

# ANGELA F. DICKENS

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## PROFESSIONAL EXPERIENCE

### Data Scientist

2020-present

Lake Michigan Air Directors Consortium, Hillside, IL.

- Conducts analyses of air quality data, including ozone, fine particles, regional haze/visibility, mercury, hazardous air pollutants, and meteorological data.
- Prepares technical reports and presents analysis results, including reports on ozone formation chemistry and ozone conceptual models in the Great Lakes states.
- Prepares technical support documents for use in State Implementation Plan weight-of-evidence demonstrations for ozone, particulate matter, and regional haze.
- Applies machine learning approaches with Classification and Regression Tree (CART) analysis and Generalized Additive Models (GAM) to constrain the impacts of meteorology on air quality.
- Supports data analysis and monitoring activities by the LADCO States, including founding and leading a LADCO Data Analysis Workgroup.
- Advises air quality monitoring studies.
- Manages contractor work related to the analysis of air quality data.
- Works with other organizations (e.g., U.S. Environmental Protection Agency, EPA, and other multi-jurisdictional organizations) to provide subject matter expertise on air pollution in the Great Lakes region.

### Air Policy Analyst

2013-2020

Wisconsin Department of Natural Resources, Madison, WI.

- Analyzed air quality and emissions data to inform and support air quality management decisions and documents, primarily using R for data analysis and visualization.
- Co-organizer of the 2017 Lake Michigan Ozone Study, a collaborative, multi-agency research study involving NASA, NOAA, EPA and university scientists. Primary data analyst of the study's aircraft-based air quality measurements.
- Evaluated new EPA air quality policies, assessed implementation options and implications for Wisconsin, and recommended policy revisions.
- Developed state implementation plan (SIP) components for state compliance with Clean Air Act requirements, including drafting attainment demonstrations, redesignation requests, designation recommendations, state comments on proposed NAAQS rules, and other policy documents.
- Frequently described complex technical and policy information and its implications to DNR managers, staff and external stakeholders, both orally and in writing.
- Served as staff lead on state work on EPA's National Ambient Air Quality Standards for ozone and co-lead on EPA's Clean Power Plan addressing CO<sub>2</sub> emissions from existing power plants.

**AAAS Science and Technology Policy Fellow** 2011-2013  
EPA Office of Transportation and Air Quality, Transportation and Climate Division,  
Washington, DC.

- Conducted greenhouse gas lifecycle analyses of biofuels, developed policy based on the technical findings, analyzed policy options and impacts, and presented analysis and recommendations to management.
- Developed regulations determining the eligibility of biofuels for participation in the Renewable Fuel Standard under the Clean Air Act.
- Established working relationships with stakeholders from industry, governments, and NGOs.
- Organized a cross-agency group of AAAS fellows working on biofuels-related issues.

**Visiting Scientist** Winter 2011  
Swiss Federal Institute of Technology-Zurich (ETH-Zurich), Zurich, Switzerland.

- Prepared manuscripts for publication in collaboration with an ETH colleague.

**Clare Booth Luce Assistant Professor of Chemistry** 2007-2011  
Mount Holyoke College, South Hadley, MA.

- Established, managed, and procured funding for a laboratory dedicated to carbon cycle research. Led students in conducting intensive geochemical studies of sedimentary samples to determine carbon sources and processes, primarily using isotopes and biomarker compound tracers.
- Published results in journals and presented research at scientific conferences.
- Designed and taught courses on climate change, biogeochemistry, and general and instrumental chemistry.
- Supervised research students, student laboratory assistants, graders, and tutors.
- Served on the college Environmental Studies Committee and Faculty Grants Committee.

**NOSAMS Postdoctoral Scholar** 2005-2007  
Woods Hole Oceanographic Institution, Woods Hole, MA.

- Initiated, developed, and carried out research projects in geochemistry investigating how carbon moves through river systems.
- Published results in journals and presented research at scientific conferences.
- Served as secretary of the WHOI Postdoctoral Association and as postdoctoral representative to the Women's Committee.

**Visiting Assistant Professor of Chemistry** Winter 2005  
Carleton College, Northfield, MN.

- Designed and taught a General Chemistry course and laboratory

**Graduate Research Assistant** 1999-2004  
University of Washington, Seattle, WA.

- Expanded and implemented research projects studying organic carbon in the oceans.
- Published results in journals and presented research at scientific conferences.

**Post-Graduate Researcher in Soil Microbial Ecology** 1998-1999  
University of California at Davis, Davis, CA.

- Collected and analyzed atmospheric and soil samples weekly from California rice paddies.

**Tutor** 1997-1998  
Engelman-Becker Learning Center and The Learning Center, Eugene, OR.

- Tutored K-12 and university students in a variety of subjects.

## EDUCATION

**Ph.D.** December 2004, Chemistry, University of Washington, Seattle, WA  
Advisor: John Hedges (deceased), then Paul Quay and Richard Gammon  
Dissertation: *Sources, cycling and preservation of black carbon in sediments from the Washington Margin.*

**B.A.** June 1997, Chemistry (*Magna Cum Laude*), Carleton College, Northfield, MN  
Senior Thesis: *Humification and cultivation: the chemistry of two conversions of organic matter in soils.*

## GRANTS, FELLOWSHIPS AND AWARDS

Wisconsin DNR Leadership Academy, selected participant (2020).

Wisconsin DNR Environmental Management Division Employee of the Year (2019).

Wisconsin Women in Government Leadership Seminar, selected participant (2016).

AAAS Science & Technology Policy Fellow (2011-2013).

Petroleum Research Foundation Grant # 48656-GB2, *Understanding the formation of a major terrestrial carbon sink: A molecular isotopic study of an Andean watershed.* \$50,000, September 2008-August 2010.

Clare Boothe Luce Assistant Professorship (2007-2011).

Subaru Outstanding Women in Science Award finalist (2006)

National Ocean Sciences Accelerator Mass Spectrometry Facility (NOSAMS) Postdoctoral Scholarship (2005-2007)

Dissertations Symposium on Chemical Oceanography, selected participant (2005)

NSF Graduate Research Fellowship (1999-2002)

Clare Boothe Luce Scholarship (full scholarship, 1995-1997)

Robert C. Byrd Honors Scholarship (1993-1995)

Dow Chemical Scholarship (1993-1995)

NSF National Science Scholarship (1993-1995)

## PUBLICATIONS

- Goldberg D.L., Tao M., Kerr G.H., Ma S., Tong D.Q., Fiore A.M., Dickens A.F., Adelman Z.E., and Anenberg S.C. (2024) Evaluating the spatial patterns of U.S. urban NO<sub>x</sub> emissions using TROPOMI NO<sub>2</sub>. *Remote Sensing of Environment*, 300, 113917. <https://doi.org/10.1016/j.rse.2023.113917>.
- Acdan J.J.M., Pierce R.B., Dickens A.F., Adelman Z., and Nergui T. (2023) Examining TROPOMI formaldehyde to nitrogen dioxide ratios in the Lake Michigan region: implications for ozone exceedances. *Atmospheric Chemistry and Physics*, 23, 7867-7885. <https://doi.org/10.5194/acp-23-7867-2023>.
- Abdi-Oskouei M., Roozitalab B., Stanier C.O., Christiansen M., Pfister G., Pierce R.B., McDonald B.C., Adelman Z., Janssen M., Dickens A.F., and Carmichael G.R. (2022) The Impact of Volatile Chemical Products, Other VOCs, and NO<sub>x</sub> on Peak Ozone in the Lake Michigan Region. *Journal of Geophysical Research: Atmospheres*, 127, e2022JD037042. <https://doi.org/10.1029/2022JD037042>.
- Cleary P., Dickens A., Geib K., McIlquham M., Sanchez M., Geib K., Hedberg C., Hupy J., Watson M.W., Fuoco M., Olson E.R., Pierce R.B., Stanier C., Long R., Valin L., Conley S., Smith M. (2022) Impacts of lake breeze meteorology on ozone gradient observations along Lake Michigan shorelines in Wisconsin. *Atmospheric Environment*. 269: 118834. <https://doi.org/10.1016/j.atmosenv.2021.118834>
- Wagner T.J., Czarnetzki A.C., Christiansen M., Pierce R.B., Stanier C.O., Dickens A.F., Eloranta E.W. (2022) Observations of the Development and Vertical Structure of the Lake-Breeze Circulation during the 2017 Lake Michigan Ozone Study. *Journal of the Atmospheric Sciences*, 79: 1005-1020. <https://doi.org/10.1175/JAS-D-20-0297.1>
- Stanier C.O., Pierce R.B., Abdi-Oskouei M., Adelman Z.E., Al-Saadi J., Bertram T.H., Carmichael G., Christiansen M.B., Cleary P.A., Czarnetzki A., Dickens A.F., Fuoco M.A., Hughes D.D., Hupy J.P., Judd L.M., Kenski D., Millet D.B., Roozitalab B., Shaw S.L., Stone E.A., Wagner T. (2021) Overview of the Lake Michigan Ozone Study 2017. *Bulletin of the American Meteorological Society*. <https://doi.org/10.1175/BAMS-D-20-0061.1>
- Doak A.G., Christiansen M.B, Alwe H.A., Bertram T.H., Carmichael G., Cleary P., Czarnetzki A.C., Dickens A.F., Janssen M., Kenski D., Miller D.B., Novak G., Pierce R.B., Stone E.A., Szykman J., Vermeuel M., Wagner T.J., Valin L., Stanier C.O. (2021) Characterization of ground-based atmospheric pollution and meteorology sampling stations during the Lake Michigan Ozone Study 2017. *Journal of the Air and Waste Management Association*. <https://doi.org/10.1080/10962247.2021.1900000>.
- Eglinton T.I., Galy V.V., Hemingway J.D., Feng X., Bao H., Blattman T.M., Dickens A.F., Gies H., Giosan L., Haghypour N., Hou P., Lupker M., McIntyre C.P., Montlucon D.B., Peucker-Ehrenbrink B., Ponton C., Schefuss E., Schwab M.S., Voss B., Wacker L., Wu Y., Zhao M. (2021) Climate control on terrestrial biospheric carbon turnover. *Proceedings of the National Academy of Sciences*, 118(8), e2011585118. <https://doi.org/10.1073/pnas.2011585118>
- Hughes D.D., Christiansen M., Milani A., Vermeuel M.P., Novak G.A., Alwe H.D., Dickens A.F., Pierce R.B., Millet D.B., Bertram T.H., Stanier C.O., and Stone E.A. (2021) PM<sub>2.5</sub>

- chemistry, organosulfates, and SOA formation during the 2017 Lake Michigan Ozone Study. *Atmospheric Environment*, 244, 117939.
- Vermeuel M.P., Novak G.A., Alwe H.D., Hughes D.D., Kaleel R., Dickens A.F., Kenski D., Czarnetzki A.C., Stone E.A., Stanier C.O., Pierce R.B., Millet D.B., and Bertram T.H. (2019) Sensitivity of ozone production to NO<sub>x</sub> and VOC along the Lake Michigan coastline. *Journal of Geophysical Research: Atmospheres*, 124, 10,989-11,006.
- Vonk J.E., Dickens A.F., Giosan L., Hussain Z.A., Kim B., Zipper S.C., Holmes R.M., Montlucon D.B., Galy V. and Eglinton T.I. (2016) Arctic deltaic lake sediments as recorders of fluvial organic matter deposition. *Frontiers in Earth Science*, 4:77.
- Dickens A.F., Baldock J., Kenna T.C., and Eglinton T.I. (2011) A depositional history of particulate organic carbon in a floodplain lake from the lower Ob' River, Siberia. *Geochimica et Cosmochimica Acta*. 75: 4796–4815.
- Veilleux M.-H., Dickens A.F., Brandes J., and G elinas Y. (2009) Density separation of combustion-derived soot and petrogenic graphitic black carbon: Quantification and isotopic characterization. *IOP Conference Series: Earth and Environmental Science*. 5 012010.
- Conedera M., Tinner W., Neff C., Meurer M., Dickens A.F., and Krebs P. (2009) Reconstructing past fire regimes: Methods, applications, and relevance to fire management and conservation. *Quaternary Science Reviews*. 28: 435-456.
- Dickens A.F., Gudeman J.A., G elinas Y., Baldock J.A., Tinner W., Hu F.S. and Hedges J.I. (2007) Sources and distribution of CuO-derived benzene carboxylic acids in soils and sediments. *Organic Geochemistry*. 38: 1256-1276.
- Coppola L., Gustafsson  ., Andersson P., Eglinton T.I., Uchica M., and Dickens A.F. (2007) The importance of ultrafine particles as a control on the distribution of organic carbon in Washington Margin and Cascadia Basin sediments. *Chemical Geology*. 243: 142-156.
- Dickens A.F., Baldock J.A., Smernik R.J., Wakeham S.G., Arnarson T.S., G elinas Y., and Hedges J.I. (2006) Solid-state <sup>13</sup>C NMR analysis of size and density fractions of marine sediments: Insight into organic carbon sources and preservation mechanisms. *Geochimica et Cosmochimica Acta*. 70: 666-686.
- Haberstroh P.R., Brandes J.A., G elinas Y., Dickens A.F., and Wirick S. (2006) Chemical composition of the graphitic black carbon fraction in riverine and marine sediments at sub-micron scales using carbon X-ray spectromicroscopy. *Geochimica et Cosmochimica Acta*. 70: 1483-1494.
- Dickens A.F., G elinas Y., Masiello C.A., Wakeham S.G., and Hedges J.I. (2004) Reburial of fossil organic carbon in marine sediments. *Nature*. 427: 336-339.
- Keil R.G., Dickens A.F., Arnarson T.S., Nunn B.L., and Devol A.H. (2004) What is the oxygen exposure time of laterally transported organic matter along the Washington margin? *Marine Chemistry*. 92: 157-165.
- Dickens A.F., G elinas Y., and Hedges J.I. (2004) Physical separation of combustion and rock sources of graphitic black carbon in sediments. *Marine Chemistry*. 92: 215-223.

Macalady J.L., McMillan A.M.S., Dickens A.F., Tyler S.C., and Scow K.M. (2002) Population dynamics of type I and II methanotrophic bacteria in rice soils. *Environmental Microbiology*. 4 (3): 148-157.

Dickens A., Soucy L., and Valiela I. (1996) Particulate and dissolved nitrogen: A laboratory study of transformations in groundwater and estuarine samples of the Waquoit Bay estuarine system. *Biological Bulletin*. 191: 331-332.

#### **MANUSCRIPTS IN PREPARATION**

Dickens A.F., Goldberg D.L, Nergui T., and Adelman Z.E. (in preparation) The changing ozone formation sensitivity in two Midwestern cities: Insights from a weekday-weekend analysis coupled with examination of trends over space and time. In preparation for *Atmospheric Environment*.

#### **LADCO REPORTS (non-peer reviewed)**

Mercury Deposition in the Great Lakes Region (2023) 35 pp. [https://www.ladco.org/wp-content/uploads/Projects/Mercury/Mercury-deposition-in-the-Great-Lakes-Report-2023\\_FINAL-CLEAN.pdf](https://www.ladco.org/wp-content/uploads/Projects/Mercury/Mercury-deposition-in-the-Great-Lakes-Report-2023_FINAL-CLEAN.pdf).

Conceptual Models of Ozone Formation in the Great Lakes Region (2023) 151 pp. <https://www.ladco.org/wp-content/uploads/Projects/Ozone/Ozone-conceptual-model-report-FINAL-Feb-2023.pdf>

Ozone Formation Sensitivity to NO<sub>x</sub> and VOC Emissions in the LADCO Region (2022) 167 pp. <https://www.ladco.org/wp-content/uploads/Projects/Ozone/Ozone-Formation-Sensitivity-Report-FINAL-9-8-22.pdf>

Chapter 2: 2016 Ambient Air Quality Data Analysis (2022) *In* Attainment Demonstration Modeling for the 2015 Ozone National Ambient Air Quality Standard: Technical Support Document. 142 pp. [https://www.ladco.org/wp-content/uploads/Projects/Ozone/ModerateTSD/LADCO\\_2015O3\\_ModerateNAASIP\\_TS\\_D\\_21Sep2022.pdf](https://www.ladco.org/wp-content/uploads/Projects/Ozone/ModerateTSD/LADCO_2015O3_ModerateNAASIP_TS_D_21Sep2022.pdf)

Chapter 2: Ambient Air Quality Data and Visibility Analysis (2021) *In* Modeling and Analysis for Demonstrating Reasonable Progress for the Regional Haze Rule 2018-2028 Planning Period: Technical Support Document. 134 pp. [https://www.ladco.org/wp-content/uploads/Projects/Regional-Haze/Round2/LADCO\\_RegionalHaze\\_Round2\\_TSD\\_17June2021\\_Final.pdf](https://www.ladco.org/wp-content/uploads/Projects/Regional-Haze/Round2/LADCO_RegionalHaze_Round2_TSD_17June2021_Final.pdf)

#### **PRESENTATIONS (external, last fifteen years)**

American Geophysical Union (AGU) Fall Meeting, December 2024, Washington, DC, How Wildfire Smoke Challenges State Efforts to Attain PM<sub>2.5</sub> Standards and How Scientists Can Help.

Southwest Exceptional Events Working Group – Exceptional Events Workshop invited speaker, November 2024, Las Vegas, NV and online, Monitoring Data Analysis for Wildfire

Smoke Exceptional Events Demonstrations: Lessons learned and Future Approaches from Far Downwind Sites in the Great Lakes Region. (With Amy Robinson.)

U.S. Embassy Algiers invited speaker as part of the State Department's U.S. Speaker Program, September 2024, Algiers, Algeria, Air Quality in Algiers. (Presented to the Algerian Ministry of the Environment, to invited Algerian scientists, to a think tank, and to the diplomatic community.)

National Ambient Air Monitoring Conference 2024, August 2024, New Orleans, LA, Monitoring Data Analysis for Wildfire Smoke Exceptional Events Demonstrations: Lessons learned and Future Approaches from Far Downwind Sites in the Great Lakes Region. (With Amy Robinson).

2024 AGES+ (AEROMMA+CUPiDS, GOTHAM, ESCAPE, and STAQS field campaigns) Workshop organizing committee member and presenter, May 2024, Boulder, CO, Using AGES+ Data for Regulatory Decision Support: LADCO Priorities for AGES+ Chicago Data.

National Exceptional Events Workshop, February 2024, St. Louis, MO, Assessing Potential Regulatory Significance of O<sub>3</sub> & PM<sub>2.5</sub> Episodes in the Great Lakes Region.

American Meteorological Society (AMS) Annual Meeting, January 2024, Baltimore, MD, Ozone Formation Sensitivity in the Great Lakes Region: Insights from a Weekday-Weekend Analysis Coupled with Examination of Trends over Space and Time.

AGES+ Chicago Data Workshop organizer and presenter, October 2023, Lemont, IL, LADCO/State Objectives and Needs.

National Atmospheric Deposition Program (NADP) Fall Meeting and Scientific Symposium, October 2023, Madison, WI, Mercury Deposition in the Great Lakes Region (poster).

Minnesota Pollution Control Agency (MPCA) Annual Statewide Mercury TMDL Implementation Plan Oversight Committee Meeting invited speaker, September 2023, Duluth, MN, Mercury Deposition in the Great Lakes Region.

Joint Science Meeting for TEMPO, GeoXO ACX, & TOLNet invited panelist, May 2023, Huntsville, AL, TEMPO Science Team panel on Steep Gradients.

American Geophysical Union (AGU) Fall Meeting, December 2022, Chicago, IL, Determination of Drivers of Ozone Formation in Urban Areas in the Great Lakes Region to Inform Development of Emissions Control Strategies.

2022 AGES Workshop invited speaker, September 2022, Boulder, CO and online, Lessons Learned from the 2017 Lake Michigan Ozone Study (LMOS 2017).

National Emissions Modeling Watercooler invited speaker, July 2022, Ozone Formation Chemistry in the Great Lakes Region.

NASA Health and Air Quality Applied Sciences Team (HAQAST) Texas Meeting invited speaker (June 2022), Houston, TX and online, How Satellite Data is Supporting Ozone Planning in the Great Lakes Region.

University of Wisconsin – Madison, Introduction to Air Quality course invited lecture (annually 2014-2022), Madison, WI. Federal and State Regulation of Air Pollution.

TEMPO Satellite Science Team Meeting invited panelist (June 2019), Madison, WI. Science Panel: Aircraft Profiling Perspective.

University of Wisconsin – Madison, Government and Natural Resources course invited lecture (June 2019), Madison, WI. Federal and State Regulation of Air Pollution.

Wisconsin Science Festival invited panelist (November 2017), Madison, WI. Making a Difference: Science Policy for Scientists. Included leading a workshop on “Writing for a Policy Audience”.

LMOS 2017 Data Workshop (September 2017), Chicago, IL. Putting LMOS 2017 ozone episodes in a historical context (with Donna Kenski).

LMOS 2017 Planning Team Meeting (March 2017), Madison, WI. Analysis of Ozone, NO<sub>x</sub> and VOC Monitoring Data Along Wisconsin’s Lake Michigan Lakeshore.

University of Wisconsin – Madison Weston Roundtable Seminar Series invited lecture (February 2015), Madison, WI. Keeping Wisconsin’s Air Clean: Meeting EPA’s New Ozone Standard.

University of Wisconsin – Madison, Endocrinology and Reproductive Physiology invited lecture (March 2014), Madison, WI. Working at the Science-Policy Interface: Using the AAAS Science Policy Fellowship as a Bridge.

University of Wisconsin – Madison, Introduction to Air Quality course invited lecture (December 2013), Madison, WI. *EPA regulation of greenhouse gas emissions.*

Wisconsin Department of Natural Resources Continuing Legal Education seminar invited talk (October 2013), Madison, WI. *EPA regulation of CO<sub>2</sub> emissions from power plants.*

University of Wisconsin – La Crosse Biology Department invited seminar (October 2013), La Crosse, WI. *A Scientist goes to Washington (and Madison): Using science to make better environmental policy.*

American Biogas Council invited webinar (June 2013), Washington, DC and online. *The Renewable Fuel Standard (RFS2): What biogas companies need to know.*

Swiss Federal Institute of Technology Zürich (ETH-Zürich), invited seminar (March 2011) Zürich, Switzerland. *Particulate organic carbon export from the Mackenzie River: the response of an arctic river to a warming world.*

Graduate School of Oceanography, University of Rhode Island invited seminar (April 2010), Narragansett, RI. *Organic carbon cycling in Siberian and Canadian arctic rivers.*

Ocean Sciences Meeting (February 2010), Portland, OR. *Particulate organic carbon export from the Mackenzie River: the response of an arctic river to a warming world.*

Smith College Chemistry Department invited seminar (October 2009), Northampton, MA. *Organic carbon cycling in Siberian and Canadian arctic rivers.*

Mer Bleue Annual Workshop: 10 years of being bogged down (February 2009), Montreal, Quebec. Talk: *Changes in soil chemistry in Mer Bleue bog in response to fertilization: Insight from analysis of lignin phenols.*

## TEACHING EXPERIENCE



Mount Holyoke College, Courses taught:

How Hot? Understanding Global Climate Change (first-year seminar; Spring 2010)  
General Chemistry I (with laboratory; Fall 2008 and 2009)  
Global Biogeochemistry (Fall 2007 and 2009)  
Experimental Methods (with laboratory; Spring 2008 and 2009)  
Chemistry Senior Seminar (Spring 2010)  
*On sabbatical Fall 2010-Spring 2011*

Seven Research students mentored (6 in Chemistry and 1 in Environmental Studies)

Carleton College, Course taught:

General Chemistry (with laboratory; Winter 2005)

University of Washington, Teaching Assistant for:

Marine Chemistry (graduate course; Fall 2000 and 2003)  
General Chemistry II (Winter 2002)

## **FIELD EXPERIENCE**

AGES+ Chicago Field Study. Co-lead organizer of the Chicago component of the multi-agency field study to study air quality in Chicago and downwind areas as part of the AEROMMA+CUPiDS-GOTHAAM-EPCAPE-STAQS + campaigns, July-August 2023.

2017 Lake Michigan Ozone Study (LMOS 2017). Co-lead organizer of the multi-agency field campaign to study ozone formation and transport, May-June 2017.

Mer Bleue Bog (Ottawa, ON). Lead investigator: Collection of peat samples from bog, accompanied by one undergraduate student, August 2008.

Mackenzie River Delta (Canadian Arctic). Lead investigator: Sampling of river water from flooding river, accompanied by two undergraduate students, May-June 2008.

Mackenzie River Delta (Canadian Arctic). Coring of deltaic lakes to collect sediment profiles and collection of river water, April 2007.

Black Sea Cruise (from Varna, Bulgaria). Collection of water and sediment samples aboard the R/V *Akademik*, August-September, 2006.

North Atlantic Cruise (Woods Hole, MA to Station W). Collection of water, suspended and sinking particles and sediment samples aboard R/V *Oceanus*, June 2006.

North Pacific Cruise (San Francisco, CA to San Diego, CA). Collection of sediment samples aboard R/V *New Horizon*, May-June 2001.

Karelia, Russia. Collection of soil and rock samples, September 2000.

North Pacific Cruise (Seattle, WA to Juan de Fuca Ridge). Field experiments and sample collection aboard R/V *Thompson* with JASON, August-September 1999.

Maxwell, California. Weekly collection of atmospheric and soil samples, Summer 1998 and 1999.

Waquoit Bay, Massachusetts. Weekly collection of estuarine water samples, Summer 1996.

## **OTHER PROFESSIONAL ACTIVITIES**

American Geophysical Union Member (2002-present)

American Association for the Advancement of Science Member (2011-present)

Reviewer for National Science Foundation, Petroleum Research Fund, *Environmental Science and Technology*, *Geochimica et Cosmochimica Acta*, *Geoderma*, *Geology*, *Global Biogeochemical Cycles*, *Limnology and Oceanography*, *Marine Chemistry* and *Organic Geochemistry*.

## **SERVICE**

U.S. Speaker in the U.S. Department of State's U.S. Speaker Program (2024-on). Spoke in Algiers, Algeria in September 2024.

U.S. Department of State Virtual Air Quality Fellow with the U.S. Embassy in Algiers, Algeria (2023-2024).

Frequent speaker/volunteer with the UW-Madison graduate student group Catalysts for Science Policy (2015-2018).

Wisconsin Women in Natural Resources Co-Founder and Co-Chair (2014-2017).

AAAS Science Policy Fellows Biofuels Affinity Group Founder and Chair (2011-2013).

Faculty Grants Committee, Mount Holyoke College (2009-2010).

Environmental Studies Committee, Mount Holyoke College (2008-2010).

Secretary of the Postdoctoral Association, Woods Hole Oceanographic Institution (2006-2007).

Postdoctoral Representative on the Women's Committee, Woods Hole Oceanographic Institution (2006-2007).