

Bruce A. Menge
Wayne and Gladys Valley Professor of Marine Biology
OSU Distinguished Professor of Integrative Biology
Oregon State University, Corvallis

CURRICULUM VITAE

PERSONAL

Education:

1965 B. A. Zoology: University of Minnesota, Minneapolis
1970 Ph.D. Zoology: University of Washington, Seattle

Positions:

1970-71 Postdoctoral Fellow (Ford Foundation), University of California, Santa Barbara
1971-76 Assistant Professor, Department of Biology, University of Massachusetts, Boston
1976-79 Assistant Professor, Department of Zoology, Oregon State University, Corvallis
1978-84 Research Associate, Smithsonian Tropical Research Institute, Balboa, Rep. of Panama
1979-85 Associate Professor, Department of Zoology, Oregon State University, Corvallis
1985-2005 Professor, Department of Zoology, Oregon State University, Corvallis
1995-present Wayne and Gladys Valley Professor of Marine Biology, Oregon State University, Corvallis
2005-present OSU Distinguished Professor, Oregon State University, Corvallis
2008-2011 Chairperson, Zoology Department, Oregon State University, Corvallis

Advisors:

Robert T. Paine, PhD, University of Washington, Seattle, 1965-70
Joseph H. Connell and William Murdoch, Postdoctoral, University of California, Santa Barbara (1970-71)

CURRENT TEACHING

Zoology 594 Community Ecology
Biology 450 Marine Biology, Marine Biology Laboratory
Zoology 507C Ecology Seminar

PUBLICATIONS:

Italicized author names are students, postdocs, and research assistants

1. 1972a. **Menge, B.A.** Foraging strategy of a starfish in relation to actual prey availability and environmental predictability. *Ecological Monographs* **42**:25-50.
2. 1972b. **Menge, B.A.** 1972b. Competition for food between two intertidal starfish and its effect on body size and feeding. *Ecology* **53**:635-644.
3. 1973. **Menge, B.A.** Effect of predation and environmental patchiness on the body size of a tropical pulmonate limpet. *Veliger* **16**:87-92.
4. 1974a. **Menge, B.A.** Effects of wave action and competition on brooding and reproductive effort in a rocky intertidal starfish, *Leptasterias hexactis*. *Ecology* **55**:84-93.
5. 1974b. Menge, J.L. and **B.A. Menge**. Role of resource allocation, aggression, and spatial heterogeneity in coexistence of two competing intertidal starfish. *Ecological Monographs* **44**:189-209.
6. 1975. **Menge, B.A.** Brood or broadcast? The adaptive significance of different reproductive strategies in the two intertidal sea stars *Leptasterias hexactis* and *Pisaster ochraceus*. *Marine Biology* **31**:87-100.

7. #1976a. **Menge, B.A.** and J.P. Sutherland. Species diversity gradients: synthesis of the roles of predation, competition, and temporal heterogeneity. *American Naturalist* **110**:351-369. [A "Citation Classic;" see below]
8. #1976b. **Menge, B.A.** Organization of the New England rocky intertidal community: role of predation, competition, and environmental heterogeneity. *Ecological Monographs* **46**:355-393.
9. 1977. **Menge, B.A.** Ecological implications of patterns of rocky intertidal community structure and behavior along an environmental gradient. pp. 155-180. In: J.D. Costlow (ed.), "*Ecology of Fouling Communities*," Navy Printing Office.
10. 1978a. **Menge, B.A.** Predation intensity in a rocky intertidal community: relation between predator foraging activity and environmental harshness. *Oecologia* **34**:1-16.
11. 1978b. **Menge, B.A.** Predation intensity in a rocky intertidal community: effect of an algal canopy, wave action and desiccation on predator feeding rates. *Oecologia* **34**:17-35.
12. 1978c. Lubchenco, J. and **B.A. Menge**. Community development and persistence in a low rocky intertidal zone. *Ecological Monographs* **48**:67-94. (Mercer Award Winner, 1979). [Reprinted in: Readings in Marine Ecology, 2nd ed., J.W. Nybakken, ed. (1985).]
13. 1979. **Menge, B.A.** Coexistence between the sea stars *Asterias vulgaris* and *A. forbesi* in a heterogeneous environment: a non-equilibrium explanation. *Oecologia (Berlin)* **41**:245-272.
14. 1981. **Menge, B.A.** and J. Lubchenco. Community organization in temperate and tropical rocky intertidal habitats: prey refuges in relation to consumer pressure gradients. *Ecological Monographs* **51**:429-450.
15. 1982a. **Menge, B.A.** Reply to a comment by Edwards et al. *Ecology* **63**:1180-1184.
16. 1982b. **Menge, B.A.** Effect of feeding on the environment: Asteroidea, pp. 521-551 In: "*Echinoderm Nutrition*," M. Jangoux and J.M. Lawrence, (eds.) A.A. Balkema, Rotterdam, The Netherlands.
17. 1983a. **Menge, B.A.** Components of predation intensity in the low zone of the New England rocky intertidal community. *Oecologia (Berlin)* **58**:141-155.
18. 1983b. **Menge, B.A.**, L.R. Ashkenas and A. Matson. Use of artificial holes in studying community development in cryptic marine habitats in a tropical rocky intertidal region. *Marine Biology* **77**:129-142.
19. 1984. Lubchenco, J., **B.A. Menge**, S.D. Garrity, P.J. Lubchenco, L.R. Ashkenas, S.D. Gaines, R. Emlet, J. Lucas and S. Strauss. Structure, persistence and role of consumers in a tropical rocky intertidal community (Taboguilla Island, Bay of Panama). *Journal of Experimental Marine Biology and Ecology* **78**:23-73.
20. 1985a. **Menge, B.A.**, J. Lubchenco, and L.R. Ashkenas. Diversity, heterogeneity and consumer pressure in a tropical rocky intertidal community. *Oecologia (Berlin)* **65**:395-405.
21. 1985b. **Menge, B.A.** Starfishes: Effect on benthic communities. pp. 152-153 In: Yearbook of Science and Technology, 5th ed. McGraw-Hill, NY (Article)
22. 1986a. **Menge, B.A.**, J. Lubchenco, S.D. Gaines and L.R. Ashkenas. A test of the Menge-Sutherland model of community organization in a tropical rocky intertidal food web. *Oecologia (Berlin)* **71**:75-89.
23. 1986b. **Menge, B.A.** J. Lubchenco, L.R. Ashkenas, and F.L. Ramsey. Experimental separation of effects of consumers on sessile prey on a rocky shore on the Bay of Panama: direct and indirect consequences of food web complexity. *Journal of Experimental Marine Biology and Ecology* **100**:225-269.
24. 1986c. **Menge, B.A.** A preliminary study of the reproductive ecology of the sea star *Asterias vulgaris* and *A. forbesi* in New England. *Bulletin of Marine Science* **39**:467-476.
25. #1987. **Menge, B.A.** and J.P. Sutherland. Community regulation: variation in disturbance, competition, and predation in relation to gradients of environmental stress and recruitment. *American Naturalist* **130**:730-757.
26. 1988. Lodge, D.M., J.W. Barko, D. Strayer, J.N. Melack, G.G. Mittelbach, R.W. Howarth, **B.A. Menge**, and J.E. Titus. Spatial heterogeneity and habitat interactions in lake communities. In: S.R. Carpenter (ed.) "Complex Interactions in Lake Communities," pp. 181-208, Springer-Verlag, New York.
27. 1989a. **Menge, B.A.** and T.M. Farrell. Community structure and interaction webs in shallow marine hard-bottom communities: tests of an environmental stress model. *Advances in Ecological Research* **18**: 189-262.
28. 1989b. **Menge, B.A.** This Week's Citation Classic: Predation, competition and community regulation. In *Current Contents: Agric., Biol., and Env. Sci.* **20**:16 and *Current Contents: Social and Beh. Sci.* **21**:16. (Article).
29. 1989c. Eckman, J.E., J.S. Levinton, **B.A. Menge**, C.H. Peterson, J.W. Porter, and J.P. Sutherland. A Coastal Initiative (COAST). Report of a Workshop on Nearshore Benthic Marine Ecology. *Bulletin of the Ecological Society of America* **70**:204-207.

30. 1990. **Menge, B.A.** and A.M. Olson. Role of scale and environmental factors in regulation of community structure. *Trends in Ecology and Evolution* **5**:52-57.
31. 1991a. **Menge, B.A.** Relative importance of recruitment and other causes of variation in rocky intertidal community structure. *Journal of Experimental Marine Biology and Ecology* **146**:69-100.
32. 1991b. Hixon, M.A. and **B.A. Menge**. Species diversity: prey refuges modify the interactive effects of predation and competition. *Theoretical Population Biology* **39**:178-200.
33. 1991c. **Menge, B.A.** Generalizing from experiments: Is predation strong or weak in New England rocky intertidal? *Oecologia* **88**:1-8.
34. 1992. **Menge, B.A.** Community regulation: under what conditions are bottom-up factors important on rocky shores? *Ecology* **73**:755-765.
35. 1993a. **Menge, B.A.**, T.M. Farrell, A.M. Olson, P. VanTamelen and T. Turner. Algal recruitment and the maintenance of a plant mosaic in the low intertidal region on the Oregon coast. *Journal of Experimental Marine Biology and Ecology* **170**:91-116.
36. 1993b. Lubchenco, J. and **B.A. Menge**. Split positions can provide a "sane track:" a personal account. *Bioscience* **43**:243-248.
37. 1993c. **Menge, B.A.**, R.T. Paine, and C. Moreno. Resolution of respect: John Patrick Sutherland 1942-1993. *Bulletin of the Ecological Society of America* **74**:275-277. (article)
38. #1994. **Menge, B.A.**, E.L. Berlow, C.A. Blanchette, S.A. Navarrete and S.B. Yamada. The keystone species concept: variation in interaction strength in a rocky intertidal habitat. *Ecological Monographs* **64**:249-286.
39. #,*,**1995a. **Menge, B. A.** Indirect effects in marine intertidal interaction webs: patterns and importance. *Ecological Monographs* **65**: 21-74.
40. 1995b. **Menge, B. A.** Joint "bottom-up" and "top-down" regulation of rocky intertidal algal beds in South Africa. *Trends in Ecology and Evolution* **10**:431-432.
41. 1995c. Lubchenco, J., G. W. Allison, S. A. Navarrete, **B. A. Menge**, J. C. Castilla, O. Defeo, C. Folke, O. Kussakin, T. A. Norton and A. M. Wood. Biodiversity and Ecosystem Functioning: Ecosystem Analyses, Coastal Systems. pp. 370-381 In: *Global Biodiversity Assessment*, United Nations Environment Program, Cambridge Univ. Press, Cambridge, UK.
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43. 1996a. **Menge, B. A.**, B. A. Daley and P. A. Wheeler. Control of interaction strength in marine benthic communities. pp. 258-274 In: *Food Webs: Integration of Pattern and Dynamics*, G. A. Polis and K. O. Winemiller, eds., Chapman and Hall, New York.
44. 1996b. Persson, L., J. Bengtsson, **B. A. Menge** and M.E. Power. Productivity and consumer regulation - concepts, patterns, and mechanisms. pp. 396-434 In: *Food webs: integration of pattern and dynamics*, G. A. Polis and K. O. Winemiller, editors. Chapman and Hall, N.Y.
45. 1996c. Polis, G. A., R. D. Holt, **B. A. Menge**, and K. O. Winemiller. Time, space, and life history: influences on food webs. pp. 435-460 In: *Food webs: integration of pattern and dynamics*, G. A. Polis and K. O. Winemiller, editors. Chapman and Hall, N.Y.
46. 1996d. Abrams, P., **B. A. Menge**, G. G. Mittelbach, D. A. Spiller, and P. Yodzis. The role of indirect effects in food webs. pp. 371-395 In: *Food webs: integration of pattern and dynamics*, G. A. Polis and K. O. Winemiller, editors. Chapman and Hall, N.Y.
47. #1996e. Power, M. E., D. Tilman, J. Estes, **B. A. Menge**, W. J. Bond, L. S. Mills, G. Daily, J. C. Castilla, J. Lubchenco, and R. T. Paine. Challenges in the quest for keystones. *Bioscience* **46**: 609-620.
48. 1996f. Navarrete, S. A. & **B. A. Menge**. Keystone predation and interaction strength: interactive effects of predators on their main prey. *Ecological Monographs* **66**: 409-429.
49. #1996g. Caley, M. J., M. H. Carr, M. A. Hixon, T. P. Hughes, G. P. Jones, and **B. A. Menge**. Recruitment and the local dynamics of open marine populations. *Annual Reviews of Ecology and Systematics* **27**:477-500.
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52. 1997a. **Menge, B. A.**, *B. Daley, P. A. Wheeler* and *P. T. Strub*. Rocky intertidal oceanography: an association between community structure and nearshore phytoplankton concentration. *Limnology and Oceanography* **42**:57-66.
53. 1997b. **Menge, B. A.** Detection of indirect effects: were experiments in rocky intertidal interaction webs long enough? *American Naturalist* **149**:801-823.*
54. 1997c. *Navarrete, S. A.* and **B. A. Menge**. The body size-population density relationship in tropical rocky intertidal communities. *Journal of Animal Ecology* **66**:557-566.
55. 1997d. **Menge, B. A.**, *B. A. Daley, P. A. Wheeler, E. Dahlhoff, E. Sanford* and *P. T. Strub*. Benthic-pelagic links and rocky intertidal communities: bottom-up effects on top-down control? *Proceedings of the National Academy of Sciences, USA* **94**:14530-14535.
56. 1999a. *Berlow, E. L., S. A. Navarrete, C. J. Briggs, M. E. Power,* and **B. A. Menge**. Quantifying variation in the strengths of species interactions. *Ecology* **80**:2206-2224.
57. 1999b. **Menge, B. A.**, *B. A. Daley, J. Lubchenco, E. Sanford, E. Dahlhoff, P. M. Halpin, G. Hudson,* and *J. Burnaford*. Top-down and bottom-up regulation of New Zealand rocky intertidal communities. *Ecological Monographs* **69**: 297-330.
58. 2000a. **Menge, B. A.** Recruitment vs. post-recruitment processes as determinants of barnacle population abundance on Oregon rocky shores. *Ecological Monographs* **70**:265-288.
59. 2000b. **Menge, B. A.** Testing the relative importance of positive and negative direct effects on community structure. *Trends in Ecology and Evolution* **15**:46-47.
60. 2000c. *Navarrete, S. A., B. A. Menge,* and *B. A. Daley*. Species interactions in a rocky intertidal food web: prey or predation regulation of intermediate predators? *Ecology* **81**:2264-2277.
61. 2000d. **Menge, B. A.** Top-down and bottom-up regulation of marine rocky intertidal communities. *Journal of Experimental Marine Biology and Ecology* **250**:257-289.
62. 2000e. *Davis-Born, R., J. Lubchenco, B. Menge, G. Allison, B. Grantham, P. Halpin,* and *C. Schoch*. PISCO: A long-term ecological consortium studying the influence of nearshore oceanography on coastal marine communities. Proceedings of the 2000 Conference of The Coastal Society.
63. 2001a. **Menge, B. A.** and *G. M. Branch*. Rocky intertidal communities. Pp. 221-251 in *Marine Community Ecology*, edited by *M. D. Bertness, S. D. Gaines,* and *M. Hay*. Sinauer Associates, Sunderland, MA.
64. 2001b. *Sanford, E.* and **B. A. Menge**. Spatial and temporal variation in barnacle growth in a coastal upwelling system. *Marine Ecology Progress Series* **209**: 143-157.
65. 2001c. **Menge, B. A.** and *T. L. Freidenburg*. Keystone species. Pp. 613-631 in *Encyclopedia of Biodiversity*, *S. A. Levin*, editor-in-chief. Academic Press, New York, NY.
66. 2001d. **Menge, B. A.** and *J. Lubchenco*. On the genesis of "Community development and persistence in a low rocky intertidal zone" (*Ecological Monographs* **48**: 67-94, the 1979 Mercer Award Winner) by *Jane Lubchenco* and *Bruce A. Menge*. *Bulletin of the Ecological Society of America* **82**:124-125.
67. 2001e. *Connolly, S. R., B. A. Menge,* and *J. Roughgarden*. A latitudinal gradient in recruitment of intertidal invertebrates in the northeast Pacific Ocean. *Ecology* **82**: 1799-1813.
68. 2001f. *Dahlhoff, E. P., B. B. Buckley,* and **B. A. Menge**. Physiology of the rocky intertidal predator *Nucella ostrina* along an environmental stress gradient. *Ecology* **82**: 2816-2829.
69. 2002a. **Menge, B. A.**, *E. Sanford, B. A. Daley, T. L. Freidenburg, G. Hudson,* and *J. Lubchenco*. An interhemispheric comparison of bottom-up effects on community structure: insights revealed using the comparative-experimental approach. *Ecological Research* **17**: 1-16.
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72. 2002d. *Dahlhoff, E. P., J. Stillman,* and **B. A. Menge**. Physiological community ecology: variation in metabolic activity of ecologically important rocky intertidal invertebrates along environmental gradients. *Integrative and Comparative Biology* **42**:862-871.

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76. 2004a. **Menge, B. A.** Bottom-up/top-down determination of rocky intertidal shorescape dynamics. Pages 62-81 In G. A. Polis, M. E. Power, and G. Huxel, eds. *Food webs at the landscape level*. University of Chicago Press, Chicago, IL.
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92. 2007f. *Sanford, E. D. and B. A. Menge.* Reproductive output and consistency of source populations in the sea star *Pisaster ochraceus*. *Marine Ecology Progress Series* **349**:1-12.
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POSTGRADUATE TRAINING:

Ph D:

1. 1980 **William Rice**, Ph.D. Thesis title: *Acoustical localization of concealed prey by the diurnal harrier (Circus cyaneus)*.
2. 1982 **Teresa Turner** Ph.D. Thesis title: *Community organization and succession in rocky intertidal surfgrass beds*.

3. 1983 **Steve Gaines** Ph.D. Thesis title: *Diverse consumer guilds in intertidal communities of Oregon and the Republic of Panama and their effects on prey assemblages.* .
4. 1984 **Chris Marsh** Ph.D. Thesis title: *The role of avian predators in an Oregon rocky intertidal community.*
5. 1984 **Lani West** Ph.D. Thesis title: *Prey selection by the tropical marine snail Thais melones: a study of the effects of interindividual variation and foraging experience on growth and gonad development.*
6. 1987 **Terry Farrell**, Ph.D. Thesis title: *Succession and stability in two rocky intertidal communities on the central Oregon coast.* Post-doctoral, Stanford University 1987-89.
7. 1989 **Cynthia D. Trowbridge**, Ph.D. Thesis title: *Marine herbivore-plant interactions: the feeding ecology of the sea slug Placida dendritica.*
8. 1990 **Ken R. Yates**, Ph.D. Thesis title: *The feeding ecology of the gumboot chiton, Cryptochiton stelleri (Middendorff, 1846).*
9. 1992 **Peter van Tamelen**, Ph.D. Thesis title: *Algal community structure and organization in high intertidal rockpools.*
10. 1992 **Annette Olson**, Ph.D. Thesis title: *Evolutionary and ecological interactions affecting seaweeds.*
11. 1994 **Deborah Brosnan**, Ph.D. Thesis title: *Environmental factors and plant-animal interactions on rocky shores along the Oregon coast.*
12. 1994 **Carol Blanchette**, Ph.D. Thesis title: *The effects of biomechanical and ecological factors on population and community structure of wave-exposed, intertidal macroalgae.*
13. 1994 **Sergio A. Navarrete**, Ph.D. Thesis title: *Effects of interactions between predators and species body sizes on rocky intertidal communities: Comparative and experimental approaches.*
14. 1995 **Eric L. Berlow**, Ph. D. Thesis title: *Patterns and dynamics of context-dependency in the marine rocky intertidal.*
15. 1997 **Gary W. Allison**, Ph. D. Thesis title: *The ecological consequences of the reduction of species diversity: experimental approaches.*
16. 1998 **Karina J. Nielsen**, Ph. D. Thesis title: *Bottom-up and top-down forces in tidepools: the influence of nutrients, herbivores, and wave exposure on community structure.*
17. 1999 **Eric D. Sanford**, Ph. D. Thesis title: *Oceanographic influences on rocky intertidal communities: coastal upwelling, invertebrate growth rates, and keystone predation.*
18. 2001 **Jennifer Burnaford**, Ph. D. Thesis title: *Evaluating the relative roles of positive and negative interactions in communities: shade, herbivory and physiological stress in the rocky intertidal zone.*
19. 2002 **Tess L. Freidenburg**, Ph. D. Thesis title: *Macroscale to Local Scale Variation in Rocky Intertidal Community Structure and Dynamics in Relation to Coastal Upwelling.*
20. 2003 **Matthew E. S. Bracken**, Ph. D. Thesis title: *Linking Marine Communities and Ecosystems: Invertebrates Mediate Nutrient Availability in Intertidal Communities.*
21. 2004 **Heather M. Leslie**, Ph. D. Thesis title: *Advancing Marine Reserve Science: From Field Experiments to Marine Conservation Planning Tools.*
22. 2005 **Roland B. Russell**, Ph. D. Thesis title: *Functional role of algal biodiversity.*
23. 2006 **Anne D. Guerry**, Ph. D. Thesis title: *"Grazing, nutrients, and marine benthic algae: insights into the drivers and protection of diversity."*
24. 2006 **Elise F. Granek**, Ph. D. Thesis title: *"Linkages between mangrove forests and coral reefs: quantifying disturbance effects and energy flow between systems."*
25. 2007 **Christopher Krenz**, Ph. D. Thesis title: *"Ecological subsidies to rocky shore communities: setting the stage for community dynamics in the northeast Pacific."*
26. 2007 **Laura E. Petes**, Ph. D. Thesis title: *"Effects of environmental stress on intertidal mussel reproduction."*
27. 2007 **Anthony Kirincich**, Ph. D. Thesis title: *"Physical oceanography of the inner shelf along the central Oregon coast."*
28. 2009 **Luis Vinueza**, Ph. D. Thesis title: *"Top Down and Bottom Up Effects on Galapagos Rocky Shore Communities."*
29. 2011 **Margot Hessing-Lewis**, Ph. D. Thesis title: *"Eelgrass-macroalgae interactions: Context-dependency in upwelling-influenced estuaries."*
30. 2011 **Joe Tyburczy**, Ph. D. Thesis title: *"Nearshore Distribution of Barnacle and Mussel Larvae and Oceanographic Mechanisms of Onshore Transport and Delivery."*
31. 2011 **Dafne Eerkes-Medrano**, Ph. D. Thesis title: *"The Role of Oxygen and Other Environmental Variables on Survival, Abundance, and Community Structure of Invertebrate Meroplankton of Oregon Nearshore Coastal Waters."*

32. 2012 **Alison C. Iles**, Ph. D. Thesis title: *“Bridging environmental physiology and community ecology: temperature effects at the community level.”*
33. 2013 **Davon Callander**, Ph. D. (University of Canterbury, Christchurch, NZ; BAM co-advisor). Thesis title: *“Effects of environmental stress on gene expression in mussels.”*
34. 2014 **Sarah Close**, Ph. D. Thesis title: *“The roles of nutrient dynamics, oceanography, and light in the structure and functioning of rocky intertidal macrophyte assemblages.”*
35. 2015 **Jeremy Rose**, Ph. D. Thesis title: *“Integrating the Effects of pH Variation with Food Availability and Temperature on Biogeography and Organismal Performance in Rocky Intertidal Communities.”*
36. 2016 **Allison Barner**, Ph. D. Thesis title: *“Predictability and constraints on the structure of ecological communities in the context of climate change.”*
37. 2016 **Elizabeth Cerny-Chipman**, Ph. D. Thesis title: *“Changing climate, changing ecological contexts: variation in rocky intertidal predator-prey interactions seen through an environmental stress framework.”*
38. 2016 **Chenchen Shen**, Ph. D. Thesis title: *“Impacts of ocean acidification on coralline algae: from species to community consequences”*
39. 2019 **Jenna Sullivan**, Ph. D. Thesis title: *“Marine mass mortality in a global change context: impacts on individuals, populations and communities”*
40. 2019 **Alissa Rickborn**, Ph. D. Thesis title: *“So long and thanks for all the sponge: cryptic intertidal communities, consequences of ocean acidification, and new directions for science education.”*

MS

1. 1981 **Dianna Padilla** M.S. Thesis title: *Selective agents influencing the morphology of coralline algae.*
2. 1982 **Ken Yates** M.S. Thesis title: *A limpet-kelp interaction: description and definition.*
3. 1982 **Carla D'Antonio** M.S., Thesis title: *Population and community ecology of the red alga Rhodomela larix (Turner) C. Agardh, on the central Oregon coast.*
4. 1985 **Annette Olson** M.S. Thesis title: *Early succession in beds of the red alga, Iridaea cornucopiaea Post. & Repr. (Gigartinaceae): alternative pathways.*
5. 1986 **Alice Brown** M.S. Thesis title: *An experimental test of optimal outbreeding in the harpacticoid copepod Tigriopus californicus (Baker).*
6. 1992 **Denise (Idler) Fischer**, M.S.
7. 1995 **Deirdre Roberts**, M. S. Thesis title: *Heat-shock protein expression in Mytilus californianus: seasonal and tidal height comparisons.*
8. 2005 **Maria T. Kavanaugh**, M. S. Thesis title: *“Phytoplankton shading of marine benthic macrophytes: implications for intertidal community structure.”*
9. 2006 **John Howieson**, M. S. Thesis title: *“Do settling mussels (Mytilus spp.) prefer macroalgae over artificial substrates? A test of collector preference along the Oregon coast.”*
10. 2014 **Jessica Reimer**, M.S. Thesis title: *“Patterns of Wrack Deposition on Sandy Beaches of the Pacific Northwest coast, U.S.A.”*

Post-Doctoral Fellows:

1. 1993-95 **Elizabeth Dahlhoff**
2. 1993-96 **Cynthia Trowbridge.**
3. 1994-95 **Sergio Navarrete.**
4. 1995-96 **Eric Berlow**
5. 1995-2001 **Patricia Halpin.**
6. 1997-98 **Gary Allison.**
7. 1997-2003 **Brian Grantham**
8. 1998-99 **George Leonard**
9. 1999-2000 **Carl Schoch**
10. 2000-2003 **Karina Nielsen.**
11. 2001-2004 **Francis Chan.**
12. 2001-2004 **Michael Webster**
13. 2002-2004 **Tess Freidenburg.**
14. 2005-2009 **Sarah Dudas.**

15. 2005-2008 **Gil Rilov.**
16. 2007-2014. **Kirsten Grorud-Colvert**
17. 2010-2011 **Philip Fenberg.**
18. 2010-2012 **Tarik Gouhier.**
19. 2011-2012 **Leigh Tait.**
20. 2013-2014 **Annaliese Hettinger.**
21. 2015-present **Sarah Gravem.**

Current Graduate Advisees:

1. **Barbara Spiecker**
2. **Silke Bachhuber**
3. **Heather Fulton-Bennett**
4. **Zechariah Meunier**
5. **Sara Hamilton**
6. **Emily Boring**
7. **Maya Feezell**

Undergraduate Theses (18 students, 1997-2017)

Undergraduate Researchers (354 students, 1989-2020)