

## **Joel Eric Baker**

*Port of Tacoma Chair in Environmental Science and Professor  
Associate Vice Chancellor for Research*

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### **Education**

- 1988 Ph.D., Environmental Engineering Sciences  
University of Minnesota, Department of Civil Engineering
- 1985 M.S., Environmental Engineering Sciences  
University of Minnesota, Department of Civil Engineering
- 1981 B.S., Environmental Chemistry  
State University of New York, College of Environmental Science & Forestry

### **Professional Background**

- Port of Tacoma Chair in Environmental Science and Professor (2008- ) University of Washington Tacoma.
- Associate Vice Chancellor for Research (2014-), Special Assistant to the Chancellor for Research, UW Tacoma (2012-2014)
- Director, UW Puget Sound Institute (2011- )
- Science Director (2008- ) The Center for Urban Waters, Tacoma, Washington.
- Adjunct Professor (2009- ), Department of Civil and Environmental Engineering, University of Washington.
- Professor (1999-2008), Associate Professor (1995-1999), Assistant Professor (1989-1995), Research Associate (1988-1989), Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, Solomons, Maryland.
- Adjunct Professor (2004-2008), Department of Civil and Environmental Engineering, University of Maryland Baltimore County.
- Visiting Scientist (2002), Institute for Environment and Sustainability, European Commission Joint Research Centre, Ispra, Italy.
- Visiting Scientist (1999), Laboratory for Aquatic Ecotoxicology, Institutionen för Tillämpad Miljövetenskap (ITM), Stockholm University.

### **Research Interests**

Modeling contaminant transport and fate in natural waters; Atmospheric chemistry and deposition of semivolatile organic contaminants; Modeling accumulation of persistent chemicals in aquatic food webs; Aqueous physical chemistry of hydrophobic chemicals; Organic carbon dynamics in marine, estuarine, and lacustrine systems; Environmental analytical chemistry.

**Publications (\*graduate student in J. Baker's laboratory)**

1. Kjellerup, B.V., C. Naff, S.J. Edwards, U. Ghosh, J.E. Baker, and K.R. Sowers (2014) Effects of activated carbon on reductive dechlorination of PCBs by organohalide respiring bacteria indigenous to sediments. *Water Res.*, 52, 1-10.
2. Dinglasan-Panlilo, M.J., S. Prakash, and J.E. Baker (2013) Perfluorinated compounds in the surface waters of Puget Sound, Washington and Clayoquot Sound, British Columbia. *Marine Pollut. Bull.*, <http://dx.doi.org/10.1016/j.marpolbul.2013.10.046>
3. Fang, M.D.; Lee, C.L., Jiang, J.J., Ko, F.C., and J.E. Baker (2012) Diffusive exchange of PAHs across the air-water interface of the Kaohsiung Harbor lagoon, Taiwan. *J. Environ. Management*, 110, 179-187.
4. Ko, F.C., J.E. Baker, and K.S. Tew (2012) Kinetics of polychlorinated biphenyl partitioning to marine Chrysophyte *Isochrysis galbana*. *Sci. Total Environ.*, 416, 410-417.
5. Klosterhaus\*, S.L., Dries, E. and J.E. Baker (2011) Bioaccumulation kinetics of polybrominated diphenyl ethers from estuarine sediments to the marine polychaete, *Nereis virens*. *Environ. Toxicol. Chem.*, 30(5), 1204-1212.
6. Jiang, J.J, C.L. Lee, M.D. Fang, F.C. Ko, and J.E. Baker (2011) Polybrominated diphenyl ethers and polychlorinated biphenyls in sediments of southwest Taiwan: regional characteristics and potential sources. *Marine Pollut. Bull.*, 62, 815-823.
7. Klosterhaus\*, S.L. and J.E. Baker (2010) Bioavailability of decabromodiphenyl ether to the marine polychaete *Nereis virens*. *Environ. Toxicol. Chem.*, 29(4), 860-868.
8. Rowe, C.L., Mitchelmore, C.L. and J.E. Baker (2009) Lack of biological effects of water accommodated fractions of chemically- and physically-dispersed oil on molecular, physiological, and behavioral traits of juvenile snapping turtles following embryonic exposure. *Sci. Total Environ.*, 407(20), 5344-5355.
9. Ashley, J.T.F., M.L. Webster\*, R.J. Horwitz, D.J. Velinsky, and J.E. Baker (2009) Polychlorinated biphenyls in sediment and biota from the Delaware River estuary. *Proc. Acad. Nat. Sci. Philadel.*, 158, 89-105.
10. Kelly, S.M., Eisenreich, K.M., J.E. Baker, and C.L. Rowe (2008) Accumulation and maternal transfer of polychlorinated biphenyls in snapping turtles of the upper Hudson River, New York, USA. *Environ. Toxicol. Chem.*, 27(12), 2565-2574.
11. Fang\*, M.D., Ko, F.C., Baker, J.E., and C.L. Lee (2008) Seasonality of diffusive exchange of polychlorinated biphenyls and hexachlorobenzene across the air-sea interface of Kaohsiung Harbor, Taiwan. *Sci. Total Environ.*, 407, 548-565.
12. Boynton, W.R., J.D. Hagy, J.C. Cornwell, W.M. Kemp, S.M. Greene, M.S. Owens, J.E. Baker, and R.K. Larsen (2008) Nutrient budgets and management actions in the Patuxent River estuary, Maryland. *Estuaries and Coasts*, 31(4), 623-651.
13. Fang\*, M.D., Hsieh, P.C., Ko, F.C., Baker, J.E., and C.L. Lee (2007) Sources and distribution of polycyclic aromatic hydrocarbons in the sediments of Kaoping River and submarine canyon system, Taiwan. *Marine Pollut. Bull.*, 54(8), 11179-1189.
14. Schneider\*, A.R., Porter, E.T., and J.E. Baker (2007) Polychlorinated biphenyl release from resuspended Hudson River sediment. *Environ. Sci. Technol.*, 41(14), 1097-1103.
15. Ko\*, F.C., Baker, J.E., Fang, M.D., and C.L. Lee (2007) Composition and distribution of polycyclic aromatic hydrocarbons in the surface sediments from the Susquehanna River. *Chemosphere*, 66, 277- 285.
16. Fang\*, M.D., Fang, H.T., Lee, C.L., Ko, F.C. and J.E. Baker (2006) Concentrations of polychlorinated biphenyl congeners in cultivated oysters (*Crassostrea gigas*) in western Taiwan. *Archiv. Environ. Contam. Toxicol.*, 51(2), 223-231.

17. Crimmins\*, B.S. and J.E. Baker (2006) Improved GC/MS methods for measuring hourly PAH and nitro-PAH concentrations in urban particulate matter. *Atmos. Environ.*, 40(35), 6764-6779.
18. Schneider\*, A.R. and J.E. Baker (2006) The use of solid phase microextraction to rapidly measure dissolved PCBs in natural waters. *Internat. J. Environ. Analyt. Chem.*, 86(11), 789-803.
19. Hornbuckle, K.C., D.L. Carlson, D.L. Swackhamer, J.E. Baker, and S.J. Eisenreich (2006) Polychlorinated biphenyls in the Great Lakes. In *Handbook of Environmental Chemistry*, Volume 5, R.A. Hites, Ed., Springer-Verlag, Berlin.
20. Offenberg\*, J., M. Simcik, J. Baker, and S.J. Eisenreich (2005) The impact of urban areas on the deposition of air toxics to adjacent surface waters: a mass budget of PCBs in Lake Michigan in 1994. *Aquatic Sci.*, 67, 79-85.
21. Tuerk, K., J.S., Kucklick, Becker, J.R., Stapleton\*, H.M. and J.E. Baker (2005) Toxaphene and PBDEs in Atlantic white-sided dolphins (*Lagenorhynchus acutus*) and rough-toothed dolphins (*Steno bredanensis*), *Environ. Sci. Technol.*, 39, 692-698.
22. Crimmins\*, B.S., R.R. Dickerson, B.G. Doddridge and J.E. Baker (2004) Particulate polycyclic aromatic hydrocarbons (PAHs) in the Atlantic and Indian Ocean atmospheres during INDOEX and AEROSOLS99: Continental sources to the marine atmosphere. *J. Geophys. Res. Atmos.*, 109(D5), doi:10.1029/2003JD004192.
23. Stapleton\*, H.M., Letcher, R.J. and J.E. Baker (2004) Debromination of polybrominated diphenyl ether congeners BDE 99 and BDE 183 in the intestinal tract of the common carp (*Cyprinus carpio*). *Environ. Sci. Technol.*, 38(4); 1054-1061.
24. Stapleton\*, H.M., Letcher, R.J., Li, J., and J.E. Baker (2004) Dietary accumulation and metabolism of polybrominated diphenyl ethers (BDEs) by juvenile carp (*Cyprinus carpio*). *Environ. Toxicol. Chem.*, 23(8); 1939-1946.
25. Stapleton\*, H.M., Alaei, M., Letcher, R.J. and J.E. Baker (2004) Debromination of the flame retardant decabromodiphenyl ether by juvenile carp (*Cyprinus carpio*) following dietary exposure. *Environ. Sci. Technol.*, 38, 112-119.
26. Ko\*, F.C. and J.E. Baker (2004) Seasonal and annual loads of hydrophobic organic contaminants from the Susquehanna River basin to the Chesapeake Bay. *Marine Poll. Bull.*, 48(9-10), 840-851.
27. Stapleton\*, H.M. and J.E. Baker (2003) Comparing polybrominated diphenyl ether and polychlorinated biphenyl bioaccumulation in a food web in Grand Traverse Bay, Lake Michigan. *Arch. Environ. Contam. Toxicol.*, 45, 227-234.
28. Coleman, J., Baker, J.E., Cooper, C., Fingas, M., Hunt, G., Kvenvolden, K., Michel, K., Michel, J., McDowell, J., Phinney, J., Pond, R., Rabalais, N., Roesner, L., and Spies, R.B. (2003) *Oil in the Sea III: Inputs, Fates, and Effects*. The National Academies Press, Washington, D.C., 265 pp.
29. Ko\*, F.C., L.P. Sanford, and J.E. Baker (2003) Internal recycling of particle reactive organic chemicals in the Chesapeake Bay water column. *Marine Chem.*, 81(3-4), 163-176.
30. Larsen\*, R.K. and J.E. Baker (2003) Source apportionment of polycyclic aromatic hydrocarbons in the urban atmosphere: a comparison of three methods. *Environ. Sci. Technol.*, 37, 1873-1881.
31. Bamford\*, H.A. and J.E. Baker (2003) Sources and concentrations of nitro-PAHs in urban and sub-urban atmospheres of Maryland. *Atmos. Environ.*, 37 (15): 2077-2091.
32. Bamford\*, H.A., D.Z. Bezabeh, M.M. Schantz, S.A. Wise, and J.E. Baker (2003) Determination and comparison of nitrated polycyclic aromatic hydrocarbons

- measured in air and diesel particulate reference materials. *Chemosphere*, 50, 575-587.
33. Tsai, P., Hoenicke, R., Yee, D., Bamford\*, H.A., and J. E. Baker (2002) Atmospheric concentrations and fluxes of organic compounds in the northern San Francisco Estuary. *Environ. Sci. Technol.*, 36(22), 4741-4747.
  34. Bamford\*, H.A., Poster, D.L., Huie, R. and J.E. Baker (2002) Using extrathermodynamic relationships to model the temperature dependence of Henry's Law constants of 209 PCB congeners. *Environ. Sci. Technol.*, 36, 4395-4402.
  35. Bamford\*, H.A., Ko, F.C., and J.E. Baker (2002) Seasonal and annual air-water exchange of polychlorinated biphenyls across Baltimore Harbor and the northern Chesapeake Bay, *Environ. Sci. Technol.*, 36, 4245-4252.
  36. Offenberg\*, J.H. and J.E. Baker (2002) Precipitation scavenging of polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs) along an urban to over-water transect. *Environ. Sci. Technol.*, 36, 3763-3771.
  37. Offenberg\*, J.H. and J.E. Baker (2002) The influence of aerosol size and organic carbon content on the gas/particle partitioning of polycyclic aromatic hydrocarbons (PAHs). *Atmos. Environ.*, 36/7 pp. 1205-1220.
  38. Schneider\*, A.R., Eadie, B.J., and J.E. Baker (2002) Episodic particle transport events controlling PAH and PCB cycling in Grand Traverse Bay, Lake Michigan. *Environ. Sci. Technol.*, 36(6); 1181-1190.
  39. Stapleton\*, H.M., Skubinna, J., and J.E. Baker (2001) Seasonal dynamics of PCB accumulation in a Lake Michigan food web. *J. Great Lakes Res.*, 28 (1): 52-64.
  40. Stapleton\*, H.M., Letcher, R.J. and J.E. Baker (2001) PCB metabolism in a freshwater fish. *Environ. Sci. Technol.*, 35, 4747-4752.
  41. Larsen\*, R.K. and J.E. Baker (2001) Atmospheric ammonia concentrations and deposition to the Chesapeake Bay, *Environ. Sci. Technol.*, 35, 4731-4738.
  42. Schneider\*, A.R., H.M. Stapleton\*, J. Cornwell, and J.E. Baker (2001) Recent declines in PAH, PCB, and toxaphene levels in the northern Great Lakes as determined from high resolution sediment cores. *Environ. Sci. Technol.*, 35, 3809-3815.
  43. Lorah\*, M.M., L.D. Olsen, D.G. Capone, and J.E. Baker (2001) Biodegradation of trichloroethylene and its anaerobic daughter products in freshwater wetland sediments. *Bioremed. J.*, 5, 101-118.
  44. Stapleton\*, H.M., C. Masterson, P. Ostrom, N. Ostrom, J. Skubinna, T. Coon, and J.E. Baker (2001) Accumulation of atmospheric and sedimentary PCBs and toxaphene in a Lake Michigan food web. *Environ. Sci. Technol.*, 35, 3287-3293.
  45. Kucklick, J.R. and J.E. Baker (2000) Comparison of persistent organochlorine pollutant behavior in the food webs of Lakes Baikal and Superior. In *Lake Baikal: A Mirror in Time and Space for Understanding Global Change Processes*, K. Minoura, Ed., Elsevier Press, 247-261.
  46. Bamford\*, H.A., D.L. Poster, and J.E. Baker (2000) Henry's Law constants of polychlorinated biphenyl congeners and their variation with temperature. *Journal of Chemical and Engineering Data*, 49, 1069-1074.
  47. Offenberg\*, J.H. and J.E. Baker (2000) PCBs and PAHs in southern Lake Michigan in 1994 and 1995: long term declines and urban atmospheric influences. *J. Great Lakes Res.*, 26(2), 196-208.
  48. Ashley\*, J.T.F., D.H. Secor, E. Zlokovitz, S.Q. Wales, and J.E. Baker (2000) Linking habitat use of Hudson River striped bass to accumulation of polychlorinated biphenyl congeners. *Environ. Sci. Technol.*, 34, 1023-1029.

49. Harman-Fetcho\*, J.A., L.L. McConnell, C.P. Rice, and J.E. Baker (2000) Wet deposition and air-water gas exchange of currently used pesticides to a sub-estuary of the Chesapeake Bay. *Environ. Sci. Technol.*, 34, 1462-1468.
50. Offenberg\*, J.H. and J.E. Baker (2000) Aerosol size distributions of elemental and organic carbon in urban and over-water atmospheres. *Atmos. Environ.*, 34, 1509-1517.
51. Bamford\*, H.A., D.L. Poster and J.E. Baker (1999) Method for measuring the temperature dependence of the Henry's Law constants of selected polycyclic aromatic hydrocarbons. *Polycycl. Aromat. Comp.*, 14/15, 11-22.
52. Dalal, V.P., J.E. Baker, and R.P. Mason (1999) Environmental assessment of Poplar Island Dredge Material Placement Site, Talbot County, Maryland. *Estuaries*, 3B, 770-784.
53. McCusker, E.M., P.H. Ostrom, N.E. Ostrom, J.D. Jeremiason and J.E. Baker (1999) Seasonal variation in the biogeochemical cycling of seston in Grand Traverse Bay, Lake Michigan. *Org. Geochem.*, 30(12), 1543-1557.
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55. Offenberg\*, J.H. and J.E. Baker (1999) Aerosol size distributions of polycyclic aromatic hydrocarbons in urban and over-water atmospheres. *Environ. Sci. Technol.*, 33, 3324-3331.
56. Kleinow, K., J.E. Baker, J. Nichols, F.P.C. Gobas, T. Parkerton, D.G.C. Muir, G. Monteverdi and P. Mastrodone (1999) Chemical exposure, uptake and disposition: implications for reproduction and development in select oviparous vertebrates. In: DiGulio, R. and D. Tillitt, Eds. *Reproductive and Developmental Effects of Contaminants in Oviparous Vertebrates*, SETAC Press.
57. Turner\*, K.A., R.P. Mason, and J.E. Baker (1999) The influence of varying planktonic and periphytic algal biomass on copper exposure in mesocosms, *Chem. Ecol.*, 16, 317-340.
58. Zhang, H., S.J. Eisenreich, T.; Franz, J.E. Baker, and J. Offenberg. (1999) Evidence for the increased gaseous PCB fluxes to Lake Michigan from Chicago. *Environ. Sci. Technol.*, 33, 2131-2137.
59. Bamford\*, H.A., J.H. Offenberg, R. Larsen, F.C. Ko, and J.E. Baker (1999) Diffusive exchange of polycyclic aromatic hydrocarbons across the air-water interface of the Patapsco River, an urbanized subestuary of the Chesapeake Bay. *Environ. Sci. Technol.*, 33, 2138-2144.
60. Bamford\*, H.A., D.L. Poster and J.E. Baker (1999) Temperature dependence of the Henry's Law constants of thirteen polycyclic aromatic hydrocarbons between 4° C and 31°C. *Environ. Toxicol. Chem.*, 18(9), 1905-1912.
61. Offenberg\*, J.H. and J.E. Baker (1999) Influence of Baltimore's urban atmosphere on organic contaminants over the northern Chesapeake Bay. *J. Air Waste Manag. Assoc.*, 49, 959-965.
62. Harman-Fetcho\*, J.A., L.L. McConnell, and J.E. Baker (1999) Agricultural pesticides in the Patuxent River, a tributary of the Chesapeake Bay. *J. Environ. Qual.*, 28, 928-938.
63. Ashley\*, J.T.F. and J.E. Baker (1999) Hydrophobic organic contaminants in surficial sediments of Baltimore Harbor: inventories and sources. *Environ. Toxicol. Chem.*, 18, 838-849.
64. Ashley\*, J.T.F. and J.E. Baker (1999) The influence of varying planktonic and periphytic algal biomass on exposure of polychlorinated biphenyls in mesocosms, *Chemistry and Ecology*, 16 (2-3), 95-118.

65. Datta, S., L. Hansen, L.L. McConnell, J.E. Baker, J. LeNoir, and J. Seiber (1998) Pesticides and PCB contaminants in fish and frogs from the Kaweah River Basin, California, *Bull. Environ. Contam. Toxicol.*, 60(6), 829-836.
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67. Offenberg\*, J.H. and J.E. Baker (1998) Semi-volatile organic contaminant size distributions in urban and rural atmospheres. In *Measurement of Toxic and Related Air Pollutants '98*, Air and Waste Management Association, 107-113.
68. Bamford\*, H.A., F.C. Ko, and J.E. Baker (1998) Exchange of gaseous polychlorinated biphenyls and polycyclic aromatic hydrocarbons across the Chesapeake Bay air-water interface adjacent to an urbanized area. In *Measurement of Toxic and Related Air Pollutants >98*, Air and Waste Management Association, 107-113.
69. Kucklick, J.R. and J.E. Baker (1998) Organochlorines in Lake Superior's food web, *Environ. Sci. Technol.*, 32, 1192-1198.
70. Nelson\*, E., L.L. McConnell, and J.E. Baker (1998) Diffusive exchange of gaseous PAH and PAH across the air-water interface of the Chesapeake Bay, *Environ. Sci. Technol.*, 32, 912-919.
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73. Offenberg\*, J.H. and J.E. Baker (1997) Polychlorinated biphenyls in Chicago precipitation: enhanced wet deposition to near-shore Lake Michigan. *Environ. Sci. Technol.*, 31, 1534-1538.
74. Poster\*, D.L. and J.E. Baker (1997) Mechanisms of wet deposition of organic contaminants. In: *Atmospheric Deposition of Contaminants to the Great Lakes and Coastal Waters*, J.E. Baker (Ed.), 51-72.
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82. Lin, Y., G. Gupta, and J.E. Baker (1995) Photodegradation of polychlorinated biphenyl congeners using simulated sunlight and diethylamine. *Chemosphere*, 31, 3323-3344.
83. Poster\*, D.L., R. M. Hoff, and J.E. Baker (1995) Measurement of the particle size distributions of semivolatile organic contaminants in the atmosphere. *Environ. Sci. Technol.*, 29, 1990-1997.
84. Leister\*, D.L. and J.E. Baker (1994) Atmospheric deposition of organic contaminants to the Chesapeake Bay. *Atmos. Environ.*, 28, 1499-1520.
85. Ko\*, F.C. and J.E. Baker (1995) Partitioning of hydrophobic organic contaminants to resuspended sediments and plankton in the mesohaline Chesapeake Bay. *Marine Chem*, 49, 171-188.
86. Kuwabara, J.S. and J.E. Baker (1993) Trace contaminants and nutrients in estuaries: the importance of process interdependence. *Estuaries*, 16, 383-384.
87. Eisenreich, S.J., J.E. Baker, T. Franz, M. Swanson, R.A. Rapaport, W.M.J. Strachan, and R.A. Hites (1992) Atmospheric deposition of hydrophobic organic contaminants to the Laurentian Great Lakes. J. Schnoor, Ed., *Fate of Pesticides and Chemicals in the Environment*, John Wiley & Sons, Inc., 51-78.
88. Baker, J.E., N.J. Jaworski, J.R. Scudlark, T.M. Church, J. Ondov, D.L. Leister, and R.M. Dickhut (1991) Atmospheric deposition of nutrients, trace elements, and organic contaminants to the Chesapeake Bay region. In *New Perspectives in the Chesapeake System: A Research and Management Partnership*, Chesapeake Research Consortium Publication No. 137, 707-718.
89. Baker, J.E., S.J. Eisenreich and D.L. Swackhamer (1991) Field-measured associations between polychlorinated biphenyls and suspended solids in natural waters: an evaluation of the partitioning paradigm. In *Organic Substances and Sediments in Water*, Volume 2, Baker, R.A., Ed., Lewis Publishers, Ann Arbor, MI, 79-89.
90. Eisenreich, S.J., D. Achman, K. Hornbuckle, and J.E. Baker (1991) Volatilization of PCBs from the Great Lakes. In *Air-Water Mass Transfer Second International Symposium*, J.S. Gulliver and S.C. Wilhelms, Eds., U.S. Army Waterways Experiment Station/American Society of Civil Engineering.
91. Baker, J.E. and D.L. Leister\* (1991) Development of a strategy to estimate atmospheric deposition of semivolatile organic contaminants to the Chesapeake Bay. *Proceedings of the 84th Annual Meeting of the Air and Waste Management Association*, 91-60.2.
92. Baker, J.E., S.J. Eisenreich and B.J. Eadie (1991) Sediment trap fluxes and benthic recycling of organic carbon, polycyclic aromatic hydrocarbons, and polychlorobiphenyl congeners in Lake Superior. *Environ. Sci. Technol.*, 25, 500-509.
93. Baker, J.E. and S.J. Eisenreich (1990) Concentrations and fluxes of polycyclic aromatic hydrocarbons and polychlorinated biphenyls across the air-water interface of Lake Superior. *Environ. Sci. Technol.*, 24, 342-352.
94. Baker, J.E. and S.J. Eisenreich (1989) PCBs and PAHs as tracers of particle dynamics in large lakes. *J. Great Lakes Research.*, 15, 84-103.
95. Eisenreich, S.J., P.D. Capel, J.E. Baker, and B.B. Looney (1988) Chemical limnology of PCBs in Lake Superior -- a case study. In *Toxic Contamination in Large Lakes*, Schmidke, N.W., Ed., Vol. III.
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98. Baker, J.E., S.J. Eisenreich, T.C. Johnson, and B.M. Halfman (1985) Chlorinated hydrocarbon cycling in the benthic nepheloid layer of Lake Superior. *Environ. Sci. Technol.*, 19, 854-861.
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### **Awards and Professional Recognition**

- Conservation Research Award, Seattle Aquarium Society, 2010
- President's Award for Excellence in Application of Science, University of Maryland Center for Environmental Science, 2008.
- Outstanding Graduate Advisor, University of Maryland Marine, Estuarine and Environmental Program, 2007.
- Guest Scientist, National Sun Yat-sen University, Kaohsiung, Taiwan, 2004.
- Board of Directors, Society for Environmental Toxicology and Chemistry, 2003-2005, elected term.
- Member, National Research Council Ocean Studies Board, Oil in the Sea Committee, 1999-2002
- United States Department of Agriculture Certificate of Appreciation, 1994
- American Chemical Society Division of Environmental Chemistry Graduate Student Award, 1988
- National Sea Grant Association Award for Doctoral Research, 1987

### **Professional Service**

#### *Peer Review Activities*

- Puget Sound Partnership Science Panel, 2008-present, Chair 2008-2009, *Ex Officio* (2010-present).
- Board of Directors, Foss Waterway Seaport Museum, 2011-2013.
- Board of Advisors, Salish Sea Expeditions, 2010-present.
- San Francisco Estuary Institute Contaminant Fate Workgroup, 2001-present.
- Chair, NY/NJ Harbor Contamination Assessment and Reduction Project Model Evaluation Group, 2000-2007.
- Delaware River Basin Commission Toxics Modeling Expert Panel, 2000-2007.
- Co-Chair, Baltimore County LNG Task Force, 2006.
- National Research Council Ocean Studies Board, Oil in the Sea Committee, 1999-2002.
- Tampa Bay Atmospheric Deposition Advisory Panel, 1995-2001.
- Maryland Sea Grant Scientific Advisory Committee, Chair 1994-1996 and Member 1993-1996.



- Air Quality Coordination Group (then Air Subcommittee) Chesapeake Bay Program, 1993-2000.

#### *Editorships*

- Editor, Atmospheric Deposition of Contaminants to the Great Lakes and Coastal Waters, Society of Environmental Toxicology and Chemistry Special Publication, 1997
- Special Issue Editor, Estuaries, 1992
- Associate Editor, Journal of Great Lakes Research, 1991-1995

#### *Symposia Organized/Chaired for Professional Meetings*

- Member, Organizing Committee and Co-Chair, Keynote and Special Sessions, 33rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Long Beach CA, November 2012.
- Organizer, 2011 UW Water Symposium, Seattle, WA, April 2010, 2011, 2012, 2013.
- Organizer, 2<sup>nd</sup> International Workshop on the Occurrences, Sources, and Impacts of Marine Microplastic Pollution. Tacoma, WA October 2010.
- Organizer, International Workshop on the Occurrences, Sources, and Impacts of Marine Microplastic Pollution. Tacoma, WA September 2008.
- Member, Organizing Committee and Co-Chair, Platform Sessions, 22nd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, Maryland, November 2001.
- Member, Organizing Committee and Co-Chair, Platform Sessions, 20th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Philadelphia, Pennsylvania, 14-18 November 1999.
- Organizer and Co-Chair, The waters and watershed of Grand Traverse Bay: biogeochemical dynamics and historical perspective. 41st Conference on Great Lakes Research, Hamilton, Ontario, June 1998.
- Organizer, The State of Baltimore Harbor: A Workshop to Assess the Resource= Current Status and Future Needs, Baltimore, MD, 24 October 1997.
- Organizer, Solomons Workshop on Atmospheric Deposition, Solomons, MD, November 1996.
- Co-Organizer and Co-Chair, Contaminant Cycling in Watersheds, 17th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Washington, D.C., November, 1996.
- Organizer and Co-Chair, Atmospheric Deposition to the Chesapeake Bay Watershed, Chesapeake Research Consortium Conference, Norfolk, VA, June, 1994.
- Organizer and Chair, Comparative Geochemistry of Large Lakes and Estuaries, International Association for Great Lakes Research/Estuarine Research Federation Annual Meeting, Windsor, Ontario, June, 1994.
- Organizer and Co-chair, Atmospheric Deposition of Contaminants to the Great Lakes and Coastal Waters, Society of Environmental Toxicology and Chemistry National Meeting, Denver, CO, November, 1994.
- Organizer and Co-chair, Distribution of Contaminants and Food Chain Transfers, 38th Conference on Great Lakes Research, East Lansing, MI, June, 1995.

- Organizer and Chair, Chesapeake Bay Atmospheric Deposition Critical Issues Forum, U.S. Environmental Protection Agency, Annapolis, MD, 5 November 1992.
- Organizing Committee and Session Chair, Mid-Atlantic Environmental Chemistry Workshop, Virginia Institute of Marine Science, Gloucester Point, VA, 17-18 October 1992.
- Organizing Committee and Session Chair, Comparative Geochemistry, Biogeochemistry and Trophic Cycling of Nutrients, Organic Material and Contaminants in Estuaries, Estuarine Research Federation, San Francisco, 10-14 November 1991.
- Session Chair, New Perspectives in the Chesapeake System: A Research and Management Partnership Conference, Chesapeake Research Consortium, Baltimore, MD, 4-6 December 1990.
- Organizing Committee, Water Issues in the Middle Atlantic States, University of Maryland and USDA Beltsville Agricultural Research Center Symposium, Beltsville, MD, 1 November 1990.

### **Active Memberships in Professional Societies**

American Chemical Society; American Association for the Advancement of Science; Society of Environmental Toxicology and Chemistry; American Geophysical Union

### **Teaching and Training**

#### *Courses Taught*

University of Maryland

MEES 698M, Spring 1993 Modeling Physical and Chemical Processes in Natural Waters (3 cr, 7 Students).

MEES 698M, Spring 1994 Modeling Physical and Chemical Processes in Natural Waters (3 cr, 12 students).

MEES 711, Spring 1995 Modeling Physical and Chemical Processes in Natural Waters (3 cr, 8 students)

MEES 608U, Spring 1996 Regional and Global Biogeochemical Cycles (1 cr, w/R. Mason, 5 students)

MEES 698N, Fall, 1996 Environmental Geochemistry I (3 cr., 7 students)

MEES 711, Spring 1997 Modeling Physical and Chemical Processes in Natural Waters (3 cr, 8 students)

MEES 698N, Fall, 1998 Environmental Geochemistry I (3 cr., 9 students)

MEES 711, Spring 1999 Modeling Physical and Chemical Processes in Natural Waters (3 cr. 10 students)

MEES 711, Spring 2001 Modeling Physical and Chemical Processes in Natural Waters (3 cr, 6 students)

MEES 608U, Spring 2001 Environmental Chemistry Seminar: Emerging Chemicals (1 cr., 11 students)

MEES 698G, Fall 2002 Quantitative Methods in Environmental Science (3 cr, 14 students, w/L. Sanford)

MEES 698G, Fall 2003 Quantitative Methods in Environmental Science (3 cr, 12 students, w/L. Sanford)

MEES 698G, Fall 2004 Quantitative Methods in Environmental Science (3cr, 10 students, w/L. Sanford)  
 MEES 711, Spring 2005 Modeling Physical and Chemical Processes in Natural Waters (3 cr., 6 students)  
 MEES 607, Fall 2005 Quantitative Methods in Environmental Science (3 cr, 7 students, w/E. North)  
 MEES 607, Fall 2006 Quantitative Methods in Environmental Science (3 cr, 8 students, w/L. Sanford)  
 MEES 711, Spring 2007 Modeling Physical and Chemical Processes in Natural Waters (3 cr, 10 students)

#### University of Washington

CEE 577, Spring 2008 Water Quality Management (3 cr, 7 students)  
 TESC 333, Winter 2009 Environmental Chemistry (6 cr, 14 students, w/J. Dinglasan-Panlilio)  
 TESC 433, Spring 2010 Fate and Transport of Pollutants (6 cr, 3 students)  
 TESC 433, Spring 2011 Fate and Transport of Pollutants (6cr, 12 students)  
 TIAS 305, Spring 2012 Environmental History of Tacoma (2 cr, 30 students)  
 ESRM 429, Autumn 2012, UW Water Seminar (1 cr, 85 students)  
 TESC 261, Winter 2013 Organic Chemistry II (5 cr, 17 students)  
 ESRM 429, Autumn 2013, UW Water Seminar (1 cr, 125 students)  
 TESC 305, Winter 2014, IAS Seminar, (2 cr, 71 students)

#### *Degrees Conferred*

Leister (Poster), Dianne L Ph.D. UMCP-Chemistry (w/G. Helz).  
 Atmospheric deposition of organic contaminants to the Chesapeake Bay, December 1993

Ko, Fung Chi Ph.D. MEES  
 Particle-related biogeochemical cycles of hydrophobic organic contaminants in estuarine waters, September, 1994

Nelson, Eric M.S. MEES  
 Water column inventories, partitioning, and air-water exchange of hydrophobic organic contaminants in the Chesapeake Bay, July, 1996

Nakanishi, Koichiro M.S. MEES  
 Hydrophobic organic contaminants in sediments of the Chesapeake Bay, July, 1996.

Harman, Jennifer M.S. MEES  
 Atmospheric deposition of current use agrichemicals to the Chesapeake Bay region, December, 1996

Turner, Arnold M.S. MEES  
 Biological controls on copper speciation in benthic-pelagic mesocosms, December 1996

Ashley, Jeffrey Ph.D. MEES

Habitat use and trophic status as determinants of hydrophobic organic contaminant bioaccumulation within shallow systems, December 1998

Offenberg, John Ph.D. UMCP-Chemistry (w/G. Helz)

Semi-volatile organic compounds in urban and over-water atmospheres, December 1998

Bamford, Holly M.S. MEES

Determination of the Henry's law constants and air-water exchange fluxes of polycyclic aromatic hydrocarbons across the Patapsco River and the northern Chesapeake Bay, December 1998

Merten, Amy M.S. MEES

Bioavailability of different forms of polycyclic aromatic hydrocarbons to the estuarine amphipod *Leptcheirus plumulosus*, June 1999

Lorah, Michelle Ph.D. MEES

Natural attenuation of chlorinated volatile organic compounds in a freshwater tidal wetland, June 1999

Hetzer, Paul M.S. MEES

Comparative effects of cultivation practices (vegetative mulch vs. polyethylene mulch) on pesticide-related ambient toxicity in estuarine habitats, 2000.

Stapleton, Heather M.S. MEES

Accumulation of atmospheric and sedimentary PCBs and toxaphene in a Lake Michigan food web, 2000.

Cohen, Abby M.S. MEES

Episodic particle events and PAH and PCB cycling in Lake Michigan, 2000.

Chang, Chi-wei M.S. MEES

Modeling contaminant transport in an urbanized estuary, 2001

Steinbacher, Joseph M.S. MEES

Sentinel species living in the Hudson River: PCBs in the American Eel, 2001

Larsen, Randolph K Ph.D. MEES

Atmospheric exchange of PAHs, PCBs, and ammonia with the Chesapeake Bay, 2002

Bamford, Holly A. Ph.D. MEES

Sources and transport of trace organic contaminants in a mid-Atlantic urban atmosphere, 2002.

Stapleton, Heather M. Ph.D. MEES

Assimilation and metabolism of polybrominated diphenyl ethers by the common carp, 2003.

Toaspern, Megan L. M.S. MEES

Bioaccumulation of polychlorinated biphenyls in the Delaware River estuary, 2003

- Schneider, Abby Ph.D. MEES  
PCB desorption from resuspended Hudson River sediment, 2005
- Liebert, Daniel M.S. MEES  
PCBs in Maryland fish, 2006
- Crimmins, Bernard Ph.D. MEES  
Characterization of carbonaceous aerosol: improved methods, sources and size distributions, 2006
- Minegishi, Taeko M.S. MEES  
Characterization of PAH composition patterns in diesel emission, 2007
- Klosterhaus, Susan Ph.D. MEES  
The bioavailability of brominated diphenyl ethers from urban estuarine sediments to deposit feeding invertebrates, 2007
- Chang, Chi-wei Ph.D. MEES  
Modeling the impact of sediment resuspension and flocculation on the fate of polychlorinated biphenyls, 2008.
- Haskell, Daniel A. M.S. Civil and Environmental Engineering  
Source apportionment of phthalate esters to the Thea Foss Waterway by statistical analysis and positive matrix factorization analysis, 2013.