

## CURRICULUM VITAE

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### **Education**

B.A.: Biochemistry and Cell Biology cum laude, University of California at San Diego, 1981.

Ph.D.: Marine Chemistry, Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program, 1986.

### **Professional Experience**

- Lab Technician, Scripps Institute of Oceanography, part-time, September 1980 to August 1981.
- M.I.T. Research Assistantship, Massachusetts Institute of Technology, Fall 1981 to Spring 1983.
- Graduate Research Assistant, Woods Hole Oceanographic Institution, Spring 1983 to Fall 1986.
- Post-Doctoral Investigator, Woods Hole Oceanographic Institution, September 1986 to February 1987.
- Visiting Investigator, Woods Hole Oceanographic Institution, February 1987 to September 1988.
- Assistant Scientist, Woods Hole Oceanographic Institution, September 1988 to September 1992.
- Adjunct Associate Scientist, Bermuda Biological Station for Research, Inc., January 1992 to January 1996.
- Associate Scientist, Woods Hole Oceanographic Institution, September 1992 to March 1996.
- Associate Program Director, National Science Foundation, Ocean Sciences Division/Chemical Oceanography Program, September 1996 to September 1998.
- Associate Scientist w/Tenure, Woods Hole Oceanographic Institution, March 1996 to September 2000.
- Executive Scientist, US JGOFS Planning and Data Management Office, Dec. 1998 to October 2005.
- Department Chair, Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution, May 2003 to September 2007.
- Senior Scientist, Woods Hole Oceanographic Institution, September 2000 to present.
- Director, Center for Marine and Environmental Radioactivity, January 2013 to present.

### **Professional Affiliations & Awards**

- Member, Geochemical Society, 1982 to 1993.
- Editorial Board, Journal of Environmental Radioactivity, 1987 to 1993.
- Member, American Geophysical Union, 1984 to present.
- Member, The Oceanography Society, 1989 to present.
- Chair, Scientific Committee on Oceanic Research Working Group 116, 2000 to 2007.
- Fellow, Ocean Life Institute, WHOI 2001 to 2003.
- Directors Award for Collaborative Integration, US NSF, 2007.
- Paul M. Fye Chair, WHOI, 2008 to present.
- Fellow, American Geophysical Union, 2009.
- Times Higher Education top cited scientist in Oceanography, 2000 to 2010.
- Foreign member of the Royal Netherlands Academy of Arts and Sciences, 2013 to present.
- Japan Society for the Promotion of Science Short term “S” Fellowship (highest level fellowship for overseas researchers), 2013.

### **Research Interests**

- Upper-ocean biogeochemical cycles and POC export fluxes.
- Studies of scavenging and particle cycling processes using man-made and naturally occurring radionuclides.
- Geochemical studies of the Black Sea using Chernobyl radiotracers.
- Plutonium isotopes and the behavior of fallout Pu in seawater and groundwater.
- Use of radium isotopes and other tracers of submarine groundwater discharge.

### **Publications**

1. Buesseler, K. O., B. Brown and E. Borchardt (1980). A Limnological Investigation of Lake Itasca. *Itasca Biological Station publication* #1384.
2. Buesseler, K. O., G. Benoit and E. R. Sholkovitz (1985). A pore water study of plutonium in a seasonally anoxic lake. *Journal of Environmental Radioactivity*, 2, 283–292.
3. Buesseler, K. O., H. D. Livingston and E. R. Sholkovitz (1985/1986).  $^{239,240}\text{Pu}$  and excess  $^{210}\text{Pb}$  inventories along the shelf and slope of the northeast U.S.A. *Earth and Planetary Science Letters*, 76, 10–22.
4. Buesseler, K. O. (1986). [Plutonium isotopes in the North Atlantic](#). Ph.D. Thesis, *Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program in Oceanography*, 220 pp.
5. Kempe, S., H. Nies, V. Ittekkot, E. T. Degens, K. O. Buesseler, H. D. Livingston, S. Honjo, B. J. Hay, S. J. Manganini, E. Izdar and T. Konuk (1987). Comparison of Chernobyl nuclide deposition in the Black Sea and in the North Sea. In: *Particle Flux in the Ocean* (E. T. Degens, E. Izdar and S. Honjo, eds.), Mitt. Geol.-Palaont. Inst., Univ. Hamburg, Hamburg, Germany. SCOPE UNEP Sonderband, Vol. 62, pp. 165–178.
6. Buesseler, K. O. and J. Halverson (1987). [The mass spectrometric analysis of fallout  \$^{239}\text{Pu}\$  and  \$^{240}\text{Pu}\$  in marine samples](#). *Journal of Environmental Radioactivity*, 5(6), 425–444.

7. Buesseler, K. O., H. D. Livingston, S. Honjo, B. J. Hay, S. J. Manganini, E. T. Degens, V. Ittekkot, E. Izdar and T. Konuk (1987). [Chernobyl radionuclides in a Black Sea sediment trap](#). *Nature*, 329, 825–828.
8. Buesseler, K. O. and E. R. Sholkovitz (1987). The geochemistry of fallout plutonium in the North Atlantic: I. A pore water study in shelf, slope and deep-sea sediments. *Geochimica et Cosmochimica Acta*, 51, 2605–2622.
9. Buesseler, K. O. and E. R. Sholkovitz (1987). The geochemistry of fallout plutonium in the North Atlantic: II.  $^{240}\text{Pu}/^{239}\text{Pu}$  ratios and their significance. *Geochimica et Cosmochimica Acta*, 51, 2623–2637.
10. Buesseler, K. O. (1987). [Chernobyl: Oceanographic studies in the Black Sea](#). *Oceanus*, 30(3), 23–30.
11. Anderson, R. A., R. F. Bopp, K. O. Buesseler and P. E. Biscaye (1988). Mixing of particles and organic constituents in sediments from the continental shelf and slope off Cape Cod: SEEP-I Results. *Continental Shelf Research*, 8(5-7), 925–946.
12. Livingston, H. D., K. O. Buesseler, E. Izdar and T. Konuk (1988). [Characteristics of Chernobyl fallout in the southern Black Sea](#). In: *Radionuclides: A Tool for Oceanography* (J. C. Guary, P. Guegueniat and R. J. Pentreath, eds.), Elsevier, Essex, U.K., pp. 204–216.
13. Buesseler, K. O., S. A. Casso, M. C. Hartman and H. D. Livingston (1990). [Determination of fission-products and actinides in the Black Sea following the Chernobyl accident](#). *Journal of Radioanalytical and Nuclear Chemistry, Articles*, 138(1), 33–47.
14. Buesseler, K. O., H. D. Livingston, S. Honjo, B. J. Hay, T. Konuk and S. Kempe (1990). Scavenging and particle deposition in the southwestern Black Sea--evidence from Chernobyl radiotracers. *Deep-Sea Research*, 37(3), 413–430.
15. Cochran, J. K., T. McKibbin-Vaughan, M. M. Dornblaser, D. Hirschberg, H. D. Livingston and K. O. Buesseler (1990).  [\$^{210}\text{Pb}\$  scavenging in the open ocean](#). *Earth and Planetary Science Letters*, 97, 332–352.
16. Druffel, E. R. M., L. L. King, R. A. Belastock and K. O. Buesseler (1990). Growth rate of a deep-sea coral using  $^{210}\text{Pb}$  and other isotopes. *Geochimica et Cosmochimica Acta*, 54(5), 1493–1500.
17. Buesseler, K. O. (1991). [Do upper-ocean sediment traps provide an accurate record of particle flux? \(PDF\)](#) *Nature*, 353, 420–423.
18. Buesseler, K. O., H. D. Livingston and S. A. Casso (1991). [Mixing between oxic and anoxic waters of the Black Sea as traced by Chernobyl cesium isotopes](#). *Deep-Sea Research*, 38(Suppl. 2), S725–S745.

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20. Buesseler, K. O., H. D. Livingston and S. A. Casso (1991). Ruthenium-106 in the Black Sea. In: *Black Sea Oceanography* (E. Izdar and J.W. Murray, eds.), Kluwer Academic Publishers, Netherlands, pp. 229–243.
21. Polikarpov, G. G., H. D. Livingston, L. G. Kulebakina, K. O. Buesseler, N. A. Stokozov and S. A. Casso (1992). Inflow of Chernobyl 90Sr to the Black Sea from the Dnepr River. *Estuarine, Coastal and Shelf Science*, 34, 315–320.
22. Buesseler, K.O., J.K. Cochran, M.P. Bacon, H.D. Livingston, S.A. Casso, D. Hirschberg, M.C. Hartman and A.P. Fleer (1992). Determination of thorium isotopes in seawater by non-destructive and radiochemical procedures. *Deep-Sea Research*, 39(7/8), 1103–1114.
23. Buesseler, K. O., M. P. Bacon, J. K. Cochran and H. D. Livingston (1992). [Carbon and nitrogen export during the JGOFS North Atlantic bloom experiment estimated from  \$^{234}\text{Th}\$ : \$^{238}\text{U}\$  disequilibria](#). *Deep-Sea Research*, 39(7/8), 1115–1137.
24. Moran, S. B. and K. O. Buesseler (1992). Short residence time of colloids in the upper ocean off Bermuda. *Nature*, 359, 221–223.
25. Keafer, B. A., K. O. Buesseler and D. M. Anderson (1992). Burial of living dinoflagellate cysts in estuarine and nearshore sediments. *Marine Micropaleontology*, 20, 147–161.
26. Buesseler, K. O. (1993). Thermal ionization mass spectrometry. In: Development and evaluation of alternative radioanalytical methods, including mass spectrometry for marine materials, Proceedings of an Advisory Group Meeting, Monaco, 6-9 June 1989, *International Atomic Energy Agency*, IAEA-TECDOC-683, pg. 45-52.
27. Cochran, J. K., K. O. Buesseler, M. P. Bacon and H. D. Livingston (1993). Thorium isotopes as indicators of particle dynamics in the upper watercolumn: Results from the JGOFS North Atlantic Bloom Experiment. *Deep-Sea Research*, 40(8), 1569-1595.
28. Moran, S. B., and K. O. Buesseler (1993). Size-fractionated  $^{234}\text{Th}$  in continental shelf waters off New England: implications for the role of colloids in oceanic trace metal scavenging. *Journal of Marine Research*, 51, 893-922.
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35. Waser, N. A., A. P. Fleer, T. R. Hammar, K. O. Buesseler and M. P. Bacon (1994). Determination of Natural <sup>32</sup>P and <sup>33</sup>P in Rainwater, Marine Particles and Plankton by Low-Level Beta Counting. *Nuclear Instruments and Methods in Physics Research*, A, 338, 560-567.
36. Buesseler, K. O., J. A. Andrews, M. C. Hartman, R. Belastock, and F. Chai (1995). [Regional Estimates of the Export Flux of Particulate Organic Carbon Derived from Thorium-234 During the JGOFS EQPAC Program](#). *Deep-Sea Research Part II*, 42(2-3), 777-804.
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48. Benitez-Nelson, C. and K. O. Buesseler (1998). New techniques for the measurement of  $^{32}\text{P}$  and  $^{33}\text{P}$  activities in rain and seawater. *Analytical Chemistry*, 70 (1), 64-72.
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