ELSIE M. SUNDERLAND

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ACADEMIC APPOINTMENTS & PROFESSIONAL EXPERIENCE

Harvard University, Cambridge MA, USA

2022-present Fred Kavli Professor of Environmental Chemistry and Professor of Earth and Planetary Sciences

2018-present Professor of Environmental Science and Engineering,
Department of Environmental Health, Harvard T.H. Chan School of Public Health (HSPH)

2021-2022 Professor of Earth and Planetary Sciences, Harvard Faculty of Arts and Sciences

2018-2022 Gordon McKay Professor of Environmental Chemistry,
Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS)

2018-2021 Faculty Affiliate, Department of Earth and Planetary Sciences, Harvard University

2015-2018 Thomas D. Cabot Associate Professor of Environmental Science and Engineering, SEAS

2014-2018 Associate Professor of Environmental Science and Engineering,
Department of Environmental Health, HSPH

2014-2015 Associate Professor of Environmental Science and Engineering, SEAS

2010-2014 Mark and Catherine Winkler Assistant Professor of Aquatic Science, HSPH

2008-2010 Research Associate, SEAS & Harvard Center for Risk Analysis, HSPH

U.S. Environmental Protection Agency, Washington DC, USA

2004-2008 Worked in the Office of Science Policy; Office of the Science Advisor; National Center for Environmental Research; National Center for Environmental Economics; National Exposure Research Laboratory. *Positions and responsibilities included*:

- Led cross-Agency workgroup drafting guidance on the development, evaluation and application of environmental models used to inform regulatory decisions.
- Developed policy recommendations for nearshore water quality in the Great Lakes as the representative for the International Air Quality Planning Board (IAQAB) of the International Joint Commission (IJC).
- Developed federal regulations for atmospheric emissions of hazardous air pollutants from coal-fired utilities.

Lunenburg Municipal Government, Nova Scotia, Canada

1994-1995 Assisted in the development of the first fully integrated four waste stream management system in North America (large-scale recycling and composting).

EDUCATION

1997 B.Sc., Environmental Science, McGill University, Canada

2003 Ph.D., Environmental Toxicology, Simon Fraser University, Canada

2003-2004 Postdoctoral Fellow, Office of Science Policy, US Environmental Protection Agency

PERSONAL

Citizenship: dual, Canada and United States.

ACADEMIC & PROFESSIONAL HONORS

2024	*ES&T* Excellence in Review Award
2019-2023	Web of Science Highly Cited Researcher
2017	Harvard Star Family Award for Promising Scientific Research
2013	Excellence in Reviewing Award from journal *Biogeochemistry*
2012	Smith Family Foundation Award for Excellence in Biomedical Research
2010	U.S. EPA Level II Scientific & Technological Achievement (STAA) Award
2010	Outstanding Reviewer citation by Editorial Board of *Estuaries and Coasts*
2008	U.S. EPA Level I (highest level) Scientific & Technological Achievement (STAA) Award
2005	U.S. EPA National Honor Award, Gold Medal for Exceptional Service
2003	Dean's Convocation Medal (best graduate thesis), Simon Fraser University
2002	Society of Environmental Toxicology & Chemistry best student paper presentation
1998-2002	Natural Sciences and Engineering Research Council of Canada Graduate Fellowships
1993	Greville Smith Scholarship (top-entrance scholarship), McGill University
1993	Canada Scholarship, Industry and Technology Canada

PROFESSIONAL & UNIVERSITY SERVICE

Editorial/Review

2024-	Editor in Chief, *Environmental Science: Processes and Impacts*
2018-	Editorial Advisory Board, *Environmental Science & Technology*
2021-2024	Editorial Advisory Board, *ACS Environmental Au*
2017-2023	Editorial Advisory Board, *Environmental Science: Processes and Impacts*
2022-2023	Guest Editor, Special Issue: Per- and polyfluoroalkyl substances, *Current Opinion in Green and Sustainable Chemistry* (with Ralf Ebinghaus and Lutz Ahrens)
2021-2022	Guest Editor, Special Issue: Biogeochemistry of Trace Elements, *Environmental Science: Process & Impacts* (with Lenny Winkel, ETH)
2018-2022	Editorial Board Member, *International Journal of Environmental Research and Public Health (IJERPH)*
2021	Guest Editor, *Environmental Science: Processes and Impacts* on Biogeochemistry of Trace Elements
2020	Guest Editor, *iScience* on PFAS contamination and remediation
2018	Guest Editor, *ACS Earth and Space Science*, 2018, Special Issue on Global Mercury Cycling
2022	Panel Reviewer, U.S. National Science Foundation
2012-2019	U.S. National Science Foundation (peer-reviewer)
2009-2016	Canadian Northern Contaminants Program (panel reviewer)
2013, 2016	U.S. National Science Foundation (panel reviewer)
2014	Netherlands Organization for Scientific Research (peer-reviewer)
2014	Gulf of Mexico Research Initiative (panel reviewer)
2013	Reviewer, Penobscot Bay scientific panel report on impacts of a chlor-alkali plant on estuarine water quality and mercury bioaccumulation.
2012	Guest Editor, *Environmental Research*, Volume 119, Pages 1-142 (November 2012): Mercury in Marine Ecosystems: Sources to Seafood Consumers

2012	Natural Sciences and Engineering Research Council of Canada (NSERC)
2012	Canadian Assessment of Mercury in the Marine Environment, Environment Canada
2010, 2015	Swiss National Science Foundation (peer-reviewer)
2011	Nunatsiavut Government, Expert review of potential impacts of hydroelectric power development on the Lower Churchill River in Labrador, Canada on methylmercury dynamics and risks to Inuit health.
2011	Panelist for blueprint review of research and monitoring priorities for the Northern Contaminants Program, Indian and Northern Affairs Canada.
2010	Arctic Monitoring and Assessment Report, Arctic Monitoring and Assessment Program
2009	New Hampshire Sea Grant, Virginia Sea Grant (peer-reviewer)
2009	UNEP Mercury Fate and Transport Partnership Assessment Report
2008	Minnesota Sea Grant (peer-reviewer)
2007	Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Grants Program (peer-reviewer)

International

2024	Co-Leader of Radcliffe Seminar: *Untangling the Environmental and Human Health Costs of the Amazon Gold Rush*
2022-2025	Advisory Board, Back to Blue Initiative on Ocean Pollution, Economist Impact Group and Nippon Foundation
2020-2021	Theme co-chair, GeoHealth, Goldschmidt 2021, virtual meeting, 4-9 July, 2021.
2019	Scientific Observer/Expert for the *ad hoc* committee on Effectiveness Evaluation for the Minamata Convention on Mercury, UNEP.
2018-2019	Planning Committee and Exposure Workgroup Co-Chair, SETAC Special Topic Meeting on PFAS Risk Assessment, Durham, NC, August 12-15, 2019.
2017-2019	Scientific Steering Committee, 14th International Conference on Mercury as a Global Pollutant, Krakow, Poland, 2019.
2017-2018	Contributor, 2018 UNEP Global Mercury Assessment (atmospheric and biotic workgroups).
2015-2017	Scientific Steering Committee, 13th International Conference on Mercury as a Global Pollutant, Providence, RI, 2017.
2015-2016	International Planning Committee, 18th International Conference on Heavy Metals in the Environment, Ghent, Belgium, 12-14 September 2016.
2013-2015	GEOS-Chem Model International Steering Committee (Co-chair: Hg & POPs working group).
2014-2015	Environmental Geochemistry theme co-convener for Goldschmidt 2015, Prague, CZ.
2013-2015	Scientific Steering Committee, 12th International Conference on Mercury as a Global Pollutant, Jeju, Korea, June 14-19, 2015.
2013-2014	International Planning Committee (IPC), 17th International Conference on Heavy Metals in the Environment, Guiyang, China, September 22-26, 2014.
2011-2013	Planning Team, UNECE/LRTAP Hemispheric Transport of Air Pollutants (HTAP), Impacts on Health and Ecosystems
2011-2013	Scientific Steering Committee, 11th International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, 28 July – 2 August 2013
2009-2012	Steering Committee, Consortium on Mercury in the Marine Environment (C-MERC)
2011-2012	International Planning Committee, 16th International Conference on Heavy Metals in the Environment, Rome, Italy, 22-27 September 2012

2006-2011 Conference Co-Host and Technical Co-Chair for the 10th International Conference on Mercury as a Global Pollutant, Halifax, Nova Scotia, 24-29 July 2011

2009-2010 Chapter Lead Author for Task Force on Hemispheric Transport of Air Pollution 2010 Assessment Report

2008-2010 International Joint Commission Fish Consumption Priority Workgroup

2004-2006 Regional Planning Committee for the 8th International Conference on Mercury as a Global Pollutant, Madison, Wisconsin, 6-11 August 2006

2007-2008 Invited Panelist for International Joint Commission Nearshore Priority Expert Consultations

National

2025- Health Effects Advisory Committee, Massachusetts Department of Environmental Protection.

2022-23 Steering Committee, National Forum on Contaminants in Fish organized by the US Environmental Protection Agency.

2020-2022 Expert advisor for U.S. State Department and US EPA delegation for the Minamata Convention.

2021 Expert consultant for the Fond du Lac Tribe, MN on environmental pollution issues August 2021.

2020 U.S. National Academies planning committee and session chair for Federal Government Human Health PFAS Research Workshop, October 26-27, 2020.

2019 U.S. National Academies of Science, Engineering and Medicine: Workshop Planning Committee on Perfluoroalkyl and Polyfluoroalkyl Substances in the Environment - A Systems Approach to Exploring Exposure and Identifying Opportunities for Leadership, September 26-27, 2019.

2009-2019 Science Council, Biodiversity Research Institute, Gorham, ME

2008-2009 Steering Committee: Mercury Science and Policy Conference for the Northeast and Great Lakes Region, Chicago, Illinois, 2009

2007-2008 Organizing Committee for the 6th National Water Quality Monitoring Conference, Atlantic City, New Jersey, May 18-22, 2008

2006-2007 Co-organizer of the Lake Ontario Contaminants Modeling and Monitoring Meeting, Grand Island, NY. March 27-28, 2007

2005-2006 Co-organizer of the International Joint Commission Collaborative Meeting on Mercury Modeling in Freshwater Environments, Niagara Falls, NY, 19-20 January 2006

2003-2008 Nation-wide modeling seminar series coordinator for U.S. EPA's Regional Offices

2007-2008 Great Lakes Observing System Modeling Subsystem Team Member

2003-2008 Co-organizer of Northwest Water Quality Modelers

2006-2008 U.S. EPA Region 1 Regional Science Council

2006-2008 Workgroup on U.S. EPA Guidance Document for Calculating National Bioaccumulation Factors

2006-2008 Workgroup on U.S. EPA Methylmercury Fish Tissue Residue Implementation Guidance

2003-2008 Lead Author and workgroup coordinator for U.S. EPA Guidance on Regulatory Environmental Modeling

2005 U.S. EPA Reconsideration of the Clean Air Mercury Rule Workgroup and Author

2004-2005 U.S. EPA Clean Air Mercury Rule Regulatory Impact Assessment Workgroup and Author

2003-2004 U.S. EPA Office of Water Mercury in Marine Life Workgroup

University Service: Harvard

2025 Fall Faculty Advisory Council,

2016- Board of Tutors, Harvard Concentration in Environmental Science and Public Policy

2019- Harvard University Presidential Committee on Sustainability

2024-	Climate & Energy Academic Programs Planning Committee, Harvard School of Engineering and Applied Sciences
2024-25	Harvard University, Committee on Appointments and Promotions (CAP)
2024-25	Earth and Planetary Sciences Graduate Studies Committee (GSC)
Fall 2024	Director of Undergraduate Studies, Environmental Science & Engineering
2024; 2025	Aramont Fund Review Committee, Vice-Provost for Research Office
2023-2025	FAS grievance committee
2024	SEAS working group on Climate/Sustainability/Energy, Chair
2024	SEAS Professional Programs Working Group
2023-24	SEAS Graduate Admissions Committee, Area Chair
2022	Harvard Committee on Climate Education
2021-22	Harvard Provost's Academic Leadership Forum
2020-22	Director of Undergraduate Studies, Environmental Science and Engineering, SEAS
2020-22	Undergraduate Engineering Committee, SEAS
2019-22	Harvard Standing Committee on Oceanography
2019-22	Honors Committee, Environmental Science and Public Policy Board of Tutors
2018-22	Harvard Standing Committee on Women
2019-22	Harvard Faculty Council, Division Representative for Natural and Applied Sciences
2020-22	Mentoring Committee, Department of Earth and Planetary Sciences
2020-21	Review Committee, Harvard Hoopes Prize for Natural Sciences Undergraduate Research
2020-21	Harvard Faculty of Arts and Sciences financial study working group
2017-20	Director of Graduate Studies, Environmental Science and Engineering, SEAS
2019-20	Docket Committee, Harvard Faculty of Arts and Sciences
2018	Harvard Campus Sustainability Innovation Fund (CSIF) Review Committee
2017-18	Harvard University child-care vendor selection committee
2017-18	Harvard Food Sustainability Standards Committee
2016-18	Harvard Alumni Association Speakers Bureau
2016-17	Harvard University Climate Change Task Force
2016-17	Harvard Office of Sustainability Healthy Buildings Initiative
2016-18	Harvard Alumni Association Speakers Bureau
2016-17	Mentor, Harvard Graduate Student Women in Science and Engineering (HGWISE)
2016-18	Board of Freshman Advisors
2016-17	Committee on Higher Degrees, School of Engineering and Applied Sciences
2015-16	Oceans and Health Seminar Series Coordinator, School of Engineering and Applied Sciences
2014-16	Graduate Admissions and Scholarship, School of Engineering and Applied Sciences (Area Chair in 2015-2016)
2014-15	Committee on Higher Degrees, School of Engineering and Applied Sciences
2010-14	Curriculum Committee, Department of Environmental Health, HSPH

Faculty Search Committees: Harvard

2024-25	Marine Biology Faculty Search Committee, Organismic and Evolutionary Biology
2023-25	Targeted search committee, Climate Science, Earth and Planetary Sciences

2023-24 Climate cluster hire search committee, SEAS

2018-20 Member, Faculty search committee in Risk Assessment, HSPH

2018-19 Member, Faculty search committee in Marine Biology, Organismic and Evolutionary Biology (OEB)

2018-19 Member, Faculty search committee in Earth History, Earth and Planetary Sciences (EPS)

2017-18 Member, Faculty search committee in Climate Science (EPS/SEAS)

RESEARCH MENTORING

SEAS = Harvard John A. Paulson School of Engineering and Applied Sciences

HSPH = Harvard T.H. Chan School of Public Health

EPS = Earth and Planetary Sciences, Harvard Faculty of Arts and Sciences

Doctoral Theses Advised (*n*=15):

Amos, Helen (PhD '14). *Toward an Improved Understanding of the Global Biogeochemical Cycle of Mercury.* Earth and Planetary Sciences, Harvard Faculty of Arts and Sciences

Calder, Ryan (ScD '17). *Hydroelectric Power and Indigenous Health in the Canadian North*. Harvard T.H. Chan School of Public Health.

Dai, Mona (PhD '24). *The Exposure Divide: Mapping Disparities in Contaminants Across the United States.* Harvard John A. Paulson School of Engineering and Applied Sciences.

Dassuncao, Clifton, (ScD '18). *Modeling Exposures to Poly- and Perfluoroalkyl Substances (PFASs) in Aquatic Biota and Humans*. Harvard T.H. Chan School of Public Health.

Geyman, Benjamin (PhD '24). *Modeling Perspectives on the Environmental Legacy of Human and Natural Mercury Releases*. Harvard John A. Paulson School of Engineering and Applied Sciences.

Horowitz, Hannah (PhD '17). *The Global Biogeochemical Cycle of Mercury: Insights from Modeling Atmospheric Chemistry and All-time Emissions Activity*. Earth and Planetary Sciences, Harvard Faculty of Arts and Sciences.

Hu, Xindi (ScD '18). *From Source to Dose: Modeling Human Exposure to Poly- and Perfluoroalkyl Substances.* Harvard T.H. Chan School of Public Health.

Liddie, Jahred (PhD '25). *Trends and Disparities in Contamination by Per- and Polyfluoroalkyl Substances in United States Community Water Systems*. Harvard T.H. Chan School of Public Health.

Li, Miling (ScD '16). *Environmental Origins of Methylmercury in Aquatic Biota and Humans*. Harvard T.H. Chan School of Public Health.

Pickard, Heidi (PhD '24). *An Analytical Toolbox for Investigating the Bioaccumulation Potential of Per- and Polyfluoroalkyl Substances in Aquatic Ecosystems*. Harvard John A. Paulson School of Engineering and Applied Sciences**.**

Ruyle, Bridger (PhD '22). *An Analytical and Statistical Toolbox for Per- and Polyfluoroalkyl Substances Biogeochemistry and Source Attribution*. Harvard John A. Paulson School of Engineering and Applied Sciences.

Stern, Rebecca (PhD '21). *The Microbiome of Atmospheric Particles*. Harvard John A. Paulson School of Engineering and Applied Sciences.

Sun, Jennifer (PhD '25). *From Emissions to Ecosystems: PFAS Bioaccumulation and its Drivers in Aquatic Ecosystems.* Harvard John A. Paulson School of Engineering and Applied Sciences.

Tokranov, Andrea (PhD '19). *Fate, Transport and Detection of Poly- and Perfluoroalkyl Substances in Natural and Engineered Environments*. Harvard John A. Paulson School of Engineering and Applied Sciences.

Wagner, Charlotte (PhD '21). *Global Modeling of Persistent Pollutants in an Era of Changing Emissions and Climate*. Harvard John A. Paulson School of Engineering and Applied Sciences.

Postdoctoral Fellows/Research Associates (*n*=25):

Current

1. Euna Kim, Postdoctoral Fellow, SEAS (2024-present)
2. Ju Hyeon Lee, Postdoctoral Fellow, SEAS (2024-present)
3. Connor Olson, Postdoctoral Fellow, SEAS (2023-present)
4. Jennifer Sun, Postdoctoral Fellow, SEAS (2025-present)
5. Yumin Zhu, Postdoctoral Fellow, SEAS (2023-present)

Former

1. Mona Dai, SEAS (2024, now Physical Scientist, USEPA)
2. Kyle Delwiche, SEAS (2018-2019, now Research Scientist, UC Berkeley)
3. Maxime Enrico, SEAS (2019-2021, now Postdoctoral Fellow, Université de Pau, France)
4. Fabian Fischer, SEAS (2022-2023, now Asst. Prof., URI)
5. Jenny Fisher, SEAS (2011-2012; now Senior Lecturer, U. of Wollongong, Australia)
6. Ben Geyman, SEAS (2025, now Biogeochemical Modeler, Crew Carbon)
7. Miling Li, SEAS (2016-2017, now Asst. Prof., U. Del.).
8. Jahred Liddie, SEAS (2024-2025, now Postdoctoral Fellow, George Washington U.)
9. Marie Perkins, SEAS (2017-2019, now Asst. Prof. UW Stevens Point)
10. Heidi Pickard, SEAS (2024, now Lead Consultant Ramboll)
11. Asif Qureshi, HSPH (2011-2013, now Professor, IIT Hyderabad, India)
12. Bridger Ruyle, SEAS (2022-2023, now Asst. Prof., NYU)
13. Amina Schartup, HSPH (2012-2017, now Assoc. Prof., Scripps Institute of Oceanography)
14. Lara Schultes, SEAS (2019-2021, now Environmental Consultant, Stockholm, Sweden)
15. Anne Soerensen, HSPH (2011-2014, now Curator, Swedish Museum of Natural History)
16. Colin Thackray, SEAS (2016-2019, now Group Programmer, Sunderland Lab)
17. Linjun Yao, SEAS (2017-2019, now Scientist, MA DEP)
18. Xianming Zhang, HSPH (2013-2016, now Asst. Prof., Concordia U.)
19. Yanxu Zhang, SEAS (2013-2015, now Assoc. Prof., Tulane U.)
20. Scott Zolkos, SEAS (2020-2022, now Scientist at Woodwell Climate Research Center)

Graduate Students (*n*=25):

Current

1. Zhiji Hu, Doctoral Student, SEAS, (2024-present)
2. Olivia Pietz, Doctoral Student, SEAS (2023-present)
3. Anton Roche, Masters Student, HSPH, (2024-present)
4. Ethan Sontarp, Doctoral Student, SEAS, (2024-present)

Former

1. Helen Amos (PhD '14 ; now Senior Research Staff, ETH Zurich)
2. Paheliya Aixilafu (MS '17, now unknown)
3. Ryan Calder (ScD '17, now Asst. Prof. Virginia Tech.)
4. Adela Chovancova (MS '18, now Regulatory and Compliance Manager at Catania Oils)
5. Elizabeth Corbitt (MS '15, now science teacher Louisiana)
6. Mona Dai (PhD '24, now Physical Scientist, US EPA Office of Water)
7. Clifton Dassuncao (ScD '18, now Vice President Eastern Research Group)
8. Ben Geyman (PhD '24, now Biogeochemical Modeler with Carbon Crew startup, New York)
9. Hannah Horowitz (PhD '17, now Asst. Prof. U. Illinois)
10. Xindi Hu (ScD '18, now Asst. Prof. George Washington U.)
11. Miling Li (ScD '16, now Asst. Prof., U. Del.).
12. Jahred Liddie (PhD '25, now Postdoctoral Fellow, George Washington U.)

13. Heidi Pickard (PhD ‘24, now Consultant, Ramboll)
14. Evan Routhier (MS ‘25, now Research Fellow Harvard)
15. Bridger Ruyle (PhD ‘22, now Asst. Prof., NYU)
16. Rebecca Stern (PhD ‘21, now Research Analyst, GAMCO Asset Mgmt.)
17. Jennifer Sun (PhD ’25, now postdoc Harvard)
18. Andrea (Weber) Tokranov (PhD ‘19, now Hydrologist, USGS)
19. Matthew Tumpney (MS ‘12, now Epidemiologist, MA DEP)
20. Amelia Valberg (MS ‘15, now Senior Consultant, Ramboll)
21. Charlotte Wagner (PhD ‘21, now Scientist, Stockholm Env. Inst.)

Doctoral Examination Committees - External Universities

1. Frits Steenhuisen, University of Groningen (Examining Committee, 2023);
2. Connor Olsen, Syracuse University (Committee Member, 2021-2023);
3. Aryeh Feinberg, ETH, Switzerland (Examining Committee, 2020);
4. Lara Schultes, Stockholm University, Sweden (Opponent, 2019);
5. Amanda Giang, MIT, Institute for Data, Systems and Society (Committee Member, 2013-2017);
6. Michelle Mastromonaco, Chalmers University of Technology, Sweden (Opponent, 2016);
7. Matthew Binnington, University of Toronto, Canada (External Examiner, 2016);
8. Ravinder Pannu, University of Saskatchewan, Canada (External Examiner, 2012);
9. Adrienne Ethier, University of Ottawa, Canada (External Examiner, 2009).

Undergraduate Research Assistants, Thesis and/or Independent Study Students (n=36)

Current

1. Lillian Krcmar, Harvard College ’26, Research Assistant and ESPP thesis student (2024-present)
2. Olivia Hogan Lopez, Harvard College ’26, Research Assistant and ESE thesis student (2024-present)
3. Giovanni Gomez-Orozco, Harvard College ’27, Research Assistant (2025-present).
4. Aryenne Ysabelle Rodrigo, Harvard College ’27, Research Assistant (2025-present).

Former

[32] Annabelle Rayson (2024-2025), [31] Emil Massad (2024-2025), [30] Agustin Leon-Saenz (2023), [29] Layla Seaver (2023-2024) [28] Jack Bruce (2022-2024), [27] Sharmila Day (2022-2024), [26] Sophia Ludtke (2022-2023), [25] Julia Mansfield (2022-2023), [24] Sarah Beckwith (2021-22) [23] Evan Hunsicker (2021-22), [22] Jordan Daigle (2021), [21] Elida Kocharian (2020), [20] Maya Levine (2020-22), [19] Jonas LaPier (2019-21), [18] Jenn Greiner (2020-21), [17] Cecil Myers (2019-20), [16] Daniel Chang (2019-20), [15] Beverly Ge (2017-19), [14] Chandler Brown (2018-19), [13] Nicole Nishizawa (2017-19), [12] Helen Kim (2018), [11] Amira Hannon (2018), [10] Bruno Moguel Gallegos (2017-18), [9] Alina McIntyre (2017), [8] Nakoa Farrant (2017-18), [7] Alicia Juang (2016-18), [6] Jessica Ewald (2015-17), [5] Harry Stone (2015-16), [4] Jahred Liddie (2014-16), [3] Sam Krabbenhoft (2015), [2] Angela Jiang (2014), [1] Kurt Bullard (2014).

<u>Undergraduate Student Awards</u>:

Emil Massad (’25), Harvard College Hoopes Prize; James J. McCarthy Best Thesis Prize Environmental Science & Public Policy.

Layla Seaver (’24), Dean’s Award for Outstanding Engineering Project, SEAS

Evan Hunsicker (’22), Honorable mention, Dean’s Award for Outstanding Engineering Project, SEAS

Jonas LaPier (’21), Dean’s Award for Outstanding Engineering Project, SEAS

Daniel Chang (’20), Honorable mention, Dean’s Award for Outstanding Engineering Project, SEAS

Alicia Juang (’18), Harvard College Hoopes Prize & Dean’s Award for Outstanding Engineering Project, SEAS

Jessica Ewald (’17), Dean’s Award for Outstanding Engineering Project, SEAS

Publications with Undergraduate Authors:

S. Zolkos, B. M. Geyman, S. Potter, M. Moubarak, B. M. Rogers, N. Baillargeon, **S. Dey ('25)**, S. M. Ludwig, S. Melton, E. Navarro, A. McElvein, P. H. Balcom, S. M. Natali, S. Sistla, E. M. Sunderland. 2025. Substantial mercury releases and local deposition from permafrost peatland wildfires in southwestern Alaska. *Environmental Science & Technology*. 58, 46, 20654–20664.

F. Fischer, **S. Ludtke ('25)**, C.P. Thackray, H. Pickard, F. Haque, C. Dassuncao, S. Endo, L. Schaider, E.M. Sunderland. 2024. Binding of per- and polyfluoroalkyl substances (PFAS) to serum proteins: Implications for toxicokinetics in humans. *Environmental Science & Technology*. 58, 2, 1055–1063.

G.A. de Vera, B.Y. Brown, S. Cortesa, M. Dai, J. Bruno, **J. LaPier ('22),** N. Sule, M. Hancock, B. Yoon, A. Chalah, E.M. Sunderland, S.C. Wofsy. 2022. HazeL: A low-cost learning platform for aerosol measurements. *Journal of Chemical Education.* 99(9): 3203-3210.

X.C. Hu, **B. Ge ('20)**, B. Ruyle, J. Sun, E.M. Sunderland. 2021. A statistical approach for identifying private wells susceptible to PFAS contamination. *Environmental Science & Technology Letters*. 8(7) : 596-602.

M. Li, **A. Juang ('18), J. Ewald ('17)**, R. Yin, B. Mikkelsen, D.P. Krabbenhoft, P. Balcom, C. Dassuncao, E.M. Sunderland. 2020. Selenium and stable mercury isotopic analysis provide new insights into mercury toxicokinetics in pilot whales. *Science of the Total Environment*. 710 : 136325.

J.D. Ewald ('17), J.L. Kirk, M. Li, E.M. Sunderland. 2019. Organ-specific differences in mercury speciation and accumulation in juvenile and adult ringed seals (*Phoca hispida*). *Science of the Total Environment*. 650(2): 2013-2020.

A.K. Tokranov, **N. Nishizawa ('19)**, C.A. Amadei, J.E. Zenobio, H.M. Pickard, J.G. Allen, C.D. Vecitis, E.M. Sunderland. 2019. How do we measure the poly- and perfluoroalkyl substances (PFASs) at the surface of consumer products? *Environmental Science & Technology Letters.* 6(1): 38-43.

X.C. Hu, A.K. Tokranov, **J. Liddie ('16)**, X. Zhang, P. Grandjean, J.E. Hart, F. Laden, Q. Sun, L.W.Y. Yeung, E.M. Sunderland. 2019. Tap water contributions to plasma concentrations of poly- and perfluoroalkyl substances (PFASs) in a nationwide prospective cohort of U.S. women. *Environmental Health Perspectives.* 127(6):067006.

E.M. Sunderland, M. Li, **K.T. Bullard ('17).** 2018. Decadal changes in edible supply of seafood and methylmercury exposure in the United States. *Environmental Health Perspectives.* 126(1): 017006.

TEACHING

Active:

EPS/ESE-161 Undergraduate Course, Applied Environmental Toxicology, Harvard School of Engineering and Applied Sciences, S '15; F '16; F '19; S '22, S '24, S'25.

EPS/ESE-169 Undergraduate Course, Field and Lab Based Seminar on Local Pollution Issues, Harvard School of Engineering and Applied Sciences, F '23, F '24, F'25.

Past:

ES-169 Undergraduate Course, Modeling Seminar on Global Pollution Issues, Harvard School of Engineering and Applied Sciences, S '13; F '17; S '21.

EPS/ESE-6 Undergraduate Course, Introduction to Environmental Science and Engineering, Harvard School of Engineering and Applied Sciences, Spring 2016-2018; 2020-2021.

ES-298r Graduate Course: Mitigating Toxicity Through Materials Design, Harvard School of Engineering and Applied Sciences, Fall 2015.

RDS-500 Graduate Course: Risk Assessment, Department of Environmental Health, Harvard School of Public Health, Spring 2011-2014.

ENVR E-215 Graduate Course: Environmental Science, Harvard Extension School, Fall 2011.

Other teaching activities:

2009-2023 Faculty, Analyzing Risk: Science, Assessment, and Management; Center for Continuing Professional Education, Harvard School of Public Health. (~60 students each year).

2008 Developed curriculum and instructed training course on the use of models in environmental regulatory decision-making for U.S. EPA Region 1. (~50 staff members).

2004-2008 Led nation-wide seminar series (webinar) for ten U.S. EPA Regional Offices on the use of environmental models to inform environmental management decisions.

PUBLICATIONS *(H-factor Google Scholar = 76; Citations>20,000 as of 08/25)*

Students and postdocs mentored are underlined. *Senior author indicated by the **last author** position.*
**Denotes undergraduates.* *J = Peer Reviewed Journal* *O = Other book chapter, perspective or report.*

2025

J142. J. Liddie, M.Q. Dai, X.C. Hu, **E.M. Sunderland**. 2025. A call for a unified database to address exposure disparities in the United States. Wiley Interdisciplinary Reviews: Water. 12(4): e70033.

J141. F.C. Fischer, C. Thackray, N. Ferguson, C. Chicoine, O. Skende, Z. Hu, Y. Zhu, A. Slitt, **E.M. Sunderland**. 2025. Understanding mechanisms of PFAS absorption, distribution, and elimination using a physiologically based toxicokinetic model. *Environmental Science & Technology.* 59(26): 13240-13250.

J140. C.I. Olson, S.F. Jane, B.M. Geyman, M. Montesdeoca, P. J. McHale, C. Beier, J.S. Mills, P.B. McIntyre, **E.M. Sunderland**, C.T. Driscoll. 2025. Soil mercury accumulation delays fish recovery from atmospheric deposition declines. *Environmental Science & Technology.* 59(25): 12656-12666.

J139. B.M. Geyman, D.G. Streets, C.I. Olson, C.P. Thackray, C.L. Olson, K. Schaefer, D.P. Krabbenhoft, **E.M. Sunderland**. 2025. Cumulative anthropogenic impacts of past and future emissions and releases on the global mercury cycle. *Environmental Science & Technology,* 59, 17, 8578–8590.

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J4. **E.M. Sunderland**, F.A.P.C. Gobas, A. Heyes, B. Branfireun, A. Bayer, R. Cranston, and M. Parsons. 2004. Speciation and bioavailability of mercury in well-mixed estuarine sediments. *Marine Chemistry.* 90: 91-105.

O1. EPA Council for Regulatory Environmental Modeling. 2003. *Interim EPA Guidance for the Development, Evaluation and Application of Regulatory Environmental Models*. (Principal authors: P. Pascual, N. Stiber, **E. Sunderland**). Washington DC.

J3. G.L. Chmura, L.L. Helmer, C.B. Beecher, and **E.M. Sunderland**. 2001. Historical rates of salt marsh accretion in the outer Bay of Fundy. *Canadian Journal of Earth Sciences*. 31: 1081-1092.

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J1. **E.M. Sunderland** and G.L. Chmura. 2000. The history of mercury emissions from fuel combustion in Maritime Canada. *Environmental Pollution*. 110(2): 297-306.

INVITED PRESENTATIONS (*n*=134)

Keynote/Plenary/Gordon Research Conferences

1. Gordon Research Conference – Atmospheric Chemistry. Sunday River, Maine. August 1-6, 2025.
2. Plenary talk. United States Geological Survey PFAS workshop. Reston, VA. September 10, 2024.
3. Gordon Research Conference – Organic Geochemistry. Holderness School, New Hampshire. July 31, 2024.
4. Plenary talk. 4th International Conference on Environmental Pollution, Restoration, and Management. Quy Nhon, Vietnam. March 5, 2024.
5. Plenary talk. 10th International Conference on Marine Pollution and Ecotoxicology (ICMPE-10). Hong Kong, January 3, 2024.
6. Plenary talk. United States Environmental Protection Agency National Forum on Contaminants in Fish. Virtual Meeting, February 28, 2023.
7. Plenary talk. 12th International Symposium on Geochemistry of the Earth's Surface, Zurich, Switzerland,

July 24-29, 2022.

8. Plenary talk. FLUOROS Global 2021: International Perspective on PFAS Science. Virtual meeting. October 3, 2021.
9. Plenary talk. North American Deposition Program (NADP) Meeting, Boulder, Colorado, November 6, 2019.
10. Invited Congressional Testimony. House Science, Space, and Technology Subcommittees on Environment and on Research and Technology. December 7, 2021.
11. Invited keynote. Goldschmidt 2017, Paris, France, August 13-18, 2017.
12. Invited plenary panel 13th International Conference on Mercury as a Global Pollutant, Providence, RI, Plenary Panel, July 16-21, 2017.
13. Plenary talk. 18th International Conference on Heavy Metals in the Environment, Ghent, Belgium, September 12, 2016.
14. Gordon Research Conference – Organic Geochemistry, Holderness School NH, July 28, 2016.
15. Invited keynote talk, Goldschmidt2015, Prague, CZ, August 17, 2015.
16. Plenary talk. Arctic Circle Assembly 2015 plenary talk, Reykjavík, Iceland, October 17, 2015.
17. Invited keynote talk, Goldschmidt2014, Sacramento, CA, June 8, 2014.
18. Plenary talk. 16th International Conference on Heavy Metals in the Environment (ICHMET), Rome, Italy, September 24, 2012.
19. Gordon Research Conference – Environmental Sciences: Water, Holderness NH, June 20-25, 2010.
20. Plenary talk. Shared Air Summit sponsored by the Premier of Ontario, Toronto ON, Canada, June 20, 2005.

Invited Presentations

21. Invited seminar, MIT Environmental Science and Engineering Seminar Series, October 10th, 2025.
22. Distinguished Lecture Series, Northeastern University, Department of Chemical Engineering, September 24, 2025.
23. Invited seminar, Tribal PFAS Working Group, Virtual, June 12, 2025.
24. Harvard-Tsinghua Workshop on Climate Change, Carbon Neutrality, and Energy System Transformation, Cambridge, MA, February 13, 2025.
25. Invited talk. University of Buffalo College of Arts and Sciences, Buffalo, NY. Spotlight Symposia Series, October 26, 2024.
26. Invited talk. David Rockefeller and Salata Institute Event. Navigating the Amazon Rainforest: A Glimpse at Harvard Endeavors. October 8, 2024.
27. Invited talk. University of Auckland, NZ, PFAS Working Group, Virtual. February 13, 2024.
28. Invited talk. International Workshop of the Consortium for Analysis and Remediation of PFAS Japan, Tokyo Japan, October 18, 2023.
29. Invited talk. Resources for the Future (RFF) webinar on Unplugging Emissions: Exploring New EPA Rules on Climate and Health. Virtual. May 19, 2023.
30. Invited talk. Green Science & Policy Institute, 10th Annual "Six Classes" Toxics Retreat IV, Sequoia Retreat Center, Ben Lomond, CA, April 24, 2023.
31. Invited talk. Illinois-Indiana Sea-Grant. Social & Economic Impacts of PFAS in the Great Lakes/Lake Champlain Region. Virtual presentation. March 8, 2023.
32. Invited talk. University of Southern Denmark (SDU), Odense, Denmark. Invited presentation. International symposium: Sustainable and visionary health research in a changeable world. December 15, 2022.

33. Invited seminar. California Institute of Technology, Pasadena, CA. Environmental Science and Engineering Seminar Series. November 30, 2022.

34. Invited talk. NIH Superfund Research Program, Risk e-Learning Webinar Series: Climate Change and Health. Session II: Untangling Complex Exposures and Health Effects. November 4, 2022.

35. Invited seminar. George Washington University, Environmental Engineering Seminar, October 14, 2022.

36. Invited talk. Green Chemistry and Commerce Council (GC3), September 1, 2022.

37. Invited talk. Artic Monitoring and Assessment Network, Contaminants in Arctic wildlife and humans – cross-cutting issues. June 21, 2022.

38. Invited seminar. University of British Columbia, Vancouver, BC. Earth, Ocean and Atmospheric Sciences, June 15, 2022.

39. Invited talk. Ocean Nexus Center, North American Meeting. Virtual. June 14, 2022.

40. Invited talk. Economist Impact, 9th Annual World Ocean Summit, March 3, 2022.

41. Invited talk. Economist Impact on: Chemical Pollution in the Ocean, Back to Blue Initiative. December 22, 2021. https://backtoblueinitiative.com/back-to-blue-podcasts/

42. Invited seminar. North Carolina State University, Superfund Research Program, September 28, 2021.

43. Invited talk. Environmental Working Group (EWG), Symposium on PFAS, July 14, 2021.

44. Invited talk, National Academies of Science, Engineering, and Medicine Consensus Study on "Guidance on PFAS Testing and Health Outcomes," July 13, 2021.

45. Invited testimony. Massachusetts Interagency PFAS Task Force, Virtual, June 15, 2021.

46. Invited seminar. University College London, Virtual seminar, Physical Geography Seminar Series, May 20, 2021.

47. Invited seminar. Georgetown University. Virtual seminar, Environmental Metrology and Policy Program, April 29, 2021.

48. Invited talk. Hemispheric Transport of Air Pollution (HTAP), Fate and Transport Partnership meeting, April 13, 2021.

49. Invited panelist. Harvard Business School Food, Agriculture and Water Club. Invited panelist for "Dark Waters" film discussion on the business and societal impacts of drinking water contamination. March 24, 2021.

50. Invited talk. Institute for Journalism and Natural Resources, Invited panelist for 2021 PFAS Workshop. Virtual panel, Jan 27, 2021.

51. Invited talk. United Nations Environment Programme, Invited panelist. Minamata Online: Multimedia modelling.. Nov. 17, 2020.

52. Invited seminar. University of Michigan, Invited talk, Lifestage Environmental Exposures and Disease Center. Oct. 7, 2020.

53. Invited seminar. NOAA Chemical Sciences Laboratory Seminar Series. September 9, 2020.

54. Invited talk. Emerging Contaminants Summit. Denver, Colorado, Keynote. March 11, 2020.

55. Invited seminar. St John's University, Queens, New York, Doctoral Seminar Series, College of Pharmacy and Health Sciences, February 24, 2020.

56. Invited seminar. University of Pittsburgh, Civil and Environmental Engineering Seminar, Pittsburgh, PA, Oct. 11., 2019.

57. Invited seminar. Boston University, Boston, MA, Invited seminar, Gijs van Seventer Lectureship in Environmental Health, Oct. 4, 2019.

58. Invited seminar. Helmholtz-Zentrum Geesthacht, Hamburg, Germany, Institute of Coastal Research, August

26, 2019.

59. Invited seminar. US EPA, Research Triangle Park, NC, New Insights in Atmospheric Science Seminar Series, August 15, 2019.
60. Invited talk. ESTCP and SERDP PFAS Project Meeting, San Diego, CA, July 31, 2019.
61. Invited seminar. University of Massachusetts, Dartmouth, MA, Department of Estuarine and Ocean Sciences, March 20, 2019.
62. Invited seminar. University of Toronto, Center for Global Change Science Distinguished Lecturer Series. Toronto, Canada, January 8, 2019.
63. Invited talk. Symposium on Faroese Research on Health and Environment, Tórshavn, Faroe Islands, August 30, 2019.
64. Invited talk. Nippon Foundation, Tokyo, Japan, Symposium on Health of the Oceans, Dec. 22, 2018.
65. Invited talk. Harvard Club of Portland, Portland, OR, June 20, 2018.
66. Invited seminar. University of Rhode Island, Superfund Center, Kingston, RI, May 21, 2018.
67. Invited seminar. Agency for Toxic Substances and Disease Research (ATSDR), Atlanta, GA, May 10, 2018.
68. Invited seminar. University of British Columbia, Department of Earth, Ocean and Atmospheric Sciences Seminar Series, Vancouver, Canada, May 3, 2018.
69. Invited talk. Green Science and Policy Institute. "Six Classes" Toxics Retreat IV, Sequoia Retreat Center, Ben Lomond, CA, May 1, 2018.
70. Invited talk. Harvard Club of Cape Cod, Falmouth, MA, April 27, 2018.
71. Invited talk. Northeast Regional Superfund Program Meeting, Woods Hole Oceanographic Institute, Woods Hole, MA, March 26, 2018.
72. Invited talk. Hertz Foundation Fellows East Coast Retreat, Woods Hole, MA, September 24, 2017.
73. Invited talk. Highly Fluorinated Compounds – Social and Scientific Discovery, Northeastern University, Boston MA, June 14, 2017.
74. Invited talk. Harvard Alumni Special Interest Group, Washington DC, May 22, 2017.
75. Invited seminar. Princeton University, Princeton NJ, Science, Technology and Environmental Policy Seminar, April 10, 2017.
76. Invited talk. Harvard Standing Committee on Women Mini-Symposium, Cambridge MA, February 27, 2017.
77. Invited talk. Global Food+ 2017 Symposium, Cambridge MA, February 24, 2017.
78. Invited seminar. Harvard Global Health Institute, Climate Change and Global Health Seminar, Cambridge MA, February 2, 2017.
79. Invited talk. Harvard Club of Boston, Boston MA, Saturday of Symposia, December 5, 2016.
80. Invited seminar. U.S. EPA-Office of Research and Development, Washington DC, November 28, 2016.
81. Invited seminar. University of British Columbia, Vancouver BC, Canada. Nereus Program: Adapting to Global Changes in Oceans and Fisheries, November 17, 2016.
82. Invited talk. UNEP, Global Mercury Partnership consultation meeting, Portland, ME, October 13, 2016.
83. Invited talk. Government of Newfoundland, Methylmercury mitigation and Muskrat Falls workshop, Happy Valley - Goose Bay, Labrador, Canada, August 4, 2016.
84. Nunatsiavut Government, Press conference on risks to Inuit health of Muskrat Falls development, St. John's NL, Canada, April 18, 2016.
85. Invited Panel on Women and Climate Change. Belfer Center, Harvard Kennedy School, Cambridge MA, Center for Public Leadership, Cambridge MA, March 29, 2016.

86. Invited seminar. NOAA Geophysical Fluid Dynamics Laboratory (GFDL), Seminar Series, Princeton NJ, April 28, 2016.

87. Invited talk. Transatlantic Science Week 2015 speaker, Boston MA, November 5, 2015.

88. Invited talk. Harvard Alumni Association, Faculty Forum, Cambridge MA, October 23, 2015.

89. Invited talk. ScienceWriters2015.org, Cambridge, MA, October 12, 2015.

90. Invited seminar. Harvard School of Public Health, Metals research core seminar, Boston MA, October 1, 2015.

91. Invited seminar. Princeton University, Princeton NJ, Environmental Geology & Geochemistry Seminar, May 14, 2015.

92. Invited seminar. Harvard School of Engineering and Applied Sciences, Environmental Science and Engineering Seminar Series, Cambridge MA, March 14, 2014.

93. Invited talk. Harvard University Center for the Environment, Discussion lead, Cambridge MA, January 28, 2014.

94. Invited seminar. University of British Columbia, Vancouver BC, Canada, Department of Chemistry Seminar Series, January 21, 2014.

95. Invited seminar. University of Rhode Island, Narrangansett RI, Graduate School of Oceanography Seminar Series, April 26, 2013.

96. Invited seminar. Dartmouth College, Superfund Program Seminar Series, Hanover NH, October 16, 2012.

97. Invited seminar. Stony Brook University, Stony Brook NY, School of Marine and Atmospheric Sciences Seminar Series, February 3, 2012.

98. Invited talk. Gulf of Mexico Alliance Mercury Meeting, Gulf Breeze FL, October 18, 2011.

99. Invited seminar. Lafayette College, Easton PA, Interdisciplinary Seminar Series, September 26, 2011.

100. Invited talk. Mercury Science in the Great Lakes Workshop, Chicago IL. May 30-31, 2012.

101. Invited seminar. Harvard School of Public Health, Superfund Research Program Seminar Series, Boston MA, March 7, 2011.

102. Invited talk. U.S. EPA, Meeting on Global Mercury Emissions and U.S. Exposures, Washington, DC. Jan. 14, 2010.

103. Invited talk. Northeast and Great Lakes Region Mercury Science & Policy Conference, Chicago IL, November 18, 2009.

104. Invited talk. US EPA, 10th National Forum on Contaminants in Fish, Portland OR, November 2-5, 2009.

105. Invited talk. National Institute for Minamata Disease (NIMD), 9th International Conference on Mercury as a Global Pollutant, Guiyang, China. June 7-12, 2009.

106. Invited talk. UNECE/CLRTAP Task Force on Hemispheric Transport of Air Pollution, St. Petersburg, Russia, April 1-3, 2009.

107. Invited talk. International Air Quality Advisory Board, Washington DC. April 15, 2009.

108. Invited talk. Gulf of Mexico Mercury Workshop, Gulfport MS, December 2-4, 2008.

109. Invited talk. 5th Annual Northwest Water Quality Modelers Meeting, Hood River OR, May 2-3, 2008.

110. Invited talk. International Joint Commission, Nearshore Priority Expert Consultation Part II, Dearborn MI, March 12-13, 2008.

111. Invited talk. ASLO and AGU Ocean Sciences Meeting, Orlando FL. March 2-7, 2008.

112. Invited talk. New England Tribal Council, Boston MA, December 11, 2007.

113. Invited talk. US EPA Region 1, Science Council Seminar Series, Boston MA, August 29, 2007.

114. Invited talk. New England Interstate Water Pollution Control Commission, Fish Consumption Workgroup, Lowell MA, Invited seminar, April 3, 2007.

115. Invited talk. International Joint Commission. Lake Ontario Contaminant Monitoring, Modeling and Research Workshop, Grand Island NY, Invited talks, March 27-28, 2007.

116. Invited seminar. Harvard Center for Risk Analysis Seminar Series, Harvard School of Public Health, Boston MA, Invited seminar, March 5, 2007.

117. Invited talk. US EPA's Mercury Coordination Workgroup, Washington DC, February 28, 2007.

118. Invited seminar, Dartmouth, Toxic Metals Research Program and Sea Grant Sponsored Workshop, Durham NH, November 15-16, 2006.

119. Invited seminar. NOAA Great Lakes Environmental Research Laboratory, Seminar Series, Ann Arbor MI, September 14, 2006.

120. Invited talk. USGS/US EPA, Roundtable on Mercury in the Environment, Washington DC, April 13, 2006.

121. Invited seminar. US EPA Region 1, Regional Science Council Seminar Series, Boston MA, March 1, 2006.

122. Invited seminar. University of Connecticut, Groton CT, Marine Science Program Seminar Series, October 13, 2006.

123. Invited seminar. University of British Columbia, Vancouver BC, Canada, School of Occupational and Environmental Hygiene Seminar Series, February 3, 2006.

124. Invited talk. US Army Corps of Engineers, Committee on Water Quality, San Francisco CA, August 30, 2005.

125. Two Invited talks. Biennial Meeting of the International Joint Commission, Kingston ON, Canada. June 9-11, 2005.

126. Invited talk, NOAA- US EPA, Scientist-to-Scientist Meeting on Multi-Media Aspects of Environmental Pollution in Coastal and Marine Environments. Laurel MD, June 2, 2005.

127. Invited seminars, Ontario Ministry of the Environment, Toronto/Dorset ON, Canada, April 20&22, 2005.

128. Invited talk, US EPA's Scientific Advisory Board, Panel on Regulatory Environmental Modeling, Washington DC, February 7-9, 2005.

129. Invited seminar, International Air Quality Advisory Board of the International Joint Commission, Vancouver BC, Canada, January 26, 2005.

130. Invited seminars. Department of Fisheries and Oceans Canada, Bedford Institute of Oceanography, Halifax NS, Canada, January 13&15, 2005.

131. Invited talk. US EPA, Mercury in Marine Life Workgroup, Office of Water. Washington DC, July 10, 2004.

132. Invited talk. USGS/US EPA, Mercury Roundtable on Tools for Modeling Fish Bioaccumulation and Potential Health Effects, Invited talk, Washington DC, June 4, 2004.

133. Invited talk. 4th International Conference on Air Quality: Mercury, Trace Elements and Particulate Matter, Arlington VA, September 22-24, 2003.

134. Invited talk. Woodrow Wilson International Center for Scholars, Washington DC, June 20, 2003.