticum</i> in the Northern California Current	PI	NSF	06/18-05/19	\$190,378
Diet, energy budget and predation impact of early-juvenile coastal Pacific hake in the Northern California Current	PI	OR Sea Grant	06/17-06/18	\$9,996
**Building the STEM Pipeline through Oceaongoing Research and Near-Peer Mentoring	Co-PI	State Funded Ship Days	09/17-08/19	\$100,000

**Tracking Ocean Acidification, Hypoxia, and Zooplankton Community Response through Experiential Research Education	PI	State Funded Ship Days	09/15-08/17	\$200,000
Collaborative research: Impacts of local oceanographic processes on Adélie Penguin foraging ecology over Palmer Deep	PI	NSF	06/13-08/17	\$165,000
Wind-enhanced upwelling off the Eastern Cape coast, north of Algoa Bay: Implications for biological productivity and biogeochemistry	PI	NRF <sup>1</sup> and MCM <sup>2</sup>	01/08-12/09	ZAR290,500 (~US\$36,000)
Digitizing historical datasets from the biological oceanographic research of the Southern Ocean Group	PI	SAEON <sup>3</sup>	01/08-12/08	ZAR22,000 (~\$2,750)
<b>TOTAL</b>				<b>\$8,764,763</b>

Acronyms for South African funding agencies: <sup>1</sup>National Research Foundation; <sup>2</sup>Marine and Coastal Management; <sup>3</sup>South African Environmental Observation Network. \*\* Denotes funding for ship time only. All funding amounts during my tenure at OSU (04/2013-present) represent amount in US\$ to OSU. Note that grant amounts for NSF-funded Antarctic projects do not include costs involved with ship-time, field station costs, travel to and from Antarctica, and substantial research consumables and supplies, all of which are included outside of the grant amount total by the NSF through the US Antarctic Program.

#### MAJOR SEAGOING/FIELD EXPEDITIONS

Approximately 67 weeks at sea and 38 months at Palmer Station.

Date	Research Vessel/ Field Location	Project/Class	Role
May 01-Oct 19, 2023	Palmer Station, Antarctica	CAREER	Station Science Leader
June 5-21, 2023	A.R.S.V. <i>Laurence M. Gould</i>	CAREER	Principal Investigator
May 20-30, 2023	A.R.S.V. <i>Laurence M. Gould</i>	CAREER	Principal Investigator
Apr 30-Oct 16, 2022	Palmer Station, Antarctica	CAREER	Station Science Leader
Apr 9-Oct 13, 2019	Palmer Station, Antarctica	CAREER	Station Science Leader
Sep 21-28, 2018	R.V. <i>Oceanus</i>	STEM Pipeline	Scientist
Oct 31-Nov 3, 2017	R.V. <i>Oceanus</i>	OAH	Chief Scientist
Mar 25-29, 2017	R.V. <i>Oceanus</i>	OC295	Instructor
Aug 2016	R.V.I.B. <i>Nathaniel B. Palmer</i>	NOAA AMLR	Invited Scientist
Jun 16-25, 2016	Toolik Field Station, AK	Arctic LTER	Invited Collaborator
Mar 22-25, 2016	R.V. <i>Oceanus</i>	OC295	Instructor
Feb 15-17, 2016	R.V. <i>Oceanus</i>	C-CAW	Invited Scientist
Jan 22-26, 2016	R.V. <i>Oceanus</i>	C-CAW	Invited Scientist
Ma 26, 2015	R.V. <i>Elakha</i>	OC521	Instructor
Mar 24-27, 2015	R.V. <i>Oceanus</i>	OC295	Instructor
Nov 2014-Mar 2015	Palmer Station, Antarctica	CONVERGE	Principal Investigator
Oct 8-11, 2014	R.V. <i>Point Sur</i>	UNOLS	Co-Chief Scientist
Jan-Mar 2014	Palmer Station, Antarctica	CONVERGE	Principal Investigator
Jan 2013	R.V. <i>Point Sur</i>	Palmer LTER	Chief Scientist
Dec 2012-Mar 2013	Palmer Station, Antarctica	Palmer LTER	Field Team Leader
Oct 2011-Feb 2012	Palmer Station, Antarctica	Palmer LTER	Field Team Leader
Jan 2011	A.R.S.V. <i>Laurence M. Gould</i>	Palmer LTER	Scientist
Oct 2010-Apr 2011	Palmer Station, Antarctica	Palmer LTER	Field Team Leader
Jan 2010	A.R.S.V. <i>Laurence M. Gould</i>	Palmer LTER	Scientist

Date	Research Vessel/ Field Location	Project/Class	Role
Nov 2008	R.V. <i>Dr. Fridtjof Nansen</i>	ASCLME	Scientist
Oct 2008	R.V. <i>Dr. Fridtjof Nansen</i>	ASCLME	Scientist
Nov 2005-Jan 2006	R.V. <i>Polarstern</i>	LAKRIS Project	Invited Scientist
Apr 2005	M.V. <i>S.A. Agulhas</i>	SOG	Group Leader
Nov-Dec 2004	M.V. <i>Akademik Sergey Vavilov</i>	Goodhope II	Group Leader
Apr 2004	M.V. <i>S.A. Agulhas</i>	SOG	Student
Apr 2002	M.V. <i>S.A. Agulhas</i>	SOG	Student
Apr 2001	M.V. <i>S.A. Agulhas</i>	SOG	Student
Apr 2000	M.V. <i>S.A. Agulhas</i>	SOG	Student

*CAREER = NSF Career Award “The Omnivore’s Dilemma”; STEM Pipeline = Outreach and education cruise; OAH = Ocean Acidification and Hypoxia study; NOAA AMLR = National Oceanography and Atmospheric Administration, Antarctic Marine Living Resources; LTER = Long Term Ecological Research; OC295 = Introduction to Field Oceanography Class; C-CAW = Coastal Carbon in the Winter; OC521 = Applied Ecology & Biogeochemistry Class; CONVERGE is not an acronym; UNOLS = University-National Oceanographic Laboratory System, Chief Scientist Training; ASCLME = Agulhas-Somali Current Large Marine Ecosystem Project, operated by the United Nations Environment Programme; LAKRIS Project = Lazarev Sea Antarctic Krill Survey, operated by the Alfred-Wegener Institute for Polar and Marine Research; SOG = Southern Ocean Group, Rhodes University.*

## TEACHING AND ADVISING

### CREDIT COURSES TAUGHT AT OSU

Course No.	Title	No. of Students	Term, Year
OC334	Polar Oceanography (WIC)	11	Spring, 2014
OC295*	Introduction to Field Oceanography	10	Spring, 2015
OC334	Polar Oceanography (WIC)	13	Spring, 2015
OC295*	Introduction to Field Oceanography	13	Winter, 2016
OC334	Polar Oceanography (WIC)	11	Spring, 2016
OC295	Introduction to Field Oceanography	14	Winter, 2017
OC334	Polar Oceanography (WIC)	25	Spring, 2017
OC334	Polar Oceanography (WIC)	20	Spring, 2018
OC334	Polar Oceanography (WIC)	19	Winter, 2019
OC334	Polar Oceanography (WIC)	22	Winter, 2021
OC334	Polar Oceanography (WIC)	20	Winter, 2022
OC444	Polar Oceanography (WIC)	9	Winter, 2023

\* Denotes classes where I have been listed as co-instructor. Note that the courses listed above are each 3 credits. Introduction to Field Oceanography included a 5-day research cruise aboard the RV *Oceanus*. WIC = Writing Intensive Course.

### GRADUATE STUDENT ADVISING

Name	Major	Degree	Start Date	Graduation Date	Role
Macarena Díaz <sup>#</sup>	Oceanography	Ph.D.	Oct 2021	Jan 2022	Major Advisor
Rachel L. Kaplan	Ocean Ecology & Biogeochemistry	Ph.D.	Sep 2020	Enrolled	Major Advisor
Ashley M. Hann	Marine Resource Management	M.S.	Sep 2019	Aug 2021	Major Advisor

Kirsten B. Steinke	Ocean Ecology & Biogeochemistry	Ph.D.	Sep 2018	Apr 2023	Major Advisor
Katelyn M. Qualls	Ocean Ecology & Biogeochemistry	M.S.	Sep 2015	Apr 2019	Major Advisor
Luzuko Dali*	Marine Biology	M.S.	Jan 2008	Apr 2010	Major Advisor
Brian VerWey	Botany & Plant Pathology	M.S.	Jan 2021	Enrolled	Committee
Suzanne Winquist	Wildlife Science	M.S.	Sep 2020	Enrolled	Committee
Jennifer Fisher	Fisheries Science	Ph.D.	Sep 2020	Enrolled	Committee
Michelle B. Nguyen	Ocean Ecology & Biogeochemistry	M.S.	Sep 2019	Sep 2021	Committee
Dawn R. Barlow	Wildlife Science	Ph.D.	Sep 2018	Apr 2022	Committee
Lisa Hildebrand	Wildlife Science	M.S.	Jun 2018	Dec 2020	Committee
Jack A. Conroy**	Marine Science	Ph.D.	Sep 2017	Mar 2022	Committee
Jessamyn Johnson	Ocean Ecology & Biogeochemistry	M.S.	Sep 2016	Jun 2019	Committee
Dawn R. Barlow	Wildlife Science	M.S.	Sep 2016	Jun 2018	Committee
Miram Gleiber	Integrative Biology	Ph.D.	Sep 2014	Jun 2020	Committee
Stephanie Loreda	Wildlife Science	M.S.	Sep 2015	Jun 2018	Committee
Kelsey A. McBeain	Microbiology	M.S.	Sep 2014	Dec 2016	Committee
Sarah Sellke	Integrative Biology	Ph.D.	Sep 2021	Enrolled	GCR
Kaitlyn Tonra	Integrative Biology	Ph.D.	Sep 2021	Enrolled	GCR
Kris Bauer	Integrative Biology	Ph.D.	Sep 2021	Enrolled	GCR
Brian Erickson	Fisheries Social Science	Ph.D.	Sep 2018	Enrolled	GCR
Brittany Schwartzkopf	Fisheries Science	Ph.D.	Jan 2015	Feb 2020	GCR
Brandon Chasco	Fisheries Science	Ph.D.	Jan 2013	Mar 2019	GCR
Alissa Rickborn	Integrated Biology	Ph.D.	Sep 2014	Jun 2019	GCR
Sheanna Steingass	Wildlife Science	Ph.D.	Mar 2014	Jun 2018	GCR
Samara Haver	Wildlife Science	M.S.	Jan 2015	Jun 2017	GCR
Madeleine Eckmann	Fisheries Science	M.S.	Sep 2012	Nov 2014	GCR

*#Visiting Ph.D. student from Universidad de Concepción, Chile; \*Rhodes University, South Africa; \*\*Virginia Institute of Marine Science, College of William and Mary, VA; GCR = Graduate Council Representative.*

#### UNDERGRADUATE ADVISING

Name	Major/University	Date	Thesis/Program
Abby L. Tomita*	Ocean Science	Spr 2023-present	Senior Thesis
Giulia Wood	Environmental Sciences (HC)	Fall 2020-Spr 2023	Honors Thesis
Radhika Shah*	Environmental Sciences (HC)	Fall 2017-Spr 2019	Honors Thesis
Julia Fontana	Ocean Science	Spr 2019	Senior Thesis
Abby L. Tomita	Ocean Science	Sum 2023	REU
Lani M. Garcia*	Biology (HC)	Sum 2022	REU
Sarah Cervantes*	Ocean Science	Sum 2021	REU
Jessica O'Loughlin	Ocean Science	Sum 2018	REU
Charlie Donahue*	Biology	Sum 2018	REU
Monisha Sugla	Rutgers University	Sum 2016	REU
Lani M. Garcia	Biology (HC)	Win-Sum 2021	URSA-Engage
Harvey Perello	Environmental Sciences	Win-Sum 2021	URSA-Engage

Amanda Kent*	Ocean Science	Win-present	URSA-Engage
Courtney Kelton	Zoology	Win-Sum 2021	URSA-Engage
Emily Erce	Environmental Sciences	Win-Sum 2021	URSA-Engage
Adriana Amrhein*	Environmental Sciences	Win-Spr 2017	URSA-Engage
Charlie Donahue	Biology	Win-Spr 2017	URSA-Engage
Taylor McAlister	Environmental Sciences	Win-Spr 2017	URSA-Engage
Radhika Shah	Environmental Sciences (HC)	Win-Spr 2016	URSA-Engage
Lacey A. Gunther	Environmental Sciences	Win-Sum 2015	URSA-Engage
Abby L. Tomita	Ocean Science	Sum 2022-Win 2023	Intern
Amanda Kent	Ocean Science	Sum 2022-Win 2023	Intern
Sean H. Mahaffey	Ocean Science	Sum 2016	Intern
Giovanna Bishop	Wheaton College	Sum 2016	Intern
Sarah Cervantes	Ocean Science	Win 2021-Spr 2022	Research Volunteer
Skylar Papike	Environmental Sciences	Fall 2020-Spr 2021	Research Volunteer
Michaela Eugster	Ocean Science	Win-Spr 2021	Research Volunteer
Charlie Donahue	Biology	Fall 2017-Spr2019	Research Volunteer
Pha Truong Phan	Earth Sciences	Spr 2017-Fall 2018	Research Volunteer
Shannon Guercio	Biology	Fall 2016-Spr 2017	Research Volunteer
Virginia Pritchard	Microbiology	Fall 2016	Research Volunteer
Adriana Amrhein	Environmental Sciences	Fall 2016	Research Volunteer
Sidney Gerst	Environmental Sciences	Win-Spr 2016	Research Volunteer
Lacey Gunther	Environmental Sciences	Fall 2015-Spr 2017	Research Volunteer

\* = students that appear multiple times in this table; REU = Research Experience for Undergraduates, funded by the National Science Foundation; URSA-Engage = Undergraduate Research, Scholarship, and the Arts Program at Oregon State University.

## WORKSHOPS/SHORT COURSES ATTENDED

### SCIENTIFIC WORKSHOPS AND COURSES ATTENDED

- 2023 National Academy of Science, Engineering and Medicine Community Workshop on Antarctic Oceanography. February 2023. Washington, DC.
- 2021 Scientific Committee for Antarctic Research (SCAR) Integrating Climate and Ecosystem Dynamics (ICED) Krill Modeling Workshop. May 2021. Zoom.
- 2021 Workshop on Multivariate Analysis in Ecology (& Other Sciences), using PRIMER v7. May 2021. Presented by Dr. Paul Somerfield, Plymouth Marine Laboratory for PRIMER-e. Zoom.
- 2021 Scientific Committee for Antarctic Research (SCAR) Krill Action Group (SKAG) Workshop II. April 2021. Zoom.
- 2021 WAP Science Extravaganza. January 2021. Included researchers from the USA and Chile. Zoom.
- 2018 SKAG Workshop I. July 2018. British Antarctic Survey, Cambridge, United Kingdom. Zoom.
- 2016 Oceans Observatory Initiative (OOI) Workshop. 2016. Portland, Oregon, USA.
- 2015 CONVERGE Project Data Analysis Workshop. 2015. Ruby Habitat Foundation, Montana, USA.
- 2014 UNOLS Chief Scientist Training Program. 2014. Moss Landing Marine Laboratories, Moss Landing, California, USA.
- 2014 CONVERGE Project Intensive Field Season Planning Workshop. 2014. Lockheed Martin Antarctic Support Contract (ASC) Headquarters, Centennial, Colorado, USA.



- 2013 EarthCube Ocean Ecosystem Dynamics Domain End-User Workshop. 2013. Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, USA.
- 2013 CONVERGE Project Pilot Field Season Planning Workshop. 2013. Lockheed Martin Antarctic Support Contract (ASC) Headquarters, Centennial, Colorado, USA.
- 2008 Data Management and Analysis Tools Supporting Adaptive Management in South African Parks (NCEAS Project 12193) – Training Workshop. 2008. National Center for Ecological Analysis and Synthesis (NCEAS), University of California Santa Barbara (UCSB). Santa Barbara, CA.
- 2008 CLImate driving of Marine ECOSystem changes (CLIMECO). 2008. Integrated Marine Biogeochemistry and Ecosystem Research (IMBER). Plouzané, France.
- 2007 Methods and Applications of Ocean Color Remote Sensing in African Coastal and Regional Seas. 2007. Joint Research Centre of the European Commission. Mombasa, Kenya.

#### EDUCATION AND OUTREACH WORKSHOPS AND COURSES ATTENDED

- 2018 National Association of Geoscience Teachers (NAGT) Professional Development Traveling Workshops Program. September 2018. Oregon State University, Corvallis, Oregon, USA.
- 2016 National Center for Faculty Development and Diversity (NCFDD), Teaching in No Time: How to Prepare for a Stress-Free Semester. 2016. On-line 4-week webinar.
- 2016 COMPASS CEOAS Science Communication Training. 2016. Corvallis, Oregon, USA.

#### JUSTICE, EQUITY, DIVERSITY AND INCLUSION WORKSHOPS AND COURSES ATTENDED

- 2023 US Antarctic Program Bystander Intervention Training April 2023. Online training run by Alteristic.
- 2021 Social Justice and Equity Initiative (SJEI) – Tier II: Microaggressions in Teaching and Learning Environments. April 2021. Online program through OSU.
- 2021 Unlearning Racism in the Geosciences (URGE). February-April 2021. Online NSF-funded program.
- 2020 Social Justice and Equity Initiative (SJEI) – Tier I. October 2020. Online program through OSU.

#### CONTINUING EDUCATION WORKSHOPS AND COURSES ATTENDED

- 2017 National Center for Faculty Development and Diversity (NCFDD), Faculty Success Program. 2017. On-line 12-week program.
- 2007 Client-Side Web Development. 2007. IncusData. Pretoria, South Africa.
- 2000 Introduction to Environmental Impact Assessment. 2000. Coastal & Environmental Services and Rhodes University. Grahamstown, South Africa.

### **SERVICE**

#### **UNIVERSITY SERVICE**

- Peer Review of Teaching Committee, CEOAS, OSU, September 2023 – present.
- Chair, Ship Operations Committee, CEOAS, OSU, September 2018 – September 2022.
- Ship Operations Committee, CEOAS, OSU, September 2017 – March 2023.

Hiring Committee Chair, Position of Biological Sciences Research Technician, Level 2, OSU. November – December 2021.

Hiring Committee Member, Position of Sea Going Biological Oceanographer, CEOAS, OSU, April – January 2022.

Hiring Committee Member, Position of Associate Dean for Graduate Programs and Faculty Advancement, CEOAS, OSU, September 2020.

Hiring Committee Member, Position of Marine Superintendent, CEOAS, OSU, September 2018 – October 2018.

Hiring Committee Member, Position of Assistant Professor in Polar Paleoclimatology, CEOAS, OSU, July 2018 – October 2018.

Hiring Committee Member, Position of Assistant Professor, Senior Research, CEOAS, OSU, April 2017.

Assistant Professor Committee for the hiring of Associate Dean of Research and Faculty Advancement, CEOAS, OSU, January 2017.

Promotion and Tenure Committee, CEOAS, OSU, September 2016 – June 2017.

University Honors College Curriculum Committee, OSU, November 2015 – October 2017.

Peer Review of Teaching Committee, CEOAS, OSU, September 2015 – June 2016

Peer Review of Teaching Committee, CEOAS, OSU, September 2014 – June 2015.

Hiring Committee Member, Position of Research Associate, Cooperative Institute for Marine Resources Studies (CIMRS), December 2013.

## **SERVICE TO THE PROFESSION**

### EDITORIAL SERVICE

Editorial board member for *Nature Scientific Reports*, Nature Publishing Group. May 2016 – July 2018. In this position, I typically had between 2 and 5 manuscripts in circulation at any one time.

### JOURNAL REVIEWS

*Nature Communications Biology, Nature Communications, Deep Sea Research, Frontiers in Marine Science, Hydrobiologia, ICES Journal of Marine Science, Journal of Geophysical Research, Marine Biology, PLOS ONE, Canadian Journal of Zoology, Polar Biology, Progress in Oceanography, South African Journal of Science*

### PROPOSAL REVIEWS

NSF OPP Antarctic Sciences, NSF OPP Antarctic Organisms & Ecosystems, NSF OPP Polar Special Initiatives, NSF GEO Arctic Research, NSF GEO Biological Oceanography, NSF CREST, British Natural Environment Research Council, and South African National Antarctic Program.

### OTHER REVIEWS

South African National Research Foundation Competitive Program for Rated Researchers Reviewer, 2010. Tenure Review for Western Washington University, 2020.

### PANEL PARTICIPATION

NSF Office for Polar Programs, LTER Digital Education Library Review Camp, Eastern Cape Marine and Coastal Research and Management (ECRAM) Assessment Panels for the Marine Living Resources Fund

(South Africa), Society, Ecosystems and Change (SEACChange) Advisory Panel for the National Research Foundation (South Africa).

#### CONFERENCE LEADERSHIP

Session Convener, *ICES/PICES 7<sup>th</sup> Zooplankton Production Symposium*. Session TBD: Recent Advances in Global Euphausiid Ecology. Hobart, Tasmania. March 7-21, 2024.

Session Co-Convener, *ICES/PICES 6<sup>th</sup> Zooplankton Production Symposium*. Session 7: Zooplankton in High Latitudes. Bergen, Norway. May 9-13, 2016.

#### COMMITTEES AND COUNCILS

National Academy of Science, Engineering and Medicine (NASEM) Future Directions for Southern Ocean and Antarctic Nearshore and Coastal Research Consensus Study Committee, November 2022 – present.

Global Ocean Observing System (GOOS) Expert Panel on Biology and Ecosystems, Zooplankton Lead, April 2022 – present. International Committee. GOOS is part of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Intergovernmental Oceanographic Commission (IOC).

The Oceanography Society, Biological Oceanography Councilor, February 2021 – present. International Committee.

SCAR (Scientific Committee for Antarctic Research) Krill Expert Group, Board Outreach and Communications Coordinator, September 2022 – present. International Committee.

SCAR Krill Action Group, Board Outreach and Communications Coordinator, March 2022 – September 2022. International Committee.

SCAR Krill Action Group, Executive member, July 2018 – September 2022. International Committee.

Subcommittee of the NSF Office of Polar Programs (OPP) Advisory Committee on the U.S. Antarctic Program's Research Vessel Procurement, June 2018 – August 2019. Output: Bernard KS, Leventer A, Prince JM, Sliester R, Swift JH, Weingartner T (2019). Report of the Ad Hoc Subcommittee on the U.S. Antarctic Program's Research Vessel Procurement. National Committee.

#### **SERVICE TO THE PUBLIC (PROFESSIONALLY RELATED)**

##### SELECTED OUTREACH EVENTS AND PRESENTATIONS (SINCE 2011)

- 2023 “Dive In” with Sylvia Earle and Liz Taylor, Invited Guest (March 2023). Earle and Taylor invited me to join them in a live online conversation about Antarctic krill.
- 2023 Discovering the Scientist Within, Oregon State University, Keynote Speaker (March 2023). “My journey to here: Becoming a biological oceanographer”.
- 2022 World Krill Day, NSF-Hosted Live Webinar from Palmer Station (August 2022). My all-women team and I presented a talk about Antarctic krill, krill research, and what it is like to conduct research in Antarctica.
- 2022 World Krill Day, NSF Twitter Takeover (August 2022). My all-women team and I produced 19 tweets about our research on Antarctic krill for the NSF to publish on World Krill Day.
- 2022 Academic Lifelong Learning (ALL), Invited Speaker (February 2022). “Small but mighty: Krill, the kingpins of our oceans”.
- 2021 Achievement Rewards for College Scientists (ARCS) Foundation Oregon Chapter, Invited Speaker (September 2021). “The curious lives of Antarctic krill”.

- 2019 Bruce Museum, Live Video Broadcast (October 2019). Speaking to visitors of the museum about the ecosystem of the Western Antarctic Peninsula and how climate change is impacting it. Live broadcast from Palmer Station, Antarctica.
- 2018 R/V *Oceanus* Open Day, Portland, OR (September 2018). I participated in a two-day outreach and education event aboard the R/V *Oceanus*. The aim of the event was to highlight oceanographic research as an important STEM field, to engage high school students in the field of oceanography. During this event, I gave 42 10-minute presentations to middle and high school students and their teachers.
- 2018 R/V *Oceanus* STEM Pipeline Research Cruise (September 2018). I participated in a four-day educational research cruise aimed at immersing students and teachers from local high schools as well as students from local community colleges in sea-going oceanographic research.
- 2017 National Ocean Science Bowl, Career Night (April 2017). Career mentor, talking about my research and career path with high school students from across the United States. Corvallis, OR.
- 2017 A Call to Life: Variations on a Theme of Extinction – So Much Worth Saving (April 2017). One of five scientists in a panel talking about the organisms we study as part of Oregon State University’s SPARK program in the School of Arts and Communication. Corvallis, OR.
- 2014 Project CONVERGE Teacher Workshop (August 2014). “Following the Food”. Rutgers University, NJ.
- 2012 Abercrombe & Kent Gift Acceptance Seminar (December 2012). “Palmer Antarctica Long-Term Ecological Research Project: Looking back in time through marine ecosystem space”. M.V. Le Boreal, near Palmer Station, Antarctica.
- 2012 SciFestAfrica, Invited speaker (March 2012). “Antarctica: Notes from the bottom of the world”. Supported by the South African Department for Science and Technology as part of the Youth into Science Strategy. Grahamstown, South Africa.
- 2012 Boston Museum of Science, Live Video Broadcast (January 2012). Speaking to visitors of the museum about the ecosystem of the Western Antarctic Peninsula and how climate change is impacting it. Live broadcast from Palmer Station, Antarctica.
- 2011 Abercrombe & Kent Gift Acceptance Seminar (December 2011). “Palmer Antarctica Long-Term Ecological Research Project: Looking back in time through marine ecosystem space”. M.V. Le Boreal, near Palmer Station, Antarctica.
- 2011 Society of Environmental Journalists 21st Conference (October 2011). Live video broadcast from Palmer Station, Antarctica during the conference opening ceremony. Discussed climate change in the Western Antarctic Peninsula. Live broadcast from Palmer Station, Antarctica.
- 2011 Virginia Institute of Marine Science (VIMS) Marine Science Day (May 2011). Zooplankton Ecology Laboratory exhibit and demonstrations. Gloucester Point, VA.
- 2011 TedX Pura Vida, Costa Rica (February 2011). Live video broadcast from Palmer Station, Antarctica. Discussed research being conducted at Palmer Station as part of the Palmer Antarctic Long-Term Ecological Research project and the impacts of climate change in the region. Live broadcast from Palmer Station, Antarctica.

#### SELECTED MEDIA RELEASES

- 2023 *The Revelator*, “Small But Mighty: Why Antarctic krill are worth fighting for”, by Tara Lohan. July 2023.

- 2022 *Pew Charitable Trust Website*, “Why Does the Keystone Species of the Southern Ocean Need an Awareness Day? A krill expert explains her decade-long love for the small but mighty crustacean”, by Pew Charitable Trust. August 2022.
- 2022 *Oregon Stater*, “A food chain mystery”, by Nancy Steinberg. Winter, 2022.
- 2019 *Oregon Public Broadcasting’s Think Out Loud*, “Winter solstice in Antarctica”, by Sage Van Wing, with radio host Dave Miller. June 20, 2019.
- 2019 *IFL Science*, “Meet the All-Women Expedition Team About to Spend Winter in Antarctica”, by Kristy Hamilton, April 2019.
- 2019 *Oregon Public Broadcasting’s Think Out Loud*, “Oregon researchers will spend winter in Antarctica”, by Sage Van Wing, with radio host Dave Miller. March 21, 2019.
- 2017 *Terra*, “Going in for the krill”, by Mark Floyd, Fall 2017.
- 2017 *Elements*, “A Time to Krill”, by Abby Metzger, Spring 2017.
- 2014 *The Antarctic Sun*, “Converging factors: New project to use radar array to determine how ocean currents affect food web”, by Peter Rejcek, May 9, 2014.
- 2012 *Popular Mechanics*, “Science on Ice: What It’s Like to Live and Work in Antarctica”, by Jennifer Bogo, February 20, 2012.
- 2012 *New York Times*, “Team Tracks a Food Supply at the End of the World”, by Susan Moran, March 12, 2012.
- 2010 *Nature News Blog*, “Research Trip to the Antarctic: Antarctic krillers”, by Jane Qiu, December 15, 2010.

#### AUTHORED POPULAR SCIENCE ARTICLES

- 2022 Bernard KS. “My Childhood Fascination with Antarctica Led to a Career Studying Krill: A scientist’s story of exploration and hope—for the Southern Ocean and humankind”. Published by Pew Charitable Trust.
- 2010 Bernard KS. “Antarctic Meltdown: The Knock-On Effects of Climate Change in the Western Antarctica Peninsula.” SAEON August Newsletter. South African Environmental Observation Network.
- 2009 Bernard KS. “Exploring the South-West Indian Ocean (Agulhas and Somali Current Large Marine Ecosystem – ASCLME – Project).” SAEON April Newsletter. South African Environmental Observation Network.
- 2008 Bernard KS. “Coastal upwelling studies can help piece together climate change puzzle.” SAEON February’08 Newsletter. South African Environmental Observation Network

#### **ORGANIZATIONS AND PROFESSIONAL AFFILIATIONS**

- American Geophysical Union
- The Oceanography Society
- Association for the Sciences of Limnology and Oceanography
- Global Ocean Observing System, Biology and Ecosystem Panel
- Scientific Committee for Antarctic Research, Krill Expert Group