

CURRICULUM VITAE

Donald Wayne Coats

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Personal:

Date of Birth: 29 October 1948; Kingsport, Tennessee
Nationality: USA
Marital Status: Married

Research Interests: Protistology with emphasis on ciliate and dinoflagellate ecology, structure and function, and taxonomy.

Education:

Ph.D. University of Maryland, College Park, MD; 1977 (Cell Biology)
Dissertation Title: A fine structural and light microscopic analysis of feeding and morphology in the Philasterine Scuticociliate *Porpostoma notatum* Möbius, 1888.
M.S. University of Maryland, College Park; MD 1974 (Cell Biology)
B.S. University of Illinois, Champaign-Urbana, Illinois; 1970 (Zoology)

Professional Experience:

Present positions Senior Research Scientist: Smithsonian Environmental Research Center
Adjunct Professor: Department of Biology, University of Maryland, College Park
Participating Faculty Member: M.E.E.S. Program, University of Maryland, College Park.

1987-2000 Research Associate: Department of Biology, University of Maryland, College Park

1994-1999 Adjunct Associate Professor: Horn Point Environmental Laboratory, Center for Environmental and Estuarine Studies, University of Maryland, Cambridge

1985-1990 Associate Research Scientist: Chesapeake Bay Institute, Johns Hopkins University

1979-1985 Staff Biologist: Chesapeake Bay Institute, Johns Hopkins University

1978-1979 Associate Staff Biologist: Chesapeake Bay Institute, Johns Hopkins University

Research Support:

1983-1984 NSF Polar Programs: “Reproductive Dynamics of Ciliates and Other Protists in the Antarctic Ice-Edge Zone” Co-PI with J. F. Heinbokel. \$12,746.

1983-1985 NSF Biological Oceanography: “Development of a Technique for Determining In Situ Growth Rates of Planktonic Protists” Co-PI with J. F. Heinbokel. \$136,139.

1983-1986 NSF Biological Oceanography: “Hydrography-Regulated Photoadaptive Processes in a Red Tide Dinoflagellate: In Situ Characterization of Physiological, Molecular and Ultrastructural Responses” Co-PI with M. A. Tyler and L. W. Harding. \$495,000.

1984-1985 NSF Polar Programs: “Reproductive Dynamics of Ciliates and Other Protists in Antarctic Waters” Co-PI with J. F. Heinbokel. \$49,370.

1986-1988 NSF Biological Oceanography: “Impact of Dinoflagellate Parasitism on Microzooplankton Abundance, Distribution and Population Dynamics” PI. \$119,816.

1988-1990 NSF Biological Oceanography: “The Importance of Inter-species Predation among Marine Ciliate Protozooplankton” PI/PD with J. R. Dolan. \$125,034.

1990-1992 NSF Biological Oceanography: “Parasitic Dinoflagellates of Marine Ciliates: Their Significance in Microbial Food Webs” PI. \$110,000.

1993-1995 Smithsonian Institution Scholarly Studies Program: “Assessing the Impact of Parasitism on Dinoflagellate Blooms in the Rhode River” PI. \$59,500.

1994-1998 Maryland Sea Grant “Susceptibility of Chesapeake Bay to Invasion of Non-indigenous Species Associated with Ballast Water” Co-PI with G. M. Ruiz, A. H. Hines & J. T. Carlton. \$341,187.

1994-1998 NSF Biological Oceanography: “Feeding Ecology of Mixotrophic Bloom-Forming Dinoflagellates” PI/PD with D. K. Stoecker. \$278,440.

1991-2001 Smithsonian Institution Environmental Science Program: “Planktonic Ciliates of the Rhode River: A Long-Term Study of Community Structure and Response to Phytoplankton Blooms” PI. \$124,000.

1990-2001 Smithsonian Marine Station at Link Port, Florida: “Ecology of Ciliated Protozoa from Coastal and Oceanic Environments of Florida” PI. \$53,000.

1998-2001 NSF Biological Oceanography: “Collaborative Research: Parasitism of Bloom-Forming Dinoflagellates: Host Specificity and Ecological Implications” PI. \$204,956.

2001-2002 NSF International Programs Supplement to NSF Biological Oceanography: “Collaborative Research: Parasitism of Bloom-Forming Dinoflagellates: Host Specificity and Ecological Implications” PI. \$14,000.

2001-2004 NSF REU–BIO “Integrating Research and Education at SERC” Co-PI with P. P. Marra. \$209,100.

2002-2007 NSF Microbial Observatories “Intra-annual Diversity and Dynamics of Chesapeake Bay Virioplankton” Co-PI with E. K. Wommack and F. Chen. \$989,663 (SERC component \$260,000).

2004-2009 NSF REU–BIO “Research Experiences for Undergraduates at the Smithsonian Environmental Research Center” Co-PI with P. Marra. (currently serving as PI) \$469,911.

2004-2006 Smithsonian Marine Station at Link Port, Florida: “Ecology of the ectoparasitic dinoflagellate *Crepidodinium cyprinodontum* from Florida Coastal Waters” PI. \$11,600.

2005 NOAA ECOHAB - subcontract from Woods Hole Oceanographic Institution "Control of Harmful Algal Blooms Using Clays: Phase II" PI/PD with Mario Sengco. \$67,112

2005-2008 NOAA ECOHAB "Role of parasitism on HAB dynamics: *Amoebophrya* sp. ex *Alexandrium tamarense*" PI/PD with Mario Sengco and Don Anderson. \$486,755

2007-2011 NSF AToL "An Integrated Approach to the Phylogeny of Dinoflagellates" Co-PI with Charles F. Delwiche and Senjie Lin. \$2,600,288 (SERC component \$384,505)

Publications:

Articles in Journals and Books:

1. Hoffman, G. L., Landolt, M., Camper, J. E., Coats, D. W., Stookey, J. L. & Burek, J. D. 1975. A disease of freshwater fishes caused by *Tetrahymena corlissi* Thompson, 1955, and a key for identification of holotrich ciliates of freshwater fishes. *J. Parasit.*, **61**: 217-223.
2. Coats, D. W. & Small, E. B. 1976. Stomatogenesis in the philasterine scuticociliate *Philaster hiatti* Thompson, 1969. *Trans. Amer. Micros. Soc.*, **95**: 718-725.
3. Corliss, J. O. & Coats, D. W. 1976. A new cuticular cyst-producing tetrahymenid ciliate, *Lambornella clarki* n. sp., and the current status of ciliatosis in culicine mosquitoes. *Trans. Amer. Micros. Soc.*, **95**: 725-739.
4. Sawyer, T. K., Maclean, S. A., Coats, D. W., Hilfiker, M., Riordan, P. & Small, E. B. 1977. Species diversity among sarcodine protozoa from Rhode River, Maryland following tropical storm Agnes. *In: The Effects of Tropical Storm Agnes on the Chesapeake Bay Estuarine System*. Johns Hopkins Univ. Press, Balto., 531-543.
5. Anderson, D. M., Aubrey, D. G., Tyler, M. A. & Coats, D. W. 1982. Vertical and horizontal distributions of dinoflagellate cysts in sediments. *Limnol. Oceanogr.*, **27**: 757-765.
6. Coats, D. W. & Heinbokel, J. F. 1982. A study of reproduction and other life cycle phenomena in planktonic protists using an acridine orange fluorescence technique. *Mar. Biol.*, **67**: 71-79.
7. Tyler, M. A., Coats, D. W. & Anderson, D. M. 1982. Encystment in a dynamic environment: deposition of dinoflagellate cysts by a frontal convergence. *Mar. Ecol. Prog. Ser.*, **7**: 163-178.
8. Coats, D. W., Tyler, M. A. & Anderson, D. M. 1984. Sexual processes in the life cycle of *Gyrodinium uncatenum* (Dinophyceae): a morphogenetic overview. *J. Phycol.*, **20**: 351-361.
9. Heinbokel, J. F. & Coats, D. W. 1984. Reproductive dynamics of ciliates in the ice-edge zone. *Antarct. J. U.S.*, **19**: 111-113.
10. Anderson, D. M., Coats, D. W. & Tyler, M. A. 1985. Encystment of the dinoflagellate *Gyrodinium uncatenum*: temperature and nutrient effects. *J. Phycol.*, **21**: 200-206.
11. Heinbokel, J. F. & Coats, D. W. 1985. Ciliates and nanoplankton in Arthur Harbor, December 1984 - January 1985. *Antarct. J. U.S.*, **19**: 135-136.
12. Heinbokel, J. F. & Coats, D. W. 1986. Patterns of tintinnine abundance and reproduction near the edge of seasonal pack-ice in the Weddell Sea, November 1983. *Mar. Ecol. Prog. Ser.*, **33**: 71-80.
13. Coats, D. W. 1988. *Duboscquella cachoni* sp. nov., a parasitic dinoflagellate lethal to its tintinnine host *Eutintinnus pectinis*. *J. Protozool.*, **35**: 607-617.
14. Coats, D. W. & Harding, L. W., Jr. 1988. Effect of light history on the ultrastructure and physiology of *Prorocentrum mariae-lebouriae* (Dinophyceae). *J. Phycol.*, **24**: 67-77.
15. Harding, L. W., Jr. & D. W. Coats. 1988. Photosynthetic physiology of *Prorocentrum mariae-lebouriae* (Dinophyceae) during its subpycnocline transport in Chesapeake Bay. *J. Phycol.*, **24**: 77-89.

16. Heinbokel, J. F., Coats, D. W., Henderson, K. W. & Tyler, M. A. 1988. Reproduction rates and secondary production of three species of the rotifer genus *Synchaeta* in the estuarine Potomac River. *J. Plankton Res.*, **10**: 659-674.
17. Coats, D. W. & Heisler, J. J. 1989. Spatial and temporal occurrence of the parasitic dinoflagellate *Duboscquella cachoni* and its tintinnine host *Eutintinnus pectinis* in Chesapeake Bay. *Mar. Biol.*, **101**: 401-409.
18. Dolan, J. R. & Coats, D. W. 1990. Seasonal abundance of planktonic ciliates and microflagellates in mesohaline Chesapeake Bay waters. *Estuar. Coast. Shelf Sci.*, **31**:157-175.
19. Dolan, J. R. & Coats, D. W. 1991. Changes in fine-scale vertical distributions of ciliate microzooplankton related to anoxia in Chesapeake Bay waters. *Mar. Microb. Food Webs*, **5**: 81-93.
20. Dolan, J. R. & Coats, D. W. 1991. A study of feeding in predacious ciliates using prey ciliates labeled with fluorescent microspheres. *J. Plank. Res.*, **13**: 609-627.
21. Dolan, J. R. & Coats, D. W. 1991. Preliminary prey digestion in a predacious estuarine ciliate, *Euplotes woodruffi*, and the use of digestion data to estimate ingestion. *Limnol. Oceanogr.*, **36**: 558-565.
22. Coats, D. W. 1992. Collection and cultivation of histophagous ciliates. In: J. J. Lee & A. T. Soldo (eds.) *Protocols in Protozoology*. Allen Press, Lawrence, KS., pp. A53.1-A53.2.
23. Choi, J. K., Coats, D. W., Brownlee, D. C. & Small, E. B. 1992. Morphology and infraciliature of three species of *Eutintinnus* (Ciliophora; Tintinnina) with guidelines for interpreting protargol-stained tintinnine ciliates. *J. Protozool.*, **39**: 80-92.
24. Bockstahler, K. R. & Coats, D. W. 1993. Spatial and temporal aspects of mixotrophy in Chesapeake Bay dinoflagellates. *J. Euk. Microbiol.*, **40**: 49-60.
25. Bockstahler, K. R. & Coats, D. W. 1993. Grazing of the mixotrophic dinoflagellate *Gymnodinium sanguineum* Hirasaka on ciliate populations of Chesapeake Bay. *Mar. Biol.*, **116**: 477-487.
26. Coats, D. W. & Bockstahler, K. R. 1994. Occurrence of the parasitic dinoflagellate *Amoebophrya ceratii* in Chesapeake Bay populations of *Gymnodinium sanguineum*. *J. Euk. Microbiol.*, **41**: 586-593.
27. Coats, D. W., Bockstahler, K. R., Berg, G. M. & Sniezek, J. H. 1994. Dinoflagellate infections of *Favella panamensis* from two North American estuaries. *Mar. Biol.*, **119**: 105-113.
28. Sniezek, J. H., Coats, D. W. & Small, E. B. 1995. *Kyaroikeus cetarius* n. g., n. sp.: a parasitic ciliate from the respiratory tract of odonticete cetacea. *J. Euk. Microbiol.*, **42**: 260-268.
29. Coats, D. W., Adam, E. J., Gallegos, C. L. & Hedrick, S. 1996. Parasitism of photosynthetic dinoflagellates in a shallow subestuary of Chesapeake Bay, USA. *Aquat. Microb. Ecol.*, **11**: 1-9.
30. Adam, J. 1996 Ingestion of fluorescently-labeled and phycoerythrin-containing prey by photosynthetic dinoflagellates. *Aquat. Microb. Ecol.*, **10**: 139-147.
31. Sniezek, J. H. & Coats, D. W. 1996. Stomatogenesis in *Kyaroikeus cetarius* (Dysteriina, Kyaroikeidae, n. fam.): clues to its systematic placement. *J. Euk. Microbiol.*, **43**: 113-119.
32. Langlois, G. A. & Coats, D. W. 1997. Symposium Introductory Remarks: Protistan Predation Dynamics. *J. Euk. Microbiol.*, **44**: 173-175.
33. Li, A., Stoecker, D. K., Coats, D. W. & Stoecker, D. K., Li, A., Coats, D. W., Gustafson, D. E. & Nannen, M. K. 1997. Mixotrophy in the dinoflagellate *Prorocentrum minimum*. *Mar. Ecol. Prog. Ser.*, **152**: 1-12.
34. Coats, D. W. 1999. Parasitic life styles of marine dinoflagellates. *J. Euk. Microbiol.*, **46**: 402-409.

35. Coats, D. W. & Revelante, N. 1999. Distributions and trophic implications of microzooplankton. *In: Ecosystems at the Land-Sea Margin: Drainage Basin to Coastal Sea*, T. Malone, A. Malej, L. Harding, N. Smolaka, and E. Turner (eds.), American Geophysical Union, p. 207-239.
36. Gunderson, J. H., Goss, S. H. & Coats, D. W. 1999. The phylogenetic position of *Amoebophrya* sp. from *Gymnodinium sanguineum*. *J. Euk. Microbiol.*, **46**: 194-197.
37. Kepner, R. L., Jr., Wharton, R. A., Jr. & Coats, D. W. 1999. Ciliated protozoa of two Antarctic lakes: analysis by quantitative protargol staining and examination of artificial substrates. *Polar Biol.*, **21**: 285-294.
38. Pierce, R. W. & Coats, D. W. 1999. The feeding ecology of *Actinophrys sol* (Sarcodina: Heliozoa) in Chesapeake Bay. *J. Euk. Microbiol.*, **46**: 451-457.
39. Smalley, G. W., Coats, D. W. & Adam, E. J. 1999. A new method using fluorescent microspheres to determine grazing on ciliates by the mixotrophic dinoflagellate *Ceratium furca*. *Aquat. Microb. Ecol.*, **17**: 167-179.
40. Clamp, J. J. & Coats, D. W. 2000. *Planeticovorticella finleyi* n.g., n.sp. (Peritrichia, Vorticellidae), a planktonic ciliate with a polymorphic life cycle. *Invert. Biol.*, **119**: 1-16.
41. Li, A., Stoecker, D. K., & Coats, D. W. 2000. Mixotrophy in *Gyrodinium galatheanum* (Dinophyceae): grazing responses to light intensity and inorganic nutrients. *J. Phycol.*, **36**: 33-45.
42. Li, A., Stoecker, D. K. & Coats, D. W. 2000. Spatial and temporal aspects of *Gyrodinium galatheanum* in Chesapeake Bay: distribution and mixotrophy. *J. Plank. Res.*, **22**: 2105-2124.
43. Yih, W. & Coats, D. W. 2000. Infection of *Gymnodinium sanguineum* by the dinoflagellate *Amoebophrya* sp.: effect of nutrient environment on parasite generation time, reproduction, and infectivity. *J. Euk. Microbiol.*, **47**: 504-510.
44. Gunderson, J. H., Goss, S. H., & Coats, D. W. 2001. FISH probes for the detection of *Amoebophrya* sp. infecting *Akashiwo sanguinea* in Chesapeake Bay. *J. Euk. Microbiol.*, **48**: 670-675.
45. Li, A., Stoecker, D. K. & Coats, D. W. 2001. Use of the "food vacuole content" method to estimate grazing by the mixotrophic dinoflagellate *Gyrodinium galatheanum* on cryptophytes. *J. Plank. Res.*, **23**: 303-318.
46. Coats, D. W. 2002. Dinoflagellate Life-Cycle Complexities. *J. Phycol.*, **38**: 417-419.
47. Coats, D. W. & Park, M. G. 2002. Parasitism of photosynthetic dinoflagellates by three strains of *Amoebophrya* (Dinophyta): parasite survival, infectivity, generation time, and host specificity. *J. Phycol.*, **38**: 520-528.
48. Gunderson, J. H., John, S. A., Bowman II, W. C. & Coats, D. W. 2002. Multiple strains of the parasitic dinoflagellate *Amoebophrya* exist in Chesapeake Bay. *J. Euk. Microbiol.*, **49**: 469-474.
49. Johansson, M. & Coats, D. W. 2002. Ciliate grazing on the parasite *Amoebophrya* sp. decreases infection of the red-tide dinoflagellates *Akashiwo sanguinea*. *Aquat. Microb. Ecol.* **28**: 69-78.
50. Park, M. G., Cooney, S. K., Kim, J. S. & Coats, D. W. 2002. Effects of parasitism on diel vertical migration, phototaxis/geotaxis, and swimming speed of the bloom-forming dinoflagellate *Akashiwo sanguinea*. *Aquat. Microb. Ecol.*, **29**: 11-18.
51. Park, M., G., Cooney, S. K., Yih, W. & Coats, D. W. 2002. Effects of two strains of the parasitic dinoflagellate *Amoebophrya* on growth, photosynthesis, light absorption, and quantum yield of bloom-forming dinoflagellates. *Mar. Ecol. Prog. Ser.* **227**: 281-292.
52. Smalley, G. W. & Coats, D. W. 2002. Ecology of the red-tide dinoflagellates *Ceratium furca*: distribution, mixotrophy, and grazing impact on ciliate populations of Chesapeake Bay. *J. Euk. Microbiol.*, **49**: 64-74.

53. Smalley, G. W., Coats, D. W. & Stoecker, D. K. 2003. Feeding in the mixotrophic dinoflagellate *Ceratium furca* is influenced by intracellular nutrient concentrations. *Mar. Ecol. Prog. Ser.*, **262**: 137-151.
 54. Kim, S, Yih, W, Park, M. G. & Coats, D. W. 2004. Infection of the bloom-forming, thecate dinoflagellates *Alexandrium affine* and *Gonyaulax spinifera* by two strains of *Amoebophrya* (Dinophyta). *J. Phycol.*, **40**: 815-822.
 55. Park, M. G., Yih, W. & Coats, D. W. 2004. Parasites and phytoplankton, with special emphasis on dinoflagellate infections. *J. Euk. Microbiol.*, **51**: 145-155.
 56. Snoeyenbos-West, O. L. O., Cole, J., Campbell, A., Coats, D. W. & Katz, L. A. 2004. Molecular Phylogeny of Phyllopharyngean Ciliates and their Group I Introns. *J. Euk. Microbiol.*, **51**: 441-450.
 57. Bettarel, Y., Kan, J., Wang, K., Williamson, K. E., Cooney, S., Ribblett, S., Chen, F., Wommack, K. E. & Coats, D. W. 2005. Isolation and preliminary characterization of a small nuclear inclusion virus infecting the diatom *Chaetocerus* cf. *gracilis*. *Aquatic Microbial Ecology*, **40**: 103-114.
 58. Ribblett, S. G., Palmer, M. A. & Coats, D. W. 2005. The importance of bacterivorous protists in the decomposition of stream leaf litter. *Freshwater Biology*, **50**: 516-526.
 59. Utz, L., R. P. & Coats, D. W. 2005. Spatial and temporal patterns in the occurrence of peritrich ciliates as epibionts on calanoid copepods in the Chesapeake Bay, USA. *J. Euk. Microbiol.*, **52**: 236-244.
 60. Ma, H., Overstreet, R. M., Sniezek, J. H., Solangi, M. & Coats, D. W. 2006. Two new species of symbiotic ciliates from the respiratory tract of cetaceans with establishment of a new genus *Planilamina* n. gen. (Dysteriida, Kyaroikeidae). *J. Euk. Microbiol.*, **53**:407-419.
 61. Place, A. R., Harvey H. R., Bai, X & Coats, D. W. 2006. Sneaking under the toxin surveillance radar: Parasitism and sterol content. *African Journal of Marine Science*, **28**: 347-351.
 62. Bai, X, Adolf, J. E., Bachvaroff, T, Place, A. R. & Coats, D. W. (2007) The interplay between host toxins and parasitism by *Amoebophrya*. *Harmful Algae*, **6**: 670-678.
 63. Coats, D. W. & Clamp, J. C. (in press) Chapter 4 - Ciliated Protists (Ciliophora) of the Gulf of Mexico. In: Felder, D.F. and D.K. Camp. *Gulf of Mexico – Its Origins, Waters, and Biota: Biota*. Texas A&M University Press, College Station, Texas.
 64. Kim, S., Park, M. G., Kim, K.-Y., Kim, C.-H., Yih, W., Park, J. S. & Coats, D. W. 2008. Genetic Diversity of parasitic dinoflagellates of the genus *Amoebophrya* and its relationships to parasite biology and biogeography. *J. Euk. Microbiol.*, **55**:1-8.
 65. Utz, L. R. P. & Coats, D. W. (accepted) Telotroch formation, survivorship, attachment success, and attachment patterns of the epibiotic peritrich *Zoothamnium intermedium* (Ciliophora, Oligohymenophorea). *Invertebrate Biology*.
 66. Utz, L. R. P. & Coats, D. W. (minor revision) Morphological Characterization of *Zoothamnium intermedium* Precht, 1935 (Ciliophora, Peritrichia) Attached to Calanoid Copepods in the Chesapeake Bay, USA. *J. Euk. Microbiol.*
 67. Gribble, K. E., Coats, D. W. & Anderson, D. M. (in prep.) Sexual and asexual reproduction in *Protoperidinium steidingerae* Balech (Dinophyceae), with observations on life-history stages of *Protoperidinium depressum* (Bailey) Balech (Dinophyceae). To be submitted to *J. Phycol.*
 68. Sengco, M. R., Popenorf, K. J., Erdner, D. L., Gribble, K. E., Anderson, D. M. & Coats, D. W. (in prep) Biological and phylogenetic characterization of *Amoebophrya* sp. infecting the thecate dinoflagellate, *Alexandrium tamarense*. To be submitted to *J. Euk. Microbiol.*
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69. Park, G.-J., Hur, H.-J. Coats D. W. & Yih, W. 2007. Endoparasitic dinoflagellates, *Amoebophrya* spp. and their host dinoflagellates in Jinhae Bay, Korea. *Journal of the Korean Society of Oceanography*, **12**: 359-369.
70. Park, G.-J., Hur, H.-J. Coats D. W. & Yih, W. (submitted) Characteristics of Endoparasitic Dinoflagellate *Amoebophrya* sp. ex *Heterocapsa triquetra* isolated from Jinhae Bay, Korea. *Journal of the Korean Society of Oceanography*,

Abstracts:

61 abstracts 1972-2001

62. Armstrong, T.-N. & Coats, D. W. 2003. Influence of suspended solids and host diversity on dinoflagellate parasitism. 10th East Coast Conference on Protozoology, June 8-9, 2002, Montgomery College, Rockville, Maryland. *J. Euk. Microbiol.*, **50**(2): 23A.
63. Coats, D. W., Cooney, S. K. & Park, M. G. 2003. Parasitism of Dinoflagellates: Variation in Survival, Generation Time, and Specificity of *Amoebophrya* strains. 54th Annual Meeting of the Society of Protozoologists, May 17-19, 2002, Salt Lake City, UT. *J. Euk. Microbiol.*, **50**(2): 5A.
64. Miller, J. J. & Coats, D. W. 2003. An ultrastructural study of *Amoebophrya* sp. dinospores and the early infection process. 10th East Coast Conference on Protozoology, June 8-9, 2002, Montgomery College, Rockville, Maryland. *J. Euk. Microbiol.*, **50**(2): 25A.
65. Ribblett, S. G., Coats, D. W. & Palmer, M. A. 2003. The functional significance of protists in the decomposition of stream leaf litter. 10th East Coast Conference on Protozoology, June 8-9, 2002, Montgomery College, Rockville, Maryland. *J. Euk. Microbiol.*, **50**(2): 25A.
66. Sengco, M. R., Coats, D. W., Popendorf, K. J., Erdner, D. L., Gribble, K. E. & Anderson, D. M. 2003. Biological and phylogenetic characterization of *Amoebophrya* sp. ex *Alexandrium tamarense*. Second Symposium on Harmful Marine Algae in the U.S. December 9-13, 2003, Woods Hole, Massachusetts.
67. Utz, L. R. P., Coats, D. W. & Small, E. B. 2003. Induction of telotroch formation in the peritrich epibionts *Zoothamnium* spp. 10th East Coast Conference on Protozoology, June 8-9, 2002, Montgomery College, Rockville, Maryland. *J. Euk. Microbiol.*, **50**(2): 26A.
68. Armstrong, T.-N., Felton, C. & Coats, D. W. 2004. Influence of mixed host populations on success of the parasitic dinoflagellate *Amoebophrya*. Joint Meeting of the Phycological Society of America and the Society of Protozoologists, 14-19 June 2003, Gleneden Beach, Oregon. *J. Euk. Microbiol.*, **51**(2): 1A, Abst. 3.
69. Coats, D. W. 2004. Parasites run late, but don't discriminate. 56th Annual Meeting of the Society of Protozoologists, June 2-6, 2004, Bryant College, Smithfield, RI.
70. Jardeleza, S. E. & Coats, D. W. 2004. Morphological variation in "free-living" stages of the parasitic dinoflagellate *Amoebophrya*. Joint Meeting of the Phycological Society of America and the Society of Protozoologists, 14-19 June 2003, Gleneden Beach, Oregon. *J. Euk. Microbiol.*, **51**(2): 3A, Abst. 12.
71. Lewis, S. B., Cooney, S. K., Marshall, L. E. & Coats, D. W. 2004. Effect of *Karlodinium micrum* toxin on success of the parasitic dinoflagellate *Amoebophrya* sp. Joint Meeting of the Phycological Society of America and the Society of Protozoologists, 14-19 June 2003, Gleneden Beach, Oregon. *J. Euk. Microbiol.*, **51**(2): 5A, Abst 18.
72. Miller, J. J. & Coats, D. W. 2004. Host recognition and penetration by the parasitic dinoflagellate *Amoebophrya* sp. Joint Meeting of the Phycological Society of America and the Society of Protozoologists, 14-19 June 2003, Gleneden Beach, Oregon. *J. Euk. Microbiol.*, **51**(2): 6A, Abst. 23.

73. Place, A. R. & Coats D. W. 2004. Sneaking under the toxin surveillance radar: parasitism and sterol content. 11th International Conference on Harmful Algae, 15-19 November, 2004, Cape Town, South Africa.
74. Sengco, M. R., Coats, D. W., Popenorf, K. J., Erdner, D. L., Gribble, K. E. & Anderson, D. M. 2004. Studies on the parasitic dinoflagellate *Amoebophrya* sp. ex *Alexandrium tamarense*. 11th International Conference on Harmful Algae, 15-19 November, 2004, Cape Town, South Africa.
75. Snoyenbos-West, O. L. O., Cole, J., Campbell, A., Coats, D. W. & Katz, L. A. 2004. Molecular Phylogeny of Phyllopharyngen Ciliates and their Novel Group I Introns. 56th Annual Meeting of the Society of Protozoologists, June 2-6, 2004, Bryant College, Smithfield, RI. *J. Euk. Microbiol.*, **52**(2): 24S, 73A.
76. Trice, J. T., Coats, D. W. & Cooney, S. 2004. Parasitism of *Fundulus majalis* by the dinoflagellate *Crepidodinium cyprinodontum*. Annual Biomedical Research Conference for Minority Students, November 10-13, 2004, Dallas, Texas.
77. Utz, L. R. P., Coats, D. W. & Small, E. B. 2004. Telotroch formation, survivorship, and attachment success of the epibiotic peritrich *Zoothamnium intermedium* Precht, 1935. Joint Meeting of the Phycological Society of America and the Society of Protozoologists, 14-19 June 2003, Glendon Beach, Oregon. *J. Euk. Microbiol.*, **51**(2): 8A, Abst. 31.
78. Bai, X., Adolf, J., Bachvaroff, T., Place, A. & Coats D. W. 2005 Effect of host toxicity on success of the parasitic dinoflagellate *Amoebophrya* with preliminary examination of host and parasite membrane sterol composition. 11th East Coast Conference on Protozoology. Virginia Commonwealth University School of Medicine, Richmond Virginia. *J. Euk. Microbiol.*, **53**(1): 6S, 5A.
79. Bai, X., Adolf, J., Bachvaroff, T., Place, A. & Coats D. W. 2005 Effect of host toxicity on success of the parasitic dinoflagellate *Amoebophrya* sp. ex *Karlodinium micrum*. 2005 ASLO Summer Meeting June 19-24. Santiago de Compostella, Spain.
80. Bai, X., Adolf, J. E., Bachvaroff, T., Place, A. R. & Coats, D. W. 2005. Effect of host toxicity on success of the parasitic dinoflagellate *Amoebophrya*, with preliminary examination of host and parasite membrane sterol composition. 3rd Symposium on Harmful Algae in the U.S., October 2-7, 2005, Pacific Grove, California.
81. Bettarel, Y, Coats, D. W., Kan, J., Wang, K., Chen, F., Williamson, K. & Wommack, K. E. 2005. Isolation and characterization of a nuclear inclusion virus infecting the bloom forming diatom *Chaetoceros* c. f. *gracilis*. 2005 ASLO Summer Meeting June 19-24. Santiago de Compostella, Spain.
82. Cooney, S. K. & Coats D. W. 2005. Effect of host cell size and sex on the dinoflagellate gill parasite *Crepidodinium cyprinodontum*. 11th East Coast Conference on Protozoology. Virginia Commonwealth University School of Medicine, Richmond Virginia. *J. Euk. Microbiol.*, **53**(1): 8S, 11A.
83. Eissler, Y & Coats D. W. 2005. Characterization of phytoplankton-viral systems from Chesapeake Bay. 11th East Coast Conference on Protozoology. Virginia Commonwealth University School of Medicine, Richmond Virginia. *J. Euk. Microbiol.*, **53**(1): 8S, 13A.
84. Eissler, Y & Coats D. W. 2005. Characterization of phytoplankton-viral systems from Chesapeake Bay. 2005 ASLO Summer Meeting June 19-24. Santiago de Compostella, Spain.
85. Kim, J. S. & Coats, D. W. 2005. Morphology and ecology for four Chesapeake Bay tintinnids. 11th East Coast Conference on Protozoology. Virginia Commonwealth University School of Medicine, Richmond Virginia. *J. Euk. Microbiol.*, **53**(1): 11S, 26A.

86. Kim, S., Park, M. G., Kim, K. Y., Kim, C. H., Yih, W. & Coats, D. W. 2005. Revisiting the species complex hypothesis for *Amoebophrya ceratii* (Dinophyta). 2005 ASLO Summer Meeting June 19-24. Santiago de Compostella, Spain.
87. Kim, S., Park, M. G., Yih, W. & Coats, D. W. 2005. Parasitism of thecate dinoflagellates by two strains of *Amoebophrya* (Dinophyta): Parasite development, generation time, and host specificity. 2005 ASLO Summer Meeting June 19-24. Santiago de Compostella, Spain.
88. Bai, X, Adolf, J., Bachvaroff, T., Sengco, M., Feinberg, M., Place, A., & Coats, D. W. 2006 Dinoflagellate host and parasite defense mechanisms against karlotoxin-membrane sterol composition. 2006 Gordon Conference on Marine Microbes, July 23-28, 2006, Biddeford, ME.
89. Coats, D. W. 2006 Microbial Controls of Chesapeake Bay Phytoplankton. 13th Meeting of the East Coast Section of the International Society of Protistologists. Russell Sage College, Troy, NY, June 6-8, 2006.
90. Cooney, S.K., Stoecker, D.K. & Coats, D.W. 2006. Ecology of the Fish Associated Dinoflagellate *Crepidodinium cyprinodontum*. Atlantic Estuarine Research Society, Baltimore, MD.
91. Gribble, K. E., Coats, D. W., Anderson, D. M. 2006. Asexual and sexual reproduction in *Protoperdinium steidingerae* (Dinophyceae). International Society for the Study of Harmful Algae. 12th International Conference on Harmful Algae, 4-8 September 2006, Copenhagen, Denmark.
92. Eissler, Y. & Coats D. W. 2006. Yoanna Eissler, D. Wayne Coats Characterization of *Chaetoceros* cf *gracilis* virus isolated from Chesapeake Bay. International Council for Science, Scientific Committee on Oceanic Research, Virus Ecology in Marine Systems: A Workshop on Methods, June 1-3, Vancouver, British Columbia, Canada.
93. Eissler, Y., Wang, K., Chen, F., & Coats, D. W. 2006 Molecular characterization of *Chaetoceros* cf *gracilis* virus isolated from Chesapeake Bay, USA. 2006 Summer ASLO Meeting, 4-9 June, Victoria, British Columbia Canada.
94. Cooney, Sean K., Stoecker, Diane K. & Coats, D. W. 2007. Ecology of the fish associated dinoflagellate *Crepidodinium cyprinodontum*. 2007 Joint Annual Meeting of the Phycological Society of America and the International Society of Protistologists, August 6-9, Providence, RI.
95. Eissler, Yoanna, Wang, Kui & Coats, D. W. Ultrastructural characterization of the lytic cycle of an intra-nuclear virus of *Chaetoceros wighammi* from Chesapeake Bay, USA. 2007 Joint Annual Meeting of the Phycological Society of America and the International Society of Protistologists, August 6-9, Providence, RI.

Invited Lectures Past 5 Years:

- “Trophic Dilemmas of Red-Tide Dinoflagellates: To Eat or Be Eaten”
St Mary’s College of Maryland, St Mary’s City, Maryland, October 2003.
Washington College, Chestertown, MD, February 2004
- “Can Parasites Control Algal Blooms?” Department of Biology and Environmental Science”
University of Kalmar, Sweden, March 2004
- "Microbial Controls of Phytoplankton: A Case of Diatom Viruses in Chesapeake Bay, USA"
Kunsan National University, Korea, September 2004
Chonnam National University, Korea, September 2004
Seoul National University, Korea, September 2004
Smithsonian Marine Station, Ft. Pierce, FL, Jan 2005
- "Microbial Controls of Chesapeake Bay Phytoplankton"
NOAA, Silver Springs, MD, May 2005
Hanyang University, Seoul Korea, May 2005

Pukyong University, Busan, Korea, May 2005
Washington College, Chestertown, MD, January 2006

"Parasitism of Chesapeake Bay Red-Tide Dinoflagellates"
University of Maryland, Center of Marine Biotechnology, November 2005

Presidential Address: North American East Coast Section of the International Society of
Protistologists, June 2006.

"Parasitic Life-Styles of Marine Dinoflagellates"
Kunsan National University, Korea
14 March 2007

"Microbial Food-Web Complexities: The Relevance of Dinoflagellate Parasitism"
Station Biologique de Roscoff, France
21 June 2007

"Past-President Address International Society of Protistologists: Lost Among the Alveolates"
2007 Joint Annual meeting of The Phycological Society of America and The International Society
of protistologists. August 6-9, Providence, RI, USA

"Ecological Implication of Dinoflagellate Parasitism in the Plankton"
Workshop on Hematodinium Associated Disease: Research Status and Future Directions
September 20-22, 2007 Charlottetown, PEI, Canada

Scientific Societies:

American Society of Limnology and Oceanography
Estuarine Research Federation
International Phycological Society
Phycological Society of America
Society of Protozoologists

Research Related Activities:

Ad Hoc Reviewer:

National Science Foundation
National Geographic Society
Canadian National Research Council
FWF (Austrian Science Foundation)
State Sea Grant Programs
Numerous Professional Journals

Professional Service:

Society of Protozoologists
President, 2005-2006
Program Chair, Annual Meeting 2003, 2004, 2007
Member John O. Corliss Ciliate Systematics Award Committee, 2000-2003
Member Awards Committee, 1990-1998, 2002-2003
Chairman Awards Committee, 1991-1995
Member Board of Reviewers, *Journal of Eukaryotic Microbiology*, 1996-1998
Executive Committee Member, 1997-2001
Associate Editor, *Journal of Eukaryotic Microbiology*, 1998-2006
Steering Committee Member, East Coast Section, 2001-2003
Symposium Co-chair, "Protistan Predation Dynamics" 1995 Annual Meeting

Symposium Chair, "Feeding Ecology of Heterotrophic and Mixotrophic Dinoflagellates"
1998 Annual Meeting.

Symposium Chair, "Controls of Planktonic Microalgae" 2003 Annual Meeting

Symposium Co-chair, "Protistan Endosymbiosis" 2007 Annual Meeting

American Society of Limnology and Oceanography

Co-chair, Special Session "Parasitism in the Plankton" 2005 ASLO Summer Meeting June
19-24. Santiago de Compostella, Spain.

Aquatic Microbial Ecology (formerly Marine Microbial Food Webs):

Member Editorial Board 1992-2006

Smithsonian Service:

Chair, SERC Seminar Committee, 1996-1998

Chair, SERC Education Committee, 1997-2005

Member, NSRC Advisory Committee for *Investigation Organisms*, 2000

Coordinator, SERC Evening Lecture Program, 1998-2002, winter 2004

Member, SERC World Wide Web Committee, 1997-2004

Member, SERC Open House Committee, 2000, 2002, 2003, 2005

Chair Search Committee, SERC Science Writer/Web Editor, 2002

Member, NMNH Ocean Hall SOP Team, 2003-2004

Chair Search Committee, SERC Fellowship Coordinator, 2006

Academic Activities:

Teaching:

Graduate level seminar courses in protistology and microbial ecology (University of
Maryland, College Park, MD; Horn Point Environmental Lab, Cambridge, MD) 1988-2003.

Invited instructor for Nordisk Forskerutdanningsakademi research course, "Advanced
methods for studying the ecophysiology of phytoplankton (including toxic species) and
species identification using molecular probes," Department of Marine Sciences, University of
Kalmar, Sweden, 21 June-2 July, 1999.

Invited participant: Workshop on Mixotrophy in Planktonic Protists – Methods to Assess
Nutritional Modes, Tvärminne Zoological Station, Finland, 4–1 September 2005

Interns:

G. M. Berg, Rutgers University, 1991

B. A. Lamphere, Pomona College, 1992

P. C. Sewart, North Carolina Central University, 1993

M. Eyman, University of North Carolina, Wilmington, 1994

G. W. Smalley, University of Maryland, College Park, 1994, 1995

C. H. Darby, Washington College, 1995

S. Gransden, University of Guelph, 1996

L. A. Lezzer, Washington College, 1996

F. L. Wolfe, Oberlin College, 1996; 1997.

M. E. Kelly, University of South Carolina 1997

L. Salazar, University of Oklahoma, 1998

J. S. Kim, Kunsan National University, Kunsan, Korea, 1999

M. Johansson, Stockholm University, Stockholm, Sweden, 2000

A. Coston, Morgan State University, 2001

T. Armstrong, University of New England, Biddeford, ME, 2001, 2002; 2003

C. Felton, Morgan State University, 2002

S. Jardeleza, St. Mary's College, 2002; 2003

L. Jackson, Howard University, 2004
S. Kim, Chonnam National University, Korea, 2004
J. Trice, North Carolina Central University, 2004
L. Albinsson, Kalmar University, Sweden, 2005
J. Y. Jung, Chonnam National University, Korea, 2005
A. Burton, University of Maryland Baltimore County, 2006
D. Chang, Harvard, 2006
S. Lee, Anne Arundel Community College, 2006
D. Marrero, University of Puerto Rico Myaguez, 2006

Graduate Students Mentored:

J. R. Dolan (Ph.D., 1988) University of Maryland College Park, Marine Estuarine Environmental Sciences Graduate Program. Thesis Title: "The Ecology of Ciliate Microzooplankton in the Chesapeake Bay."

K. R. Bockstahler (M.S., 1992) University of Maryland College Park, Marine Estuarine Environmental Sciences Graduate Program. Thesis Title: "Abundance, Distribution, and Grazing Rates of Mixotrophic Dinoflagellates in Chesapeake Bay."

M. R. Goodison (M.S., 2002), University of Maryland College Park, Biology Department. Thesis Title: "Temporal and Spatial Distribution Patterns of Oligotrich Ciliates and Their Morphologically Distinct Resting Cysts in the Rhode River Subestuary of Chesapeake Bay, USA."

S. G. Ribblett, (M.S., 2002), University of Maryland College Park, Marine Estuarine Environmental Sciences Graduate Program. Thesis Title: "The Functional Significance of Protists in the Decomposition of Stream Leaf Litter."

G. W. Smalley (Ph.D., 2002), University of Maryland, Horn Point Lab, Marine Estuarine Environmental Sciences Graduate Program. Thesis Title: "Mixotrophy in the Red-tide Dinoflagellate *Ceratium furca*, with Emphasis on Feeding Biology and Ecology."

S. Lewis (M.S., 2003), Morgan State University, Biology Department. Thesis Title: "Effect of *Karlodinium micrum* Toxin on Success of the Parasitic Dinoflagellate *Amoebophrya* sp."

L. R. P. Utz (Ph.D., 2004), University of Maryland College Park, Marine Estuarine Environmental Sciences Graduate Program. Thesis Title: "Identification, Life history, and ecology of peritrich ciliates as epibionts on calanoid copepods in the Chesapeake Bay."

S. Cooney (M.S., pending) University of Maryland College Park, Marine Estuarine Environmental Sciences Graduate Program.

Other Graduate Student Committees:

R. A. Snyder (Ph.D., 1989), University of Maryland College Park, Zoology Department
S. E. Link (Ph.D., 1989), University of Maryland College Park, Zoology Department
J. H. Sniezek (Ph.D., 1992), University of Maryland College Park, Zoology Department
J. R. Merrel (M.S., 1996), University of Maryland, Horn Point Lab, Marine Estuarine Environmental Sciences Graduate Program
J. E. Adolf (Ph.D., 2002), University of Maryland, Horn Point Lab, Marine Estuarine Environmental Sciences Graduate Program
C. Jordan (Ph.D., 2003), University of Maryland, Horn Point Lab, Marine Estuarine Environmental Sciences Graduate Program
P. Salomon (Ph.D., 2004), University of Kalmar, Sweden (served as opponent for final defense)

M. D. Johnson (Ph.D., 2005), University of Maryland, Horn Point Lab, Marine Estuarine Environmental Sciences Graduate Program

M. Salerno (M.S., 2005), University of Maryland, Horn Point Lab, Marine Estuarine Environmental Sciences Graduate Program

S. Kim (Ph.D., 2005), Pukyong National University, Pusan, Korea

C. Gribble (Ph.D., 2006), WHOI-MIT Joint Program in Oceanography and Ocean Engineering

B. Costas (Ph.D., pending), Department of Marine Sciences, University of Connecticut

W. T. Pecher (Ph.D., pending), University of Maryland, Center of Marine Biotechnology, Estuarine Environmental Sciences Graduate Program

Postdoctoral Scholars:

J. R. Dolan, University of Maryland, post-doc on NSF grant, 1988-1990.

J. R. White, University of Maryland, Smithsonian Fellow, 1991-1992.

J. H. Sniezek, University of Maryland, Smithsonian Fellow, 1993-1994.

R. W. Pierce, University of Rhode Island, Smithsonian Fellow, 1996-1998.

W. Yih, Professor, Kunsan National University, Korea, Visiting Research Scientist, 1998-1999.

M. G. Park, Seoul National University, Korea, Smithsonian Postdoctoral Fellow on NSF grant, 1999-2001.

J. G. Park, Professor, Inje University, Kimhae, Korea, Visiting Research Scientist, 2001-2002.

K. H. An, National Fisheries Research & Development Institute, Incheon, Korea, Visiting Research Scientist, 2002-2004.

Y. Bettarel, University Clermont, France, Smithsonian Fellow on NSF grant 2003-2004.

J. S. Kim, Seoul National University, Korea, 2004-2005.

X. Bai, University of Southern Mississippi, Smithsonian Fellow, 2004-2006.

Y. Eissler, University of Concepción, Chile, Smithsonian Fellow on NSF grant, 2004-2007.

M. R. Sengco, Woods Hole Oceanographic Institution, Non-Federal Research Scientist on NOAA ECOHAB grants, 2005-2008.

Tsetvan Bachvaroff, University of Maryland, Smithsonian Fellow on NSF grant, 2007-2009