

VIRGINIA McCULLOUGH WEIS
CURRICULUM VITAE

Department of Zoology
Oregon State University
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EDUCATION

Yale University	Biology	B. S.	1984
University of California, Los Angeles	Biology	Ph.D.	1990

EMPLOYMENT

Chair	Department of Zoology, Oregon State University	2011-present
Professor	Department of Zoology, Oregon State University	2007-present
Associate Professor	Department of Zoology, Oregon State University	2001-2007
Assistant Professor	Department of Zoology, Oregon State University	1996-2001
Research Associate	Hopkins Marine Station, Stanford University	1995-1996
Postdoctoral Fellow	Hopkins Marine Station, Stanford University	1993-1994
Postdoctoral Fellow	Dept. of Biological Sci., U. Southern California	1991-1993

RESEARCH EMPHASIS

Cell and molecular biology of cnidarian-dinoflagellate associations. Reproductive endocrinology of corals

PUBLICATIONS (Names in bold are student or postdoctoral trainees)

63. **Paxton, C. W.**, S. K. Davy and V. M. Weis. 2013. Stress and death of cnidarian host cells play a role in cnidarian bleaching. *Journal of Experimental Biology*. Advance Online
62. **Detournay, O., C. E. Schnitzler, A. Poole,** and V. M. Weis. 2012. Regulation of cnidarian-dinoflagellate mutualisms: Evidence that activation of a host TGFbeta innate immune pathway promotes tolerance of the symbiont. *Developmental and Comparative Immunology* 38:525-537.
61. Meyer, E. and V. M. Weis. 2012. Study of cnidarian-algal symbiosis in the 'omics' age. *Biological Bulletin* 223: 44-65.
60. Davy, S. K., D. Allemand, and V. M. Weis. 2012. Cell biology of cnidarian-dinoflagellate symbiosis. *Microbiology and Molecular Biology Reviews* 76:229-291.
59. **Pribyl, A.L.,** C.B. Schreck, S.J. Parker, and V.M. Weis. 2012. Identification of biomarkers indicative of barotrauma and recovery in Pacific rockfish. *Journal of Fish Biology*.81(1) 181-196.
58. Chen, W.-N., H.-J. Kang, V. M. Weis, A. B. Mayfield, P.-L. Jiang, L.-S. Fang, C.-S. Chen. 2012. Diel rhythmicity of lipid body formation in a coral-*Symbiodinium* endosymbiosis. *Coral Reefs* 31:521-534.
- 57 **Schnitzler, C. E.,** L. L. Hollingsworth, D. A. Krupp and V. M. Weis. 2012. Elevated temperature impairs onset of symbiosis and reduces survivorship in larvae of the Hawaiian coral, *Fungia scutaria*. *Marine Biology* 159:633-642..

- 56 **Detournay, O.** and V. M. Weis. 2011. Role of the sphingosine rheostat in the regulation of cnidarian-dinoflagellate symbioses. *Biological Bulletin* 221:261-269.
55. **Schnitzler, C. E.** and V. M. Weis. 2010. Coral larvae exhibit few measurable transcriptional changes during the onset of coral-dinoflagellate endosymbiosis. *Marine Genomics* 3:107-116
54. Weis, V. M. 2010. The susceptibility and resilience of corals to thermal stress: Adaptation, acclimatization or both? *Molecular Ecology* 19:1515-1517.
53. **Logan, D., A. LaFlamme, V. M. Weis, and S. Davy.** 2010. Flow cytometric characterization of the cell surface glycans of symbiotic dinoflagellates (*Symbiodinium* spp.) *Journal of Phycology* 46:525-533.
52. **Dunn, S. R.** and V. M. Weis. 2009. Apoptosis as a post-phagocytic winnowing mechanism in a coral-dinoflagellate mutualism. *Environmental Microbiology* 11:268-276.
51. **Sunagawa, S., E. Wilson, M. Thaler, M. Smith, C. Caruso, J. Pringle, V. Weis, M. Medina, and J. Schwarz.** 2009. Generation and analysis of transcriptomic resources for a model system on the rise: the sea anemone *Aiptasia pallida* and its dinoflagellate endosymbiont. *BMC Genomics* 10(1) 258.
50. Weis, V. M. and D. Allemand. 2009. What determines coral health? *Science* 324:1153-1155.
49. **Wood-Charlson, E.** and V. M. Weis. 2009. The diversity of C-type lectins in the genome of a basal metazoan, *Nematostella vectensis*. *Developmental and Comparative Immunology* 33:881-889.
48. **Richier, S., M. Rodriguez-Lanetty, C. E. Schnitzler,** and V. M. Weis. 2008. Response of the symbiotic cnidarian *Anthopleura elegantissima* transcriptome to temperature and UV increase. *Comparative Biochemistry and Physiology D: Proteomics and Genomics* 3:283-289
47. Weis, V. M. 2008. Cellular mechanisms of cnidarian bleaching: Stress causes the collapse of symbiosis. *Journal of Experimental Biology* 211: 3059-3066.
46. Weis, V. M., S. K. Davy, O. Hoegh-Guldberg, M. Rodriguez-Lanetty, and J. R. Pringle. 2008. Cell biology in model systems as the key to understanding corals. *Trends in Ecology and Evolution*. 23(7): 369-376.
45. **Perez, S.** and V. M. Weis. 2008. Cyclophilin and the regulation of symbiosis in *Aiptasia pallida*. *Biological Bulletin* 215:63-72.
44. **Rodriguez-Lanetty, M., S. Dove, O. Hoegh-Guldberg and V. M. Weis.** 2008. Analytical approach for selecting normalizing genes from a cDNA microarray platform to be used in q-RT-PCR assays: A cnidarian case study. *Journal of Biochemical and Biophysical Methods* 70:985-991.
43. Hoegh-Guldberg, O., G. Muller-Parker, C. B. Cook, R. D. Gates, E. Gladfelter, R. K. Trench and V. M. Weis. 2007. Len Muscatine (1932-2007) and his contributions to the understanding of algal-invertebrate endosymbiosis. *Coral Reefs* 26:731-739.
42. **Dunn, S. R., C. Schnitzler** and V. M. Weis. 2007. Apoptosis and autophagy as mechanisms of dinoflagellate symbiont release during cnidarian bleaching: Every which way you lose. *Proceedings of the Royal Society of London Series B*. 274:3079-3085.
41. **Mitchellmore, C. L., E. A. Verde,** and V. M. Weis. 2007. Uptake and partitioning of copper and cadmium in the coral *Pocillopora damicornis*. *Aquatic Toxicology* 85:48-56.
40. **Dunn, S. R., D. R. Green,** and V. M. Weis. 2007. Knockdown of a caspase by RNAi in a cnidarian model system. *Biological Bulletin* 212:250-258.
39. **Barneah, O., I. Brickner, M. Hooge, V. M. Weis, Y. Benayahu.** 2007. First evidence of maternal transmission of algal endosymbionts at an oocyte stage in a triploblastic host, with observations on reproduction in *Waminoa brickneri* (Acoelomorpha). *Invertebrate Biology* 126: 113-119.

38. **Barneah, O.**, I. Brickner, M. Hooge, V. M. Weis, T. C. LaJeunesse, Y. Benayahu. 2007. Three party symbiosis: acoelomorph worms, corals and unicellular algal symbionts in Eilat (Red Sea). *Marine Biology* 151:1215-1223.
37. **deBoer, M. L.**, D. A. Krupp and V. M. Weis. 2007. Proteomic and transcriptional analyses of coral larvae newly engaged in symbiosis with dinoflagellates. *Comparative Biochemistry and Physiology D: Proteomics and Genomics* 2:63-73.
36. **Hauck, L.**, W. S. Phillips and V. M. Weis. 2007. A novel EF-hand protein is highly conserved among cnidarians. *Comparative Biochemistry and Physiology B: Biochemistry and Molecular Biology* 146(4) 551-559.
35. **Wood-Charlson, E. M.**, L. H. Hollingsworth, D. A. Krupp, and V. M. Weis. 2006. Lectin/glycan interactions play a role in recognition in a coral/dinoflagellate symbiosis. *Cellular Microbiology*. 8(12): 1985-1994.
34. **deBoer, M.**, D. A. Krupp, and V. M. Weis. 2006. Two atypical carbonic anhydrase homologues from the planula larva of the scleractinian coral *Fungia scutaria*. *Biological Bulletin* 211: 18-30.
33. **Perez, S.**, and V. M. Weis. 2006. Cnidarian bleaching and nitric oxide: An eviction notice mediates the breakdown of symbiosis. *Journal of Experimental Biology* 209:2804-2810. This article was featured in "Inside JEB," 209: ii.
32. **Dunn, S. R.**, W. S. Phillips, J. Spatafora, D. R. Green, and V. M. Weis. 2006. Highly conserved caspase and Bcl-2 homologues from the sea anemone *Aiptasia pallida*: Lower metazoans as models for the study of apoptosis evolution. *Journal of Molecular Evolution* 63:95-107.
31. **Rodriguez-Lanetty, M.**, W. Phillips, and V. M. Weis. 2006. Transcriptome analysis of a cnidarian – dinoflagellate mutualism reveals complex modulation of host gene expression. *BMC Genomics*. 7:23. This article was reviewed in Faculty of 1000 and cited as a "Must Read, impact factor 6.0": <http://www.f1000biology.com/article/16472376/evaluation>
30. **Rodriguez-Lanetty, M., E. Wood-Charlson, L. Hollingsworth, D. Krupp, and V. M. Weis.** 2006. Dynamics of infection and localization of dinoflagellate endosymbionts in larvae of the coral *Fungia scutaria* during the onset of symbiosis. *Marine Biology*. 149:713-719.
29. **Barneah, O.**, Y. Benayahu and V. M. Weis. 2006. Comparative proteomics of symbiotic and aposymbiotic juvenile soft corals. *Marine Biotechnology* 8:11-16
28. **Barneah, O.**, V. M. Weis, **S. Perez**, and Y. Benayahu. 2004. Diversity of dinoflagellate symbionts in Red Sea soft corals: mode of symbiont acquisition matters. *Mar. Ecol. Prog. Ser.* 275: 89-95.
27. **Rodriguez-Lanetty, M.**, D. A. Krupp and V. M. Weis. 2004. Distinct ITS types of Symbiodinium in clade C correlate with cnidarian/dinoflagellate specificity during onset of symbiosis. *Mar. Ecol. Prog. Ser.* 275: 97-102.
26. **Yacobovitch, T.**, Y. Benayahu, and V. M. Weis. 2004. Motility of zooxanthellae isolated from the Red Sea soft coral *Heteroxenia fuscescens* (Cnidaria). *J. Exp. Mar. Biol. Ecol.* 298(1): 35-48.
25. **Schwarz, J. A.** and V. M. Weis. 2003. Immunolocalization of host sym32 and an undescribed protein, p45/48, in the sea anemone-dinoflagellate association *Anthopleura elegantissima-Symbiodinium muscatinei*. *Biological Bulletin* 205:339-350.
24. **Mitchellmore, C., E. A. Verde, A. H. Ringwood, and V. M. Weis.** 2003. Effects of heavy metal exposure on the symbiotic sea anemone *Anthopleura elegantissima* (1) Differential accumulation of heavy metals as a function of symbiotic state. *Aquatic Toxicol.* 64(3):317-329.
23. **Yacobovitch, T.**, V. M. Weis, and Y. Benayahu. 2003. Development and survivorship of zooxanthellate and azooxanthellate primary polyps of the soft coral *Heteroxenia fuscescens*: Laboratory and field comparisons. *Mar. Biol.* 142:1055-1063

22. **Mitchelmore, C.**, A. H. Ringwood, and V. M. Weis. 2003. Differential accumulation of cadmium and changes in glutathione levels as a function of symbiotic state in the sea anemone *Anthopleura elegantissima*. *J. Exp. Mar. Biol. Ecol.* 284:71-85.
21. Weis, V. M., **E. A. Verde**, **A. Pribyl**, and **J. A. Schwarz**. 2002. Aspects of the larval biology of the sea anemones *Anthopleura elegantissima* and *A. artemisia*. *Invertebr. Biol.* 121: 190-201.
20. **Schwarz, J. A.**, V. M. Weis, and D. Potts. 2002. Feeding behavior and acquisition of zooxanthellae by the planula larva of the sea anemone *Anthopleura elegantissima*. *Mar. Biol.* 140: 471-478.
19. Weis, V. M., **E. A. Verde** and W. S. Reynolds. 2002. Characterization of a short form perdinin-chlorophyll-protein (PCP) cDNA and protein from the symbiotic dinoflagellate *Symbiodinium muscatinei* (Dinophyceae) from the sea anemone *Anthopleura elegantissima*. *J. Phycol.* 38: 157-163.
18. **Mitchelmore, C.**, **J. A. Schwarz** and V. M. Weis. 2002. Development of symbiosis-specific genes as biomarkers for the early detection of cnidarian-algal symbiosis breakdown. *Mar. Env. Res.* 54: 345-349.
17. Weis, V. M., W. S. Reynolds, **M. L. deBoer**, and D. A. Krupp. 2001. Host-symbiont specificity during onset of symbiosis between the dinoflagellate *Symbiodinium* spp. and the scleractinian coral *Fungia scutaria*. *Coral Reefs* 20:301-308.
16. Reynolds, W. S., **Schwarz, J. A.**, and V. M. Weis. 2000. Symbiosis-enhanced gene expression in cnidarian-algal association: Cloning and characterization of a cDNA, *sym32* encoding a possible cell adhesion protein. *Comp. Biochem. and Physiol.A* 126:33-44.
15. Weis, V. M. and W. S. Reynolds. 1999. Carbonic anhydrase expression and synthesis in the sea anemone *Anthopleura elegantissima* are enhanced by the presence of dinoflagellate symbionts. *Physiol. Zool.* 72(3): 307-316.
14. **Schwarz, J. A.**, D. A. Krupp, and V. M. Weis. 1999. Late larval development and onset of symbiosis in the scleractinian coral *Fungia scutaria*. *Biol. Bull.*196:70-79.
13. McFall-Ngai, M., K. Brennan and V. M. Weis, and L. Lamarcq. 1998. Mannose adhesin-glycan interaction in the *Euprymna scolopes-Vibrio fischeri* symbiosis. Pp 273 – 276 in: *New Developments in Marine Biotechnology*, eds. Le Gal and Halvorson, Plenum Press, New York.
12. Weis, V. M., J. von Kampen, and R. P. Levine. 1998. Techniques for exploring symbiosis-specific gene expression in cnidarian-algal associations. Pp 435 – 448 in: *Some Molecular Approaches to the Study of the Ocean*, ed. K. E. Cooksey, Chapman and Hall, London.
11. Weis, V. M., A. L. Small, and M. J. McFall-Ngai. 1996. A peroxidase related to the mammalian antimicrobial protein myeloperoxidase in the *Euprymna-Vibrio* mutualism. *Proc. Nat. Acad. Sci.*93:13683-13688.
10. Weis, V. M. and R. P. Levine. 1996. Differential protein profiles reflect the different lifestyles of symbiotic and aposymbiotic *Anthopleura elegantissima* a sea anemone from temperate waters. *J. Exp. Biol.* 199:883-892.
9. Lesser, M., V. M. Weis, M. Patterson, and P. Jokiel. 1994. Effects of water flow on carbon delivery and productivity in *Pocillopora damicornis* from Hawaii. *J. Exp. Mar. Biol. Ecol.* 178:153-179.
8. Weis, V. M. 1993. The effect of dissolved inorganic carbon concentration on the photosynthesis of the symbiotic sea anemone *Aiptasia pulchella*: Role of carbonic anhydrase. *J. Exp. Mar. Biol. Ecol.* 174:209-225.
7. Tomarev, S., R. Zinovieva, V. M. Weis, A. Chepelinsky, J. Piatigorsky, and M. McFall-Ngai. 1993. Abundant mRNAs in the bacterial light organ of a squid encode a protein with high similarity to mammalian antimicrobial peroxidases: Implications for mutualistic symbioses. *Gene* 132:219 - 226.

6. Weis, V. M., M. Montgomery and McFall-Ngai. 1993. Enhanced production of ALDH-like protein in the bacterial light organ of the sepiolid squid *Euprymna scolopes*. *Biol. Bull.* 184:309-321.
5. Muscatine, L. and V. M. Weis. 1992. Productivity of zooxanthellae and biogeochemical cycles. In: *Primary productivity in the sea*. 2nd ed. Ed. P.G. Falkowski, Plenum Press. New York.
4. Weis, V. M. 1991. Induction of carbonic anhydrase in the symbiotic anemone *Aiptasia pulchella*. *Biol. Bull.* 180:496-504.
3. Weis, V. M., G. J. Smith and L. Muscatine. 1989. A "CO₂-supply" mechanism in zooxanthellate cnidarians: Role of carbonic anhydrase. *Mar. Biol.* 100:195-202.
2. Weis, V. M. and L. W. Buss. 1987. Ultrastructure of metamorphosis in *Hydractinia echinata*. *Postilla*: 199:1-20.
1. Weis, V. M., D. R. Keene, and L.W. Buss. 1985. Biology of hydractiniid hydroids. 4. Ultrastructure of the planula of *Hydractinia echinata*. *Biol. Bull.* 168:403-418.

INVITED PAPERS (LAST 10 YEARS, TRAINEES LISTED IN BOLD)

- Weis, V. M. 2012. The regulation of cnidarian-dinoflagellate symbiosis. *9th Okazaki Biology, Conference Marine Biology II*. Okazaki and Okinawa, Japan
- Weis, V. M. 2012. The regulation of cnidarian-dinoflagellate symbioses: In sickness and in health. *Annual Conference of the Association for General and Applied Microbiology (VAAM)*, Tubingen Germany
- Weis, V. M. 2010. The regulation of cnidarian-dinoflagellate symbioses: In sickness and in health.. *Future Oceans Symposium* Kiel, Germany
- Weis, V. M. 2010. Symbiosis as a civilized parasitism: How coral and dinoflagellate partners keep the peace. *Evolution of Symbiotic Systems. Okazaki Biology Conference*
- Weis, V. M. 2009. The regulation of cnidarian-dinoflagellate mutualisms: host innate immunity and symbiont immune modulation are key to symbiosis stability. *6th International Symbiosis Congress*.
- Weis, V. M. 2008. Len Muscatine and his contributions to the understanding of algal-invertebrate symbioses. *11th International Coral Reef Symposium*
- Weis, V. M. and **M. Rodriguez-Lanetty**. 2006. Transcriptome analyses of cnidarian – dinoflagellate mutualisms: what microarrays are telling us about interpartner regulation. *5th International Symbiosis Congress*. Vienna, Austria.

PUBLISHED ABSTRACTS AND CONTRIBUTED PAPERS (LAST 10 YEARS, TRAINEES LISTED IN BOLD)

- Azofeifa, J. G.**, P. Chappell, V. M. Weis, J. A Schwarz. 2013. Evolution of the LGR hormone receptor gene family in metazoans. *Society for Integrative and Comparative Biology*.
- Poole, A.** and V. Weis. 2012 The role of complement in cnidarian-dinoflagellate symbiosis. *XIIth International Coral Reef Symposium*. Cairns, Australia
- Kitchen, S.** and V. Weis. 2012. Impacts of thermal stress on sphingolipid metabolism in *Aiptasia pallida*. *XIIth International Coral Reef Symposium*. Cairns, Australia
- Dicks, E.**, Weis, V. M. and S. K. Davy. 2009. Symbiotic dinoflagellates modify the host innate immune response: Initiating the TGF-beta pathway in cnidarians. *6th International Symbiosis Congress*.
- Wood-Charlson, E.** and V. M. Weis. 2009. Unique cell surface glycan profiles discriminate between closely related clade *Symbiodinium* dinoflagellates. *6th International Symbiosis Congress*.

- Logan, D.**, V. M. Weis and S. K. Davy. 2009. The *Aiptasia* – *Symbiodinium* sp. symbiosis – Infection dynamics and cell proliferation. *6th International Symbiosis Congress*.
- Schnitzler, C.**, and V. M. Weis. 2009. TRAF6 and CYLD: Functional analysis of two related immune molecular and their role in cnidarian.algal symbiosis. *6th International Symbiosis Congress*.
- Detournay, O.** and V. M. Weis. 2009. Regulation of cnidarian-dinoflagellate mutualisms: Activation of host TGF β innate immune pathway promotes tolerance of the symbiont. *6th International Symbiosis Congress*.
- Wood-Charlson, E.** and V. M. Weis. 2008. Initiation of coral/algal symbioses: the role of cell surface lectin/glycan interactions in recognition and specificity. *11th International Coral Reef Symposium*.
- Logan, D. L.**, A. LaFlamme, V. M. Weis, and S. Davy. 2008. Variability in cell surface glycan profiles across a range of *Symbiodinium* dinoflagellate types. *11th International Coral Reef Symposium*.
- Detournay, O.**, and V. M. Weis. 2008. Regulation of host innate immunity plays a role in cnidarian-dinoflagellate symbiosis. *11th International Coral Reef Symposium*.
- Schnitzler, C.** and V. M. Weis. 2008. Differential gene expression during the initial onset of coral/algal symbiosis using a cDNA microarray. *11th International Coral Reef Symposium*.
- Richier, S.** and V. M. Weis. 2006. Functional genomics of cnidarian/dinoflagellate symbiosis: Response to hyperthermic and UV stress. *5th International Symbiosis Congress*. Vienna, Austria.
- Dunn, S. R.**, and V. M. Weis. 2006. Mechanisms of symbiont release during bleaching of the sea anemone *Aiptasia pallida*: Every which way you lose. *5th International Symbiosis Congress*. Vienna, Austria.
- Dunn, S. R.**, and V. M. Weis. 2006. Apoptosis following post-phagocytic symbiont recognition. *5th International Symbiosis Congress*. Vienna, Austria.
- Rodriguez-Lanetty, M.**, W. S. Phillips, and V. M. Weis. 2006. Transcriptome analysis of a cnidarian-dinoflagellate mutualism reveals complex modulation of host gene expression. *Society of Integrative and Comparative Biology, Annual Meeting*. Orlando, FL.
- Weis, V. M., J. Schwarz and B. K. Baillie. Frontiers in recognition and specificity in cnidarian/algal symbioses: lessons from pathogenesis pave the way for new breakthroughs. *10th International Coral Reef Symposium*. June 2004. Okinawa, Japan.
- Dunn, S. R.**, W. Reynolds and V. M. Weis. Programmed cell death in *Aiptasia* sp. plays an important role in *Symbiodinium* release during bleaching and is controlled by a highly conserved suite of genes. *10th International Coral Reef Symposium*. June 2004. Okinawa, Japan.
- Rodriguez-Lanetty, M.**, and V. M. Weis. Dynamics of infection and specificity of host/endosymbiont associations: evidence that fine-scale ITS diversity of *Symbiodinium* confers functionality in symbiosis. *10th International Coral Reef Symposium*. June 2004. Okinawa, Japan.

INVITED LECTURES (LAST 10 YEARS)

Rosenstiel School of Marine and Atmospheric Science, U. of Miami, 2013
 Department of Biological Sciences, Florida International University, 2013
 Monterey Bay Aquarium Research Institute, Moss Landing, California, 2013
 Institute of Botany, University of Wurzburg, Germany, 2012
 Molecular and Biomedical Science, University of Maine, 2011
 Maine Maritime Academy, 2011
 National Taiwan Ocean University, 2011
 National Museum of Marine Biology and Aquarium, Taiwan, 2011
 Department of Biochemistry and Biophysics, OSU, 2010

University of Tsukuba, Japan, 2010
Oregon Institute of Marine Biology, University of Oregon, 2009
National Museum of Marine Biology and Aquarium, Pingtung, Taiwan, 2008
Scripps Institution of Oceanography, University of California, San Diego, 2008.
Oregon Institute of Marine Biology, University of Oregon, 2005
Institute of Ecology, University of Georgia, 2005
Centre Scientifique de Monaco, Principality of Monaco, 2004
University of Nice Sophia-Antipolis, Nice, France, , 2004
Department of Biology, Portland State University, Portland, OR, , 2004

AWARDS

College of Science, OSU, Fredrick H. Horne Award for sustained excellence in teaching science, 2009
Women of Achievement Award, OSU, for extraordinary achievement in furthering the advancement of the women of Oregon, 2008
College of Science, OSU, Loyd Carter Award for outstanding and inspirational teaching, 2000
College of Science, OSU, Thomas Sugihara Award, young faculty research award, 2000
Mortar Board Society, OSU, “Top Prof” Spring 2001.

GRANTS (LAST 10 YEARS)

National Science Foundation: EAGER: Building networks and study systems to advance research on the biology of Pacific corals Lead PI. \$299,000. **Current**, 8/10-7/12.
National Science Foundation, principal investigator. Cnidarian-dinoflagellate mutualisms: Innate immunity and functional genomics. \$230,000. 9/09-1/12.
National Science Foundation, principal investigator. Cellular and molecular mechanisms governing cnidarian/dinoflagellate mutualisms: cell biology, innate immunity, functional genomics. \$450,000. 2/06-1/09.
National Science Foundation, principal investigator. U.S.-Australia Seminar: New Frontiers in Cellular Interactions in Cnidarian/Dinoflagellate Symbioses. \$52,724. 6/06-11/07. This grant is to run an international workshop (see above under International Workshop Organizer).
National Science Foundation, principal investigator. Cellular and molecular mechanisms governing cnidarian/algal symbioses. \$471,000. 2/03 – 1/06.
National Science Foundation, principal investigator. Apoptosis in cnidarian/algal symbioses. \$330,000. 4/03 – 3/06.

CURRENT COLLABORATORS

National:

Dr. Patrick Chappell, Department of Biomedical Sciences, OSU
Dr. Eli Meyer, Department of Zoology, OSU
Dr. Dee Denver, Department of Zoology, OSU
Dr. John Pringle, Stanford University
Dr. Jodi Schwarz, Vassar College
Dr. David Krupp, Windward Community College, Kaneohe, HI
Lea Hollingsworth, Hawaii Institute of Marine Biology, U. of Hawaii

International:

Dr. Simon Davy, Victoria University at Wellington, New Zealand
Dr. Simon Dunn, U. of Queensland, Brisbane, Australia
Dr. Tung-Yung Fan, National Dong Hwa University, Taiwan
Dr. Chii-Chiarng Cheng, National Dong Hwa University, Taiwan

Dr. Denis Allemand, Centre Scientifique de Monaco

Dr. Saki Harii, Sesoko Marine Station, University of the Ryukyus, Okinawa, Japan

Dr. Noriyuki Satoh, Okinawa Institute of Science and Technology

ADVISING

PhD advisees

Jodi Schwarz,	2002	Assistant professor Vassar College
Melissa deBoer	2004	
Laura Hauck	2007	Postdoc College of Veterinary Medicine, OSU
Santiago Perez	2007	Assistant professor, College of San Mateo, California
Elisha Wood-Charlson	2008	Postdoc Australian Institute of Marine Science, Townsville, Australia
Christie Schnitzler	2010	Postdoc NIH
Wendy Phillips	2012	Postdoc USDA, Corvallis, Oregon
Angela Poole		PhD candidate 2014
Sheila Kitchen		PhD candidate 2015
Adam Chouinard		PhD candidate 2015
Camerron Crowder		PhD candidate 2016

Postdoctoral advisees

Carys Mitchelmore	1999-2002	Associate professor, U. of Maryland
Alan Verde	1998-2002	Professor, Marine Maritime Academy
Mauricio Rodriguez-Lanetty	2002-2006	Assistant professor, Florida International University
Simon Dunn	2002-2007	Postdoc, U. of Queensland, Australia
Sophie Richier	2005-2006	Researcher, National Oceanography Centre, UK
Olivier Detournay	2007-2009	Chief Science Officer, Coral Biome, France
Camille Paxton	2010-2102	Postdoc, University of Ryukyus, Japan
Nathan Kirk	2012-present	
Jeremie Vidal-Dupiol	2013-present	visiting from U. of Perpignon, France

Undergraduates in lab since 1996: (39 to date)

Michael Carreon, Kevin Corey, McKenzie Tritt, Ellen Dow, Jessica Flesher, Molly McCracken, Kelsey Lance, Sendy Sacpharn, Ben Haslam, Ariana Snow, Jamie Jo McGraw, Sam Kelly-Quattrochi, Brian Henrich, Daryl Khaw, Jen Osburn, Gabe Carrick, Elvis, Jeremy, Alex Davis, Alex Hirota, Marissa Matsler, Priya Mathur, Rachel Swenson, Thomas Sharpton, Mike Fromherz, Morgan Packard, Stacey Hayes, Theresa Lewis, Nichole Covarrubias, Christin Dunbar, Linda Nash, Kim Koch, Season Long, Cassie Bouska, Michael Lonie, Alena Pribyl, Kinsey McManus, Jason Smythe, Mike Hogansen

TEACHING

Have taught classes in biology, marine biology, and symbiosis at the graduate and undergraduate level since 1996

SERVICE

Committee Duties at OSU, Department of Zoology (last 10 years)

Chair of Zoology: 7/11-present

Chair of search committee for Stress or Aging Biologist 9/10 – 5/11

Executive committee, 9/10-7/11; 2/07-5/07

Personnel committee, chair, 2/07-9/10

Ad hoc committee on the formation of a policy for Senior Research Professorships, Spring 2006

Chair of search committee for A&P faculty, 3/04-6/04

Seminar committee organizer, Fall 2003

Duties University-wide (last 10 years)

Biology Program

Acting Chair of the Biology Program, 2009-2010

Undergraduate Advisor, 1997-present

Undergraduate Curriculum Committee, 2004-2006

Co-organizer of BI450/451, a field course offered at Hatfield Marine Science Center, Spring 2000

MCB/CGRB

Search committee for Provost's initiative search for Host-microbe interactions systems biologist. 4/12-12/12

Search committee for CGBI faculty searches (4 in total) in computational and genome biology, 5/05 – 9/05

Scientific Advisory Board for the CGRB 11/01 – 6/04

College of Science

School of Life Sciences Steering Committee, 9/10 - present

Arts and Sciences Review Committee, 10/07 – 12/07

Search committee for Associate Dean, College of Science, 6/03 – 7/03

University

OSU Strategic planning committee, 2013

Strategic planning committee for Hatfield Marine Science Center, 2003-2004

Search committee for director of Hatfield Marine Science Center, 8/01-1/02.

Research Council alternate 9/01-9/03.

Professional Service

International workshop and symposium organizer

8th International Conference on Coelenterate Biology

Service on advisory committee for conference to occur December 2013 in Eilat, Israel

Coral Biology Workshop: Building U. S.-Japan Collaborations in Coral Reef Research

US-Taiwan EAGER collaborative workshop, Sesoko Marine Station, University of Ryukyus, Okinawa Japan. Co-organizer: Dr. Saki Hari. March 2012

Physiology and Functional Biology: Cell and molecular biology of symbiosis

Mini-symposium for the XIIth International Coral Reef Symposium in 2012 in Cairns, Australia. Co-organizers: S. Davy, Victoria University of Wellington, New Zealand and A. Venn, Centre Scientifique de Monaco.

Coral reproduction and resilience workshop

US-Taiwan EAGER collaborative workshop, National Museum of Marine Biology and Aquaria, Pingtung Taiwan, March 2011

Host-Symbiont Interface: Host recognition of and responses to symbionts

Symposium for the XIth International Symbiosis Congress, U of Wisconsin, Madison, 2009.

Functional biology of corals and coral symbiosis: Molecular biology, cell biology & physiology.

Mini-symposium for the XIth International Coral Reef Symposium in 2008 in Fort Lauderdale,

FL. Co-organizers: S. Davy, Victoria University of Wellington, New Zealand and A. Venn, Bermuda Biological Station, Bermuda.

New frontiers in cellular interactions in cnidarian/dinoflagellate symbioses. Workshop took place in January 2007 on Heron Island, Australia. 45 participants from US, Australia, New Zealand, and Europe. I organized the workshop with my co-organizers, J. Pringle, Stanford University, O. Hoegh-Guldberg, U. of Queensland, Australia, and S. Davy, Victoria University of Wellington, New Zealand. I obtained funds for the attendance of the 20 American participants (see under Grants).

Editorial Appointments

Associate Editor, *Biological Bulletin*, 2011 – present

Coordinating editor for 2012 virtual symposium on Symbiosis in the ‘omics’ age, *Biological Bulletin*

Editorial reviewer for the journals:

Applied and Environmental Microbiology

Biological Bulletin

Biological Reviews

BMC Genomics

Comparative Physiology and Biochemistry

Coral Reefs

Environmental Microbiology

Frontiers in Immunology

Genome Biology

Invertebrate Biology

Journal of Experimental Biology

Journal of Experimental Marine Biology and Ecology

Journal of Marine Biological Association of the United Kingdom

Journal of Phycology

Limnology and Oceanography

Marine Biology

Marine Biotechnology

Marine Drugs

Marine Ecology Progress Series

Molecular Ecology

Nature

Pacific Science

Plant, Cell and Environment

PlosOne

Proceeding of the National Academy of Sciences

Proceedings of the Royal Society of London

Proceedings of the 7th International Coral Reef Symposium

Protist

Science Magazine

Southern California Academy of Sciences

Proposal Referee:

National Science Foundation; Divisions of Biological Oceanography, Cell Biology, Integrative Biology and Neuroscience

NOAA

Sea Grant

Caribbean Marine Research Center

Israel Science Foundation

Taiwan Science Foundation

Great Barrier Reef Foundation

Agence Nationale de Recherche, France

NSF review panel service:

2000, 2003, 2004, 2009