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EDUCATION

BS 1983, University of Connecticut: Biological Sciences - Chemistry minor
MA 1991, College of William and Mary, School of Marine Science, Virginia Institute of Marine Science:
Marine Science – Biological/Chemical Oceanography
Course work and research in Oceanography 1994-1996, University of Connecticut, Department of
Marine Sciences

DETAILED EXPERIENCE

September 2014 – present **Harvard University, John A. Paulson School of Engineering and Applied Sciences (SEAS), Cambridge, MA**

Fellow in Environmental Science & Engineering: Laboratory manager for the Biogeochemistry of Global Contaminants Laboratory. Duties include collection of environmental samples in the field, mercury speciation and trace metal analyses (CVAFS & ICPMS), mercury stable isotope analysis using multicollector (MC) ICPMS, presenting research results at scientific meetings, writing reports for grant funded research, and contributing to or writing manuscripts for publication,

- Set up mercury and trace metal analytical chemistry lab including instrument purchases and start-up
- Organized and conducted field and laboratory work at a hydroelectric power reservoir in Labrador (Canada), near coal-fired power plants in Chennai (India), and on-board ship in the mid-Atlantic (NC-FL) and the Gulf of Maine.
- Class and invited presentations on trace metal sampling and handling techniques and mercury cycling (details below)
- Train and supervise post-doctoral fellows, graduate students, and undergraduate students in the laboratory (details below); responsible for laboratory maintenance, purchasing, and safety
- Laboratory assistant for undergraduate environmental sciences course (ES6) – spring 2018 semester

October 1997 – June 2016 **University of Connecticut, Department of Marine Sciences, Groton, CT**

Research Assistant in chemical oceanography section, mercury biogeochemistry group: Duties included collection of environmental samples in the field, mercury speciation analyses (CVAFS & ICPMS), contributing to grant proposals, presenting research results at scientific meetings, and writing scientific papers and reports for grant funded research.

- Organized and conducted field and laboratory work in the Arctic (Alaska), the DE River estuary, multiple estuarine sites in the Northeast US, and Labrador (Canada). Sampling and analytical work on-board ship on Long Island Sound, NY/NJ Harbor, NW Atlantic shelf/slope, mid-Atlantic (Bermuda), and the Pacific (Hawaii-Samoa)
- Leading role in the design and construction of an automated *in situ* elemental Hg analyzer
- Experienced with lead-210 dating techniques for sediment and rain water using alpha counting
- Lectured on mercury cycling in MARN 282/382 *Coastal Pollution and Bioremediation* and MARN 280 *Marine Biogeochemistry*

- Supervise undergraduate students, graduate students and lab technicians; responsible for laboratory maintenance, purchasing, and safety; certified science diver

October 1996 - September 1997

University of Connecticut, Environmental Research Institute, Storrs, CT

Technical Assistant in Nutrients Laboratory: Conducted analyses of environmental samples

- Instruments routinely used included Automated Ion Analyzer (nutrients), CHN Elemental Analyzer, and Total Organic Carbon Analyzer
- Developed laboratory sample preparation and nutrient analysis procedures
- Conducted air and rain water field sampling for mercury and nitrogen

September 1994 - August 1996

University of Connecticut, Marine Sciences and Technology Center, Groton, CT

Graduate Research Assistant in Department of Marine Sciences and Coastal Environmental Laboratory: Provided analytical support for research projects and gained extensive experience with Automated Ion Analyzer (flow injection analysis).

- Analyzed environmental samples for nutrients with emphasis on nitrogen speciation
- Developed flow injection analysis procedures to meet research needs
- Conducted field sampling in Long Island Sound; assisted on field project involving air sampling for mercury
- Assisted with data interpretation and presentation of results

June 1994 - December 1994

New England Bioassay, Inc., Manchester, CT

Consulted on aquatic toxicology projects.

- Designed and conducted macrophyte (*Ulva* sp.) nutrient uptake study in the laboratory, and coordinated work with analytical laboratory (ERI – UCONN)
- Experimentally evaluated culture, holding, and testing techniques for an invertebrate test organism (*Mysidopsis bahia*)
- Established test procedures for an algae species (*Selenastrum* sp.) following EPA guidelines

June 1990 - October 1993

Malcolm Pirnie, Inc., Environmental Laboratory, Tarrytown, NY

Project Environmental Scientist/Aquatic Toxicologist: Conducted toxicity tests in compliance with EPA Good Laboratory Practices (GLP), supervised laboratory personnel, and coordinated operations.

- Assisted with toxicity assessments and treatability studies in conjunction with environmental engineers; coordinated laboratory toxicology projects with engineering site crews and in-house analytical laboratory
- Conducted toxicity tests with effluents and environmental samples under NPDES and SPDES guidelines, and Study Director on toxicity tests which satisfied EPA testing requirements under TSCA and FIFRA guidelines
- Prepared project reports that included data interpretation, testing protocols, and literature evaluations
- Duties included culture and holding of invertebrates, algae, and fish used for testing

January 1986 - June 1990

**College of William and Mary, Virginia Institute of Marine
Science, Gloucester Point, VA**

Graduate Research Assistant in Division of Chemistry and Toxicology: Obtained extensive experience in the design and conduct of aquatic toxicology tests.

- Conducted research and wrote thesis: “Effect of Temperature and Tributyltin (TBT) Concentration on *Mysidopsis bahia*”
- Prepared samples and conducted GC analysis of several environmental contaminants
- Skilled in the construction and troubleshooting of flow-through toxicity test systems, and assisted with set-up of an aquatic toxicology testing and organism holding facility

August 1983 - February 1985

**University of Connecticut, Marine Sciences Institute,
Groton, CT**

Laboratory Technician: Conducted analyses and coordinated laboratory procedures.

- Prepared environmental samples and conducted GC analyses to determine PCB concentrations
- Prepared seawater samples and conducted organic carbon analyses
- Maintained instrumentation and assisted with collection of field samples

PROFESSIONAL ACTIVITIES

Manuscript reviews 2006-present: *Journal of Oceanography*, *Marine Pollution Bulletin*, *Geochimica et Cosmochimica Acta*, *Marine Chemistry*, *Science of the Total Environment* (2), *Applied Geochemistry*, *Journal of Paleolimnology*, *Int. J. Environ. Res. Public Health*, *J. of Ecohydraulics*, *Chemosphere*, *Estuarine, Coastal and Shelf Science*, *Plos One* (2); Proceedings of the American Academy of Underwater Sciences (AAUS).

Proposal review for the Connecticut Institute of Water Resources, UCONN, 2007.

PUBLICATIONS

Balcom PH, Yao L, Pickard H, Calder RSD, Schartup AT, Kirk J, Bell T, Sunderland EM (authors tentative). Elevated methylmercury levels in a new hydroelectric reservoir and downstream estuarine fjord. *In prep.*

Wang T, Du B, Forbrich I, Zhou J, Polen J, Sunderland EM, Balcom PH, Chen C, Obrist D (2024). Above- and Belowground Plant Mercury Dynamics in a Salt Marsh Estuary in Massachusetts, USA. *Biogeosciences*, *DIO: 10.5194/bg-21-1461-2024*

Golden CD, Ayroles J, Eurich JG, Gephart JA, Seto KL, Sharp MK, Balcom P, Barravecchia HM, Bell KK, Gorospe KD, Kim J, Koh WH, Zamborain-Mason JD, McCauley D, Murdoch H, Nair N, Neeti K, Passarelli S, Specht A, Sunderland E, Tekaieti A, Tekiau A, Tekoaua R, Timeon E. (2022). Study Protocol: Interactive dynamics between coral reef fisheries and the nutrition transition in Kiribati. *Front. Public Health*, *DOI: 10.3389/fpubh.2022.890381*

- Bhatia M, Specht A, Ramya V, Suleiman D, Konda M, Balcom P, Sunderland E, Qureshi A (2021). Portable XRF as a rapid determination tool to detect ppm levels of Ni, Zn, As, Se and Pb in human nails: a South India case study. *Environ. Sci. & Technol.*, DOI:10.1021/acs.est.1c00937
- Alcala-Orozco M, Balcom PH, Sunderland EM, Olivero-Verbel J, Caballero-Gallardo K (2021). Essential and toxic elements in sardines and tuna on the Colombian market. *Food Additives and Contaminants – Part B*, DOI: 10.1080/19393210.2021.1926547
- Enrico M, Balcom PH, Johnston D, Foriel J, Sunderland EM (2021). Simultaneous combustion preparation for mercury isotope analysis detection of total mercury and using a direct mercury analyzer. *Analytica Chimica Acta*, DOI: 10.1016/j.aca.2021.338327
- Buckman KL, Mason RP, Seelen E, Taylor VF, Balcom PH, Chipman J, Chen CY (2021). Patterns in forage fish mercury concentrations across Northeast US estuaries. *Environ. Res.*, DOI: 10.1016/j.envres.2020.110629
- Seelen EA, Chen CY, Balcom PH, Buckman KL, Taylor VF, Mason RP (2021). Historic contamination alters mercury sources and cycling in temperate estuaries relative to uncontaminated sites. *Water Research*, DOI: 10.1016/j.watres.2020.116684
- Li M., Juang CA, Ewald JD, Yin R, Mikkelsen B, Krabbenhoft DP, Balcom PH, Dassuncao C, Sunderland EM (2020) Selenium and stable mercury isotopic analysis provide new insights into mercury toxicokinetics in pilot whales. *Sci. Tot. Environ.*, DOI: 10.1016/j.scitotenv.2019.136325
- Buckman KL, Seelen EA, Mason RP, Balcom PH, Taylor VF, Ward E, Chen CY (2019). Sediment organic carbon and temperature effects on methylmercury concentration: a mesocosm experiment. *Sci. Tot. Environ.* DOI: 10.1016/j.scitotenv.2019.02.302
- Taylor VF, Buckman KL, Seelen, E, Mazruit, N, Balcom, P, Mason RP, Chen CY (2019). Organic carbon content drives methylmercury levels in the water column and in estuarine food webs across latitude in the Northeast United States. *Environ. Poll.* DOI: 10.1016/j.envpol.2018.12.064
- Mason RP, Soerensen A, DiMento B, Balcom PH (2018). The global marine selenium cycle: insights from measurements and modeling. *Global Biogeochem. Cycles* DOI: 10.1029/2018GB006029
- Specht A, Kponee K, Nkpaa K, Balcom P, Weuve J, Nie L, Weisskopf M (2018). Validation of x-ray fluorescence measurements of metals in toenail clippings against inductively coupled plasma mass spectrometry in a Nigerian population. *Physiological Measurement* DOI: 10.1088/1361-6579/aad947
- Fitzgerald WF, Engstrom DR, Hammerschmidt CR, Lamborg CH, Balcom PH, Lima-Braun AL, Bothner MH, Reddy CM (2018). Global and local sources of mercury deposition in coastal New England reconstructed from a multi-proxy, high-resolution, estuarine sediment record. *Environ. Sci. Technol.* DOI: 10.1021/acs.est.7b06122
- Madigan DJ, Li M, Runsheng Y, Baumann H, Snodgrass OE, Dewar H, Krabbenhoft DP, Baumann Z, Fisher NS, Balcom PH, Sunderland EM (2018). Mercury stable isotopes reveal influence of foraging depth on mercury concentrations and growth in Pacific bluefin tuna. *Environ. Sci. Technol.*, DOI: 10.1021/acs.est.7b06429
- Buckman K, Taylor V, Broadley H, Hocking D, Balcom P, Mason R, Nislow K, Chen C (2017). Landscape influences on MeHg bioaccumulation in an urban estuary: Delaware River USA, *Estuaries and Coasts*, DOI: 10.1007/s12237-017-0232-3

- Gosnell KJ, Balcom PH, Tobias CR, Gilhooly WP III, Mason RP (2017). Spatial and temporal trophic transfer dynamics of mercury and methylmercury into zooplankton and phytoplankton of Long Island Sound. *Limnology and Oceanography*, DOI: 10.1002/Ino.10490
- Baumann Z, Baumann H, Balcom PH, Buckman KL, Chen CY, Fisher NS, Mason RP (2016). Mercury bioaccumulation increases with latitude in a coastal marine fish (Atlantic silverside *Menidia menidia*). *Canadian J. Fisheries and Aquatic Sci.*, DOI: 10.1139/cjfas-2016-0396
- Calder RSD, Schartup AT, Li M, Valberg AP, Balcom PH, Sunderland EM (2016). Future Impacts of Hydroelectric Power Expansion on Methylmercury Exposures of Canadian Indigenous Communities. *Environ. Sci. Technol.*, DOI: 10.1021/acs.est.6b04447
- Li M, Schartup AT, Valberg AP, Ewald JD, Krabbenhoft DP, Yin R, Balcom PH, Sunderland EM (2016). Environmental origins of methylmercury accumulated in subarctic estuarine fish indicated by mercury stable isotopes. *Environ. Sci. Technol.*, DOI: 10.1021/acs.est.6b03206
- Gosnell K, Balcom P, Ortiz V, DiMento B, Schartup A, Greene R, Mason R (2015). Seasonal cycling and transport of mercury and methylmercury in the turbidity maximum of the Delaware Estuary. *Aquatic Geochemistry*, DOI 10.1007/s10498-015-9283-x
- Balcom PH, Schartup AT, Mason RP, Chen CY (2015). Sources of methylmercury to the water column across multiple estuaries in the Northeast U.S. *Mar. Chem.*, DOI: 10.1016/j.marchem.2015.10.012
- Schartup AT, Balcom PH, Soerensen AL, Gosnell K, Calder RSD, Mason RP, Sunderland EM (2015). Freshwater discharges drive high levels of methylmercury in Arctic marine biota. *Proc. Natl. Acad. Sci.*, DOI: 10.1073/pnas.1505541112
- Schartup AT, Ndu UC, Balcom PH, Mason RP, Sunderland EM (2015). Contrasting effects of marine and terrestrially derived dissolved organic matter on mercury speciation and bioavailability in seawater. *Environ. Sci. Technol*, DOI: 10.1021/es506274x
- Soerensen AL, Mason RP, Balcom PH, Jacob DJ, Zhang Y, Kuss J, Sunderland EM (2014). Elemental mercury concentrations and fluxes in the tropical atmosphere and ocean. *Environ. Sci. Technol*, DOI: 10.1021/es503109p
- Fitzgerald WF, Hammerschmidt CR, Engstrom DR, Balcom PH, Lamborg CH, Tseng C-M (2014). Mercury in the Alaskan Arctic. In: Hobbie JE and Kling GW (Eds.), *Alaska's Changing Arctic: Ecological Consequences for Tundra, Streams, and Lakes*. Oxford University Press, NY.
- Engstrom DR, Fitzgerald WF, Cooke CA, Lamborg CH, Drevnick PE, Swain EB, Balogh SJ, Balcom PH (2014). Atmospheric Hg emissions from preindustrial gold and silver extraction in the Americas: a reevaluation from lake-sediment archives. *Environ. Sci. Technol*, DOI: 10.1021/es405558e
- Chen CY, Borsuk ME, Bugge DM, Hollweg T, Balcom PH, Ward DM, Williams J, Mason RP (2014). Benthic and pelagic pathways of methylmercury bioaccumulation in estuarine food webs. *PLoS ONE*, 9(2): e89305. DOI:10.1371/journal.pone.0089305
- Schartup AT, Balcom PH, Mason RP (2014). Sediment-porewater partitioning, total sulfur and methylmercury production in estuaries. *Environ. Sci. Technol*, 48, 954-960, DOI: 10.1021/es403030d
- Soerensen AL, Mason RP, Balcom PH, Sunderland EM (2013) Drivers of surface ocean mercury concentrations and air-sea exchange in the West Atlantic Ocean. *Environ. Sci. Technol.*, 47, 7757-7765, DOI: 10.1021/es401354q

- Lamborg CH, Engstrom DR, Fitzgerald WF, Balcom PH (2013). Apportioning global and non-global components of mercury deposition through ²¹⁰Pb indexing. *Sci. Total Environ.*, 448, 132-140, DOI: 10.1016/j.scitotenv.2012.10.065
- Schartup AT, Mason RP, Balcom PH, Hollweg TA, Chen CY (2013). Methylmercury production in estuarine sediments: role of organic matter. *Environ. Sci. Technol.*, 47, 695-700, DOI: 10.1021/es302566w
- Cooke CA, Wolfe AP, Michelutti N, Balcom PH, Briner JP (2012). A Holocene perspective on algal mercury scavenging to sediments of an arctic lake. *Environ. Sci. Technol.*, DOI: 10.1021/es3003124 I
- Cooke CA, Balcom PH, Kerfoot C, Abbott MB, Wolfe AP (2010). Pre-Colombian mercury pollution associated with the smelting of argentiferous ores in the Bolivian Andes. *Ambio*, DOI: 10.1007/s13280-010-0086-4.
- Cooke CA, Balcom PH, Biester H, Wolfe AP (2009). Over three millennia of mercury pollution in the Peruvian Andes. *Proc. Natl. Acad. Sci.*, DOI:10.1073/pnas.0900517106.
- Balcom PH, Hammerschmidt CH, Fitzgerald WF, Lamborg CH, O'Connor JS (2008). Seasonal distributions and cycling of mercury and monomethylmercury in the waters of New York/New Jersey Harbor Estuary. *Mar. Chem.* 109, 1-17.
- Hammerschmidt CR, Fitzgerald WF, Balcom PH, Visscher PT (2008). Organic matter and sulfide inhibit methylmercury production in sediments of New York/New Jersey Harbor. *Mar. Chem.* 109, 165-182.
- Lamborg CH, Yiğiterhan O, Fitzgerald WF, Balcom PH, Hammerschmidt CR, Murray J (2008). Vertical distribution of mercury species at two sites in the Western Black Sea. *Mar. Chem.* 111, 77-89.
- Hammerschmidt CR, Fitzgerald WF, Lamborg CH, Balcom PH, Tseng C-M (2006). Biogeochemical cycling of methylmercury in lakes and tundra watersheds of Arctic Alaska. *Environ. Sci. Technol.* 40(4), 1204-1211.
- Fitzgerald WF, Engstrom DR, Lamborg CH, Tseng C-M, Balcom PH, Hammerschmidt CR (2005). Modern and historic atmospheric mercury fluxes in northern Alaska: Global sources and arctic depletion. *Environ. Sci. & Technol.*, 39(2), 557-568.
- Balcom PH, Fitzgerald WF, Vandal GM, Lamborg CH, Rolfhus KR, Langer CS, Hammerschmidt CH (2004). Mercury sources and cycling in the Connecticut River and Long Island Sound. *Mar. Chem.* 90, 53-74.
- Hammerschmidt CR, Fitzgerald WF, Lamborg CH, Balcom PH, Visscher PT (2004). Biogeochemistry of methylmercury in sediments of Long Island Sound. *Mar. Chem.* 90, 31-52.
- Tseng C-M, Balcom PH, Lamborg CH, Fitzgerald WF (2003). Dissolved elemental mercury investigations in Long Island Sound using on-line Au amalgamation-flow injection analysis. *Environ. Sci. & Technol.* 37, 1183-1188.
- Lamborg CH, Tseng C-M, Fitzgerald WF, Balcom PH, Hammerschmidt CR (2003). Determination of mercury complexation characteristics of dissolved organic matter in natural waters through "reducible Hg" titrations. *Environ. Sci. & Technol.* 37, 3315-3322.

Rolfhus KR, Lamborg CH, Fitzgerald WF, Balcom PH (2003). Evidence for enhanced mercury reactivity in response to estuarine mixing. *J. Geophys. Res.-Oceans*, 108(C11), 3353, DOI:10.1029/2001JC001297.

Lamborg CH, Fitzgerald WF, Damman AWH., Benoit JM, Balcom PH, Engstrom DR (2002). Modern and historic atmospheric mercury fluxes in both hemispheres: Global and regional mercury cycling implications. *Glob. Biogeochem. Cycles* 16, 1104, DOI: 10.1029/2001GB001847.

CLASS AND INVITED PRESENTATIONS (speaker underlined)

Balcom P. “Sample collection and processing procedures for mercury and trace metals.” Presented to students and faculty at the Indian Institute of Technology (IIT), Hyderabad, India, April 2019.

Balcom P. “Human exposure to methylmercury (MeHg) flux from newly flooded river valley soils (Churchill River, Labrador).” Boston Public Health Commission, Youth 2 Health Career program, Chan School of Public Health, Boston, MA, July 2018.

Balcom P., Kirk J. “Update on Churchill River Methylmercury (MeHg) flux experiments.” Independent Expert Advisory Committee (IEAC), Province of Newfoundland and Labrador, Happy Valley-Goose Bay, NL, March 2018.

Balcom P. “Mercury in coastal marine systems and the global atmosphere.” UTEC Peru Summer Program 2017, Universidad De Ingenieria & Tecnologia (Peru), Harvard SEAS, Cambridge, MA, July 2017.

Balcom P. “Mercury and trace element sampling and handling procedures for water and sediment.” 4th UTEC-HSEAS Collaborative Field Program in Perú, Universidad De Ingenieria & Tecnologia (Peru), WebEx presentation, Cambridge, MA, Jan. 2017.

SUPERVISION AND MENTORING

Jan 2021 to 2023, postdoctoral fellow from the Woodwell Climate Research Institute, permafrost soil and river water mercury speciation analyses, soil mercury isotope analyses, and soil CHNS analyses, Harvard faculty mentor: Dr Elsie Sunderland

June to Oct 2022, postdoctoral fellow from the University of California Davis, mercury speciation analyses in bird blood and feathers, lake sediment and water, Harvard faculty mentor: Dr Elsie Sunderland

Oct 2021 to May 2022, Harvard Chan School of Public Health master’s student, sample combustion preparation for mercury isotope analysis using a direct mercury analyzer, Harvard faculty mentors: Dr Chris Golden and Dr Elsie Sunderland

Sept 2019 to May 2020, Harvard Chan School of Public Health master’s student thesis project, Dept. of Environmental Health Sciences, mercury and trace metals lab analyses, Harvard faculty advisor: Dr Chris Golden

Aug 2019 to Jan 2020, PhD student from University of Cartagena (Colombia), Fullbright Fellowship, trace metal and mercury stable isotope analyses, Harvard faculty mentor: Dr Elsie Sunderland

Oct 2018 to Mar 2019, master's student from UZT (Switzerland), Internship, mercury and carbon lab analyses, Harvard faculty advisor: Dr Elsie Sunderland

Nov 2018 to Mar 2019, Harvard Environmental Science and Engineering undergraduate student senior thesis project, atmospheric elemental mercury measurements, faculty advisor: Dr Elsie Sunderland

Oct 2015 to Dec 2016, Harvard Environmental Science and Engineering undergraduate student, laboratory methylmercury sample preparation and analyses, faculty advisor: Dr Elsie Sunderland

REPORTS and PROCEEDINGS

Balcom P, Sunderland E (2017, 2018). Churchill River soil flux core experiments. Final report to the Independent Expert Advisory Committee (IEAC), Happy Valley-Goose Bay, Labrador, Canada.

Schartup A, Calder R, Li M, Balcom P, Valberg A, Ewald J, Sunderland E (2016) Lake Melville: Avativut, Kanuittailinnivut (Our Environment, Our Health) Chapter 6: Methylmercury, Scientific Report, Environment Division, Nunatsiavut Government.

Mason RP, Balcom PH, Gosnell K, Ortiz V, Dimento B, Schartup A (2014). Sources and biogeochemical cycling of methylmercury and mercury in the sub-tidal reaches of the Delaware River Estuary. Final report to Delaware Department of Natural Resources and Environmental Control (DNREC), Division of Water Resources, March 2014.

Balcom PH, Fitzgerald WF, Mason RP (2010). Synthesis and Assessment of Heavy Metal Contamination in the Hudson River and New York/New Jersey Harbor Estuary. Final report to The Hudson River Foundation (grant 003/05A), June, 2010.

Balcom PH, Godfrey JM, Bennett DC, Grenier GA, Cooper CG, Cohen DR, Arbige DA, and Fitzgerald WF (2007). Deploying Benthic Chambers to Measure Sediment Oxygen Demand in Long Island Sound. In: Pollock NW, Godfrey JM, eds., *Diving for Science 2007*. Proceedings of the American Academy of Underwater Sciences 26th Symposium, Dauphin Island, AL, AAUS, 2007.

Fitzgerald WF, Engstrom DR, Lamborg CH, and Balcom PH (2007). The Hg/²¹⁰Pb Hypothesis: Apportioning Regional and Global Components of Current and Historical Hg Deposition. Air Quality VI, International Conference on Mercury, Trace Elements, SO₃, Particulate Matter, and Greenhouse Gases. Arlington, VA, September 24-27, 2007 (proceedings).

Fitzgerald WF, Engstrom DR, Lamborg CH, and Balcom PH (2005). Natural and Anthropogenic Sources of Mercury to the Atmosphere: Global and Regional Contributions. Air Quality V, International Conference on Mercury, Trace Elements, SO₃, and Particulate Matter, Arlington, VA, September 18-21, 2005 (proceedings).

Fitzgerald WF and Balcom PH (2005, 2006, 2007). Innovation and Technical Development – Benthic Chambers: Automated Sampling and Analysis System. Contributions to annual departmental progress reports for the Long Island Sound Integrated Coastal Observing System (LISICOS), National Oceanic and Atmospheric Administration (NOAA).

Fitzgerald WF, Engstrom DR, Lamborg CH, and Balcom PH (2004, 2005, 2006, 2007). Natural and Anthropogenic Sources of Mercury to the Atmosphere: Global and Regional Contributions. Annual

Progress Report to United States Environmental Protection Agency, Office of Research and Development, National Center for Environmental Research, STAR Program, Washington, D.C..

Balcom PH, Fitzgerald WF, Hammerschmidt CR, Lamborg CH, and Graham LJ (2004). Mercury Sources and Speciation in the Waters of New York/New Jersey Harbor Estuary (extended abstract). In: 7th International Conference on Mercury as a Global Pollutant, Part 2 – Biogeochemistry, Ljubljana, Slovenia, June 27-July 2, 2004. *RMZ-Materials and Geoenvironment*, 51, 795-798.

Fitzgerald WF, Visscher PT, Hammerschmidt CR, Balcom PH, Buckley DH, and Baumgartner LK (2003, 2004). Mercury Methylation and Mobilization in the Sediments of New York/New Jersey Harbor Estuary. Annual progress reports to the Hudson River Foundation, New York.

Engstrom DR, Pollman CP, Fitzgerald WF, and Balcom PH (2003). Evaluation of Recent Trends in Atmospheric Mercury Deposition in South Florida from Lake-Sediment records. Final report to the Florida Department of Environmental Protection.

Balcom PH, Lamborg CH, Tseng C-M, Fitzgerald WF, Hammerschmidt CR, and Visscher PT (2002). Elemental and Labile Mercury Cycling in Long Island Sound and its River-Seawater Mixing Zones. In: *Mercury in the Environment: Assessing and managing the multimedia risks*. American Chemical Society, Division of Environmental Chemistry, 223rd National Meeting, Orlando, FL (extended abstract).

Vandal GM, Fitzgerald WF, Rolffhus KR, Lamborg CH, Langer CS, and Balcom PH (2002). Sources and Cycling of Mercury and Methylmercury in Long Island Sound. Final report to the Connecticut Department of Environmental Protection, Long Island Sound Program, Hartford, CT.

Fitzgerald WF, Visscher PT, Balcom PH, Lamborg CH, Hammerschmidt CR, and Tseng C-M (2000, 2001, 2002, 2003). Microbiological and Physicochemical Aspects of Mercury Cycling in the Coastal/Estuarine Waters of Long Island Sound and Its River-Seawater Mixing Zones. Annual Progress Reports to United States Environmental Protection Agency, Office of Research and Development, National Center for Environmental Research, STAR Program, Washington, D.C..

Balcom PH, Lamborg CH, Fitzgerald WF, Vandal GM, Rolffhus KR, Langer CS, and Tseng C-M (2000). Mercury Cycling in and Emissions from Long Island Sound. In: 11th Annual International Conference on Heavy Metals in the Environment (J. Nriagu, Editor), Contribution #1045. University of Michigan, School of Public Health, Ann Arbor, MI (proceedings).

Fitzgerald WF, Balcom PH, Lamborg CH, and Rolffhus KR (1999). Mercury Cycling in a Coastal/Estuarine Zone: A Multimedia Approach for Long Island Sound. Final Report to United States Environmental Protection Agency, QAOPS, Research Triangle Park, NC.

PRESENTATIONS (speaker/presenter underlined)

Zolkos S, Balcom P, Moubarak M, Geyman BM, McElvein A, Dey S, Cunningham A, Rogers BM, Natali S, Sunderland EM. Characterizing Mercury Release and Potential for Ecosystem Uptake in Permafrost Thaw- and Wildfire-Susceptible Alaskan Ecosystems. AGU Fall Meeting, San Francisco, CA, Dec 2023.

Routhier E., Golden C., Balcom P., Sunderland E. Dietary and gut microbiome effects on MeHg uptake and elimination rates: a case study of two Magalasy populations. Goldschmidt Conference, Lyon, France, 9-14 July, 2023.

Schaider L., Hernandez A, Cardona B, McCann A, Becanova J, Garrow T, Lohmann R, Pickard H, Balcom P, Sunderland E. Legacy and alternative PFAS in private wells on Cape Cod, Massachusetts, USA. Northeast Conference, The Science of PFAS: Public Health & the Environment, Marlborough, MA, 5-6 Apr, 2022.

Zolkos S., Natali SM, Balcom PH, Rogers BM, Ludwig SM, Minions C, Kholodov AL, Spawn-Lee SA, Baillargeon N, MacArthur-Thompson R, Bröder LM, Sunderland EM. Permafrost mercury sources and implications for methylation among Alaskan ecoregions, AGU Fall Meeting, New Orleans, LA, 13-17 Dec 2021.

Specht A., Weisskopf MG, Balcom P, Qureshi A, Sunderland E. Cumulative Lead Exposure Resulting from Coal Power Plants in India. 33rd Annual Conference of the International Society for Environmental Epidemiology, NY, NY 23-26 Aug 2021.

Seelen E., Chen C, Buckman K, Taylor V, Balcom P, Mason R. Ecosystem controls on the incidence of methylmercury in temperate estuarine water columns. 14th International Conference on Mercury as a Global Pollutant (ICMGP), Krakow, Poland, 8-13 Sept 2019.

Buckman KL., Mason RP, Seelen E, Taylor VF, Balcom P, Chen CY. Meta-analysis of methylmercury in forage fish across NE USA estuaries. 14th International Conference on Mercury as a Global Pollutant (ICMGP), Krakow, Poland, 8-13 Sept 2019.

Enrico M., Yao L, Bao R, Yin R, Balcom P, Sunderland E. Hg accumulation and Hg stable isotope signatures in deep sea sediments from the South China Sea. 14th International Conference on Mercury as a Global Pollutant (ICMGP), Krakow, Poland, 8-13 Sept 2019.

Seelen EA, Taylor VF, Buckman KL, Balcom PH, Chen CY, Mason RP. What controls water column methylmercury concentrations in estuarine ecosystems? Insights from measurements and modeling. International Estuarine Biogeochemistry Symposium, Vigo (Spain), 4-5th June 2019

Calder R., Schartup A, Li M, Valberg A, Balcom P, Bromage S, Sunderland E. “Forecasting human health impacts of reservoir creation and food consumption advisories: An integrated model to guide hydroelectric development.” ASLO 2018 Summer Meeting, Victoria, British Columbia, Canada, 10-15 June 2018.

Seelen E., Taylor V, Buckman K, Balcom P, Mazrui N, DiMento B, Curtis A, Chen C, Mason R. “A multi-estuary approach to understanding sediments as a source of methylmercury to the pelagic ecosystem.” ASLO 2018 Summer Meeting, Victoria, British Columbia, Canada, 10-15 June 2018.

Lefkowitz J., Varekamp J, Balcom P. “The twin crater lakes of Newberry Volcano, or: Two lakes, two poisons.” 13th International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI, 16-21 July, 2017.

Buckman K., Seelen E, Balcom P, Curtis A, Jonsson S, Mazrui N, DiMento B, Gosnell K, Mason R, Chen C. “Influences on methylmercury fate in Northeastern USA estuaries: Insights from field sampling across a range of environmental conditions.” 13th International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI, 16-21 July, 2017.

Fitzgerald W, Hammerschmidt C, Engstrom D, Lamborg C, Balcom P, Reddy C. “High-resolution chronology of mercury and its association with polycyclic aromatic hydrocarbons and lead in a varved estuarine sediment core.” 13th International Conference on Mercury as a Global Pollutant (ICMGP), Providence, RI, 16-21 July, 2017.

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