

RYAN S.D. CALDER, SCD, PE

Curriculum vitæ

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EDUCATION

- 2017 **SdD** Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA
2012 **MASc** Civil Engineering, Concordia University, Montreal, Canada
2010 **BEng** Civil Engineering, Concordia University, Montreal, Canada

ACADEMIC APPOINTMENTS

Virginia Tech, Blacksburg, VA

Since 2020 Assistant Professor of Environmental Health and Policy, Dept. of Population Health Sciences
Assistant Professor of Health Sciences, Faculty of Health Sciences
Faculty Affiliate, Global Change Center
Faculty Affiliate, Center for Coastal Studies

Since 2022 Faculty Affiliate, Department of Civil and Environmental Engineering

Duke University, Durham, NC

Since 2020 Adjunct Assistant Professor, Dept. of Civil and Environmental Engineering
Nonresident Affiliate, Center on Risk

2017–20 Postdoctoral Associate, Dept. of Civil and Environmental Engineering

Harvard University, Cambridge, MA

2017 Postdoctoral Fellow, Harvard John A. Paulson School of Engineering and Applied Sciences

2014–17 Fellow in Environmental Science and Engineering, Harvard John A. Paulson School of
Engineering and Applied Sciences

PROFESSIONAL POSITIONS

GHD, Montreal, Canada

2008–12 Engineer (2012), Junior Engineer (2010–2012), Engineering Technician (2008–2010)

Quebec Ministry of Environment, Sherbrooke, Canada

2007 Analyst, Environmental Hydraulics

REFEREED JOURNAL PAPERS

Posted pre-prints

2024 C Krapu, ME Borsuk & RSD Calder. ‘Deep autoregressive modeling for land use cover’, arXiv. [➡](#)

- 2023 AM Gazar*, ME Borsuk & [RSD Calder](#). ‘Do electrical inerties stimulate Canadian hydroelectric development? Using causal inference to scope environmental impact assessment in evolving sociotechnical systems’, *engrXiv*. [↗](#)

Published articles

- 2023 [RSD Calder](#) & AT Schartup. ‘Geohealth policy benefits are mediated by interacting natural, engineered, and social processes’ in *GeoHealth*, vol. 7 (9): e2023GH000858.
★ Editor’s highlight [↗](#)
- 2023 [RSD Calder](#), JL McDermid & SA Boudreau. ‘Drivers of Atlantic herring decline and evidence basis for fisheries closures and rebuilding plans’ in *Can J Fish Aquat Sci*, vol. 80 (4), pp. 663-675.
★ Editor’s choice [↗](#)
- 2022 [RSD Calder](#), CS Robinson & ME Borsuk. ‘Total social costs and benefits of long-distance hydropower transmission’ in *Environ Sci Technol*, vol. 56 (24): 17510–17522. [↗](#)
- 2021 T Allen, J Behr, A Bukvic, [RSD Calder](#), [...] & JC Zinnert. ‘Anticipating and adapting to the future impacts of climate change on the health, security and welfare of low elevation coastal zone communities in Southeastern USA’ in *J Mar Sci Eng*, vol. 9 (11): 1196. [↗](#)
- 2021 [RSD Calder](#), C Grady, M Jeuland, CJ Kirchhoff, RL Hale & RL Muenich. ‘COVID-19 reveals vulnerabilities of the food-energy-water nexus to viral pandemics’ in *Environ Sci Technol Lett*, vol. 8 (8), pp. 606-615. [↗](#)
- 2020 [RSD Calder](#), A Alatorre, R Marx, V Mallampalli, SA Mason, LP Olander, M Jeuland & ME Borsuk. ‘Graphical models and the challenge of evidence-based practice in development and sustainability’ in *Environ Modell Softw*, vol. 130: 104734. [↗](#)
- 2019 [RSD Calder](#), C Shi, SA Mason, LP Olander & ME Borsuk. ‘Forecasting ecosystem services to guide coastal wetland rehabilitation decisions’ in *Ecosyst Serv*, vol. 39: 101007. [↗](#)
- 2019 H Tallis, [...] [RSD Calder](#), [...] & S Zobrist. ‘Aligning evidence generation and use across health, development and environment’ in *Curr Opin Env Sust*, vol. 39, pp. 81–93. [↗](#)
- 2018 [RSD Calder](#), S Bromage & EM Sunderland. ‘Risk tradeoffs associated with traditional food advisories for Labrador Inuit’ in *Environ Res*, vol. 168, pp. 496–506. [↗](#)
- 2016 [RSD Calder](#), AT Schartup, M Li, AP Valberg, PH Balcom & EM Sunderland. ‘Future impacts of hydroelectric power development on methylmercury exposures of Canadian indigenous communities’ in *Environ Sci Technol*, vol. 50 (23), pp. 13115–22. [↗](#)
- 2015 AT Schartup, PH Balcom, AL Soerensen, KJ Gosnell, [RSD Calder](#), RP Mason & EM Sunderland. ‘Freshwater discharges drive high levels of methylmercury in Arctic marine biota’ in *Proc Natl Acad Sci USA*, vol. 112 (38), pp. 11789–94. [↗](#)
- 2015 [RSD Calder](#) & KA Schmitt. ‘Decentralised drinking water regulation: risks, benefits and the hunt for equality in the Canadian context’ in *Int J Water*, vol. 9 (2), pp. 178–93. [↗](#)

* Graduate student advisee

- 2013 [RSD Calder](#), L Yerushalmi & SS Li. ‘Computational fluid dynamics model of a BioCAST multi environment air-lift bioreactor’ in *J Environ Eng*, vol. 139 (6), pp. 849–63. [↗](#)
- 2010 [RSD Calder](#) & KA Schmitt. ‘The Role of detection limits in drinking water regulation’ in *Environ Sci Technol*, vol. 44 (21), pp. 8008–14. [↗](#)

BOOK CHAPTERS

- 2021 [RSD Calder](#), AT Schartup, T Bell & EM Sunderland. ‘Muskrat Falls, methylmercury, food security, and Canadian hydroelectric development’ in Muskrat Falls: How a Mega Dam Became a Predatory Formation by S. Crocker & L. Moore (Eds.), St. John's, Canada: Memorial University Press, pp. 81-109. [↗](#)
- 2019 [RSD Calder](#). ‘Coupled human-natural modeling for hydroelectric development: understanding the health impacts of America's renewable energy imports’ in M. Valerino (Ed.). *Case Studies on Energy Access Transitions in the Developing World*. Durham, NC: Duke University, pp. 8–17. [↗](#)

POLICY ENGAGEMENT AND OUTREACH

Major policy reports

- 2020 [RSD Calder](#), ME Borsuk & CS Robinson. ‘Analysis of environmental and economic impacts of hydropower imports for New York City through 2050’. Report to the Quebec Ministry of International Relations and La Francophonie, Quebec City, Canada. [↗](#)
- 2019 J Kagan, ME Borsuk, [RSD Calder](#), M Creutzburg, SA Mason, LP Olander, A Plantinga & CS Robinson. ‘Assessing ecosystem service benefits from military installations’. Report to the Strategic Environmental Research and Development Program, Dept. of Defense, Washington, D.C. [↗](#)
- 2016 AT Schartup, [RSD Calder](#), M Li, PH Balcom, AP Valberg, J Ewald & EM Sunderland. ‘Methylmercury’ in A Durkalec, T Sheldon & T Bell (Eds.), *Lake Melville: Avativut, Kanuittailinnivut: Scientific Report*, pp. 49–61. Nain, Canada: Nunatsiavut Government. [↗](#)

Other reports, letters, and communications

- 2023 [RSD Calder](#) [co-signed by nine organizations and academic institutes and >650 members of the public]. ‘Re: Urgent action needed on traffic violence in Washington, D.C.’ Letter to the Council of the District of Columbia and several executive agencies. [↗](#)
- 2015 [RSD Calder](#), J Liddie, EM Sunderland, S Shankar, K Tian, G Touloumes & C Wagner. ‘Re: US EPA Science Advisory Board review of the Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources’. Letter to U.S. EPA Hydraulic Fracturing Review Advisory Panel. Docket ID EPA-HQ-OA-2015-0245. [↗](#)
- 2011 KA Schmitt & [RSD Calder](#). Response to Comment on ‘Role of detection limits in drinking water regulations’ in *Environ Sci Technol*, vol. 45 (2), p. 836. [↗](#)

Written testimony (invited)

- 2023 [RSD Calder](#). ‘Re: Testimony on four bills: B25-421 (“License Suspension Reform”); B25-422 (“Automated Traffic Enforcement”); B25-425 (“Strengthening Traffic Enforcement, Education, and Responsibility (‘STEER’)”); and B25-435 (“Fraudulent Vehicle Tag Enforcement”)’. Letter to Councilmember Charles Allen, chairperson of Committee on Transportation and the Environment

and Councilmember Brianne K. Nadeau, chairperson of the Committee on Public Works and Operations, Council of the District of Columbia. ➔

2023 RSD Calder. ‘Re: Evidence basis for interventions in dangerous driving – follow-up to testimony of May 23, 2023’. Letter to Councilmember Charles Allen, chairperson of Committee on Transportation and the Environment, Council of the District of Columbia. ➔

2018 Multiple written submissions re: potential for methylmercury impacts (quantitative analysis and expert review) to the Independent Expert Advisory Committee on the Muskrat Falls hydroelectric project, Happy Valley – Goose Bay, Canada. ➔

Oral testimony and presentations (invited)

2023 ‘Urgent action needed on traffic violence in Washington, D.C.’ Oral testimony to Traffic Enforcement Roundtable, Committee on Transportation and the Environment, Council of the District of Columbia. ➔

2020 ‘Analysis of environmental and economic impacts of hydropower imports for New York City through 2050’. Briefings to leadership of Hydro-Québec, the Quebec Ministry of International Relations and La Francophonie, the New York City Mayor’s Office and the New York State Energy Research and Development Authority (NYSERDA).

2017–18 Multiple briefings and research presentations re: potential for methylmercury impacts to the Independent Expert Advisory Committee on the Muskrat Falls hydroelectric project, Happy Valley – Goose Bay, Canada.

Public writing

2023 RSD Calder. ‘DC’s traffic-safety policies have broken down. Here’s how.’ *Greater Greater Washington*, Washington, D.C. ➔

2019 RSD Calder. « Une mauvaise publicité pour l’hydroélectricité québécoise » (‘Bad advertising for Quebec’s hydropower’). *La Presse*, Montreal, Canada. ➔

2019 RSD Calder. ‘Canada ignore Muskrat Falls at its own peril’. *The Telegram* (via *The Conversation*), St. John’s, Canada. ➔

2011 KA Schmitt & RSD Calder. ‘Keeping drinking water safe and economically sustainable: understanding the drivers of regulatory change to create anticipatory drinking water policy’ in *Engineering Dimensions*, Jan/Feb 2011, pp. 27–30. ➔

RESEARCH GRANTS

Extramural

2023 CC Carey (PI), M Schreiber (Co-I), R Gramacy (Co-I), R Thomas (Co-I) & RSD Calder (Co-I). ‘Applying rules of life to forecast emergent behavior of phytoplankton and advance water quality management’. Using the Rules of Life to Address Societal Challenges program, National Science Foundation (grant no. 2318861). Funding through 2027 (expected). **\$2,076,344**.

2023 RSD Calder (PI), G Mavrommati & R Howarth. ‘Deliberative Valuation and Integrated Modeling to Accelerate Equitable Decarbonization in New England’. Science To Achieve Results (STAR) Program, U.S. Environmental Protection Agency (grant no. 84055801). Funding through 2026 (expected). **\$649,328**.

- 2022 ME Borsuk (PI), LP Olander, RSD Calder (co-I) & A Plantinga. ‘Model-based tracking and integrated valuation of ecosystem services (MoTIVES) for military base land-use and land-management decisions’. Strategic Environmental Research and Development Program, U.S. Department of Defense (grant no. RC20-3054). Funding through 2026 (expected). **\$1,999,772.**
- 2022 JM Gohlke (PI), B Zaitchik (co-I), S Swarup (co-I) & RSD Calder (co-I). ‘Quantifying distributional health damages of extreme weather events’. Health and Air Quality Applications Program, NASA (grant no. 21-HAQ21-0034). Funding through 2024 (expected). **\$1,075,537.**
- 2020 RSD Calder (co-PI) & ME Borsuk (co-PI). ‘Analysis of environmental and economic impacts of hydropower imports for New York City through 2050’. Quebec Ministry of International Affairs and La Francophonie (grant no. SP1903210-2020-003). **\$61,352.**
- 2019 R Muenich (PI), R Hale (PI), RSD Calder, B Hannibal, C Prasse, A Stillwell & B Thiede. ‘Characterizing FEW system typologies across the continental U.S. for informed FEW research’. National Socio-Socio-Environmental Synthesis Center (pursuit funded through NSF grant no. DBI-1639145).

Intramural

- 2023 J Liao (PI), RSD Calder (co-I), L Zhang (Co-I). ‘A nationwide investigation of sociodemographic disparities in the risks of exposure to soil bacterial pathogens in the United States’. Virginia Tech Institute for Society, Culture, and Environment Scholars Program. **\$30,000.**
- 2021 N Ruktanonchai (PI), RSD Calder (PI) & O Saucedo (PI). ‘Understanding food worker decisions during COVID-19 to minimize worker disease and food system disruption from future pandemics’. Virginia Tech Center for Emerging, Zoonotic and Arthropod-borne Diseases. **\$19,989.**
- 2020 ME Borsuk (PI), SM Wilson (PI), MD Hendricks & RSD Calder. ‘Building community resilience to natural-disaster-driven contaminant exposures through system-level risk analysis, management, and readiness’. United States Environmental Protection Agency (grant no. R840041, solicitation no. EPA-G2019-STAR-E1). Funding through 2023 (expected). **\$799,736.**
- 2018 MA Jeuland (PI), ME Borsuk, K Bradbury, JM Malof, LP Olander, RSD Calder, TR Fetter & J Phillips. ‘Practice Imperfect? Comparing expert and data-supported perspectives on the effect of energy access on social and economic development’. Catalyst Program, Duke University Nicholas Institute for Environmental Policy Solutions (grant no. 451-1592). **\$19,840.**

SELECT AWARDS AND FELLOWSHIPS

- 2014–16 Canada Graduate Scholarship (CGS-D), Natural Sciences and Engineering Research Council of Canada (declined and accepted PGS-D for tenure outside Canada)
- 2014 Postgraduate Scholarship (B1), Fonds de recherche du Québec – nature et technologies (ranked first in earth, atmosphere and water sciences; declined to accept PGS-D award)
- 2012–14 Horace W. Goldsmith Fellowship, Harvard University
- 2011–12 Power Corporation of Canada Graduate Fellowship, Concordia University

- 2011 Student Merit Award, Society for Risk Analysis Ecological Risk Assessment Specialty Group (sole winner)
- 2010–12 Graduate Scholarship, Fondation Universitaire Pierre Arbour
- 2009 Steve Bonk Scholarship, Canadian Water & Wastewater Association (sole winner, national)

CONFERENCE, SEMINAR AND WORKSHOP PARTICIPATION

Oral presentations at research conferences

- 2023 RSD Calder & AT Schartup. ‘Policy advice in geohealth must reflect natural, engineered, and social processes to avoid unintended consequences and enhance environmental justice’. (Invited.) American Geophysical Union, San Francisco, CA. ➔
- 2022 ME Borsuk, RSD Calder, M Creutzburg, JS Kagan, SA Mason, LP Olander, A Plantinga & CS Robinson. ‘Integrated mechanistic and economic modeling of ecosystem services to inform land-use decisions under uncertainty’. A Community on Ecosystem Services (ACES), Washington, DC. ➔
- 2021 RSD Calder, C Grady, M Jeuland, CJ Kirchhoff, RL Hale, S Rodgers & RL Muenich. ‘Increasing resiliency of integrated food-energy-water systems to viral pandemics: lessons from COVID-19’. American Geophysical Union, New Orleans, LA. ➔
- 2019 RSD Calder, K Bradbury, JM Malof, LP Olander, M Jeuland & ME Borsuk. ‘Integrated modeling of food-energy-water systems: challenges and opportunities of quantitative graphical networks’. Food-Energy-Water Nexus, American Institute of Chemical Engineers, New York, NY. ➔
- 2019 J Kagan, ME Borsuk (co-presenter), RSD Calder, M Creutzburg, SA Mason, LP Olander & A Plantinga. ‘Assessing ecosystem service benefits from military installations’. Strategic Environmental Research and Development Program Symposium, Washington, D.C. ➔
- 2018 C Shi, RSD Calder, SA Mason, LP Olander & ME Borsuk. ‘Forecasting ecosystem services to guide coastal wetland rehabilitation decisions’. International Congress on Environmental Modelling and Software, Fort Collins, CO. ➔
- 2018 RSD Calder, AT Schartup, M Li, AP Valberg, PH Balcom, S Bromage & EM Sunderland. ‘Forecasting human health impacts of reservoir creation and food consumption advisories: an integrated model to guide hydroelectric development’. Association for the Sciences of Limnology and Oceanography, Victoria, Canada. ➔
- 2016 RSD Calder, AT Schartup, M Li, AP Valberg, PH Balcom & EM Sunderland. ‘Future impacts of hydroelectric power development on methylmercury exposures of Canadian Indigenous communities’. *Society of Environmental Toxicology and Chemistry*, Orlando, FL. ➔
- 2011 RSD Calder & KA Schmitt, ‘Decision model for management of sewage plumes in a tidal environment’. *Society for Risk Analysis*, Charleston, SC.
- 2011 RSD Calder & KA Schmitt, ‘Probabilistic risk assessment for management of sewage plumes in a tidal environment’. *Canadian Association on Water Quality*, Quebec City, Canada.

Oral presentations at research workshops

- 2023 RSD Calder, JL McDermid & SA Boudreau. ‘Improving herring management via integrated modeling’. Gulf Science Seminar, Fisheries and Oceans Canada, Moncton, Canada and online.

- 2019 ME Borsuk, K Bourne, RSD Calder, CY Chen, RB Howarth (co-presenter), G Mavrommati, SH Rogers & S Zuidema. ‘Deliberative valuation of watershed ecosystem services’. Water Quality Benefits Research Meeting, U.S. EPA, Ithaca, NY.
- 2017 ME Borsuk, RSD Calder, C Shi, SA Mason & LP Olander (co-presenter). ‘Ecosystem services conceptual models’. San Francisco Bay National Estuarine Research Reserve, Tiburon, CA.

Oral presentations at departmental seminars

- 2024 Research seminar, Department of Environmental Studies, Dartmouth College, Hanover, NH.
- 2024 Flash talks, Global Change Center, Virginia Tech, Blacksburg, VA.
- 2024 Seminar Series, Biomedical and Veterinary Sciences Program, Virginia Tech, Blacksburg, VA.
- 2023 Seminar series, Department of Civil and Environmental Engineering, Virginia Tech, Blacksburg, VA.
- 2022 Flash talks, Ecological Forecasting Project, Virginia Tech, Blacksburg, VA.
- 2022 Environmental Engineering Seminar Series, Arizona State University, Tempe, AZ.
- 2019 Jones Seminar Series, Thayer School of Engineering, Dartmouth College, Hanover, NH. ➔
- 2017 Seminar series, Department of Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA.

Poster presentations at research conferences

- 2023 RSD Calder, ME Borsuk, AM Gazar, RB Howarth, C Jackson, G Mavrommati. ‘Canadian hydropower and the U.S. energy transition: controversies, opportunities, and strategic research directions’. American Geophysical Union, San Francisco, CA. ➔
- 2022 AM Gazar* & RSD Calder. ‘Causal inference to scope environmental impact assessment in multisector systems: the case of trans-border hydropower exports’. American Geophysical Union, Chicago, IL. ➔
- 2021 RSD Calder, CS Robinson & ME Borsuk. ‘Decarbonization via long-distance transmission of hydropower is cost-effective’. American Geophysical Union, New Orleans, LA. ➔
- 2017 RSD Calder, S Bromage & EM Sunderland. ‘Quantifying the health impacts of dietary fish consumption advisories for methylmercury among Inuit in Labrador’. International Conference on Mercury as a Global Pollutant, Providence, RI.

Other workshop participation

- 2019 ‘Building Effective Strategies for Co-production of Sustainability Science’. NAS Keck Futures Initiative, organized by the University of Minnesota, held in Durham, NC. (Invited participation.)
- 2018 ‘Long Run Sustainability of US Agriculture’. organized by Purdue University, held in Washington, D.C.
- 2018 ‘Data to Motivate Synthesis’. National Socio-Environmental Synthesis Center, Annapolis, MD. (Invited participation.)
- 2017 Bridge Collaborative Launch, The Nature Conservancy, London, UK. (Invited participation.)
- 2013 ‘ComSciCon’ (Communication of Science Conference), Harvard University/Massachusetts Institute of Technology, Cambridge, MA.

TEACHING EXPERIENCE

Virginia Tech, Blacksburg, VA

Environmental Health (graduate-level, in-person and online): instructor (2021–23)

Epidemiology and Quantitative Methods in Public Health Lab (graduate-level, in-person): instructor (2022–23)

Duke University, Durham NC

DeCIPHER – Decisions on Complex Interdisciplinary Problems of Health and Environmental Risk (undergraduate/graduate Bass Connections class): curriculum development and select lectures (2017–19)

Harvard T.H. Chan School of Public Health, Boston MA

Water Pollution (graduate-level): primary instructor (2017); teaching assistant (2014); guest lecturer (2018)

Introduction to Environmental Health (graduate-level): teaching assistant (2013–14)

Concordia University, Montreal, Canada

Risk Analysis for Information Systems Engineering (graduate-level): teaching assistant (2011)

Mechanics of Materials (undergraduate): teaching assistant (2010)

Departmental tutor on duty for core undergraduate civil engineering curriculum (2009–10)

SERVICE AND OUTREACH

Regulatory review

2022 Ad-hoc reviewer, Scientific Advisory Committee on Chemicals, U.S. Environmental Protection Agency

Community engagement

Since 2021 Faculty advisor, Virginia Scientist-Community Interface (V-SCI)

Institutional committees at Virginia Tech, Blacksburg, VA

2022 Interfaces of Global Change Admissions Committee, Global Change Center

2022 Destination Area 2.0 Review Committee, Provost's Office

Since 2020 Public Interest Technology University Network (College representative)
Virginia-Maryland College of Veterinary Medicine Library and Instructional Technology Committee (chair and departmental representative)
Virginia Tech University Library Committee (College representative)

2020–21 National Security Institute Planning Committee (College representative)

Journal reviews

Energy systems

Renewable and Sustainable Energy Reviews (Elsevier)

Environmental science

Ecological Economics (Elsevier); Ecosystem Services (Elsevier); Environment, Development and Sustainability (Springer); Environmental Modelling & Software (Elsevier); Environmental Research

(Elsevier); Environmental Research Communications (IOP Science); Environmental Science and Policy (Elsevier); Environmental Science and Pollution Research (Springer); Environmental Science & Technology (American Chemical Society); Environmental Science & Technology Letters (American Chemical Society); Integrated Environmental Assessment and Management (Wiley); International Journal of Environmental Research and Public Health (MDPI); Journal of Environmental Management (Elsevier); Nature Communications (Nature Portfolio), PLOS Water (PLOS); Science of the Total Environment (Elsevier); Sustainability (MDPI); Sustainable Production and Consumption (Elsevier); Water (MDPI); Water Research (Elsevier)

Public health

Journal of Exposure Science & Environmental Epidemiology (Springer); Public Health Nutrition (Cambridge University Press); Risk Analysis (Wiley)

Conference proceedings reviews and committee service

Hawaii International Conference on System Sciences (University of Hawaii at Manoa, reviewer), IEEE International Symposium on Technology and Society ('21, University of Windsor, Canada, technical committee member)

Mentorship and supervision

Virginia Tech, Blacksburg VA

2024– Kathleen Hoffman, PhD (Biological Sciences) '29: committee member
2024– Md Mahabub Chowdhury, PhD (Biomedical and Veterinary Sciences) '29: primary advisor
2023– Emily Matthews, PhD (Civil and Environmental Engineering) '28: primary advisor
2021–22 Ali Nakhli: postdoctoral mentor
2021– Amir M Gazar, Ph.D. '26 (Biomedical and Veterinary Sciences): primary advisor
2021– Tolulope Adesoji, Ph.D. '26: committee member
2021–22 Jarek Campbell, M.S. '22: committee member

Duke University, Durham NC

2017–22 Kimberly Bourne, Ph.D. '22: supervision of thesis chapter and committee member
2017–19 Andrea Alatorre, M.E.M. '19: supervision of research assistantship
2017–19 Rebecca Marx, M.E.M. '19: supervision of research assistantship
2017–18 Congjie Shi, M.S. '18: supervision of research assistantship

Harvard College, Cambridge MA

2015–16 Harry Stone, S.B. '16: primary supervision of senior thesis
2013–14 Angela Jiang, S.B. '17: primary supervision of research assistantship
2013 Harvard College Global Health Review: graduate mentor

Harvard T.H. Chan School of Public Health, Boston MA

2015 Madeleine Bartzak, M.P.H. 2016: primary supervision of master's thesis

Recent volunteer activities

2020–21 Judge, One Health Case Competition, Virginia-Maryland College of Veterinary Medicine

2018 Physics and mathematics judge, North Carolina Science and Engineering Fair

MEDIA INTERVIEWS AND COVERAGE OF WORK

Radio interviews

2016–21 CBC Radio One: Multiple appearances on programs in Newfoundland & Labrador, British Columbia and Northern Canada markets

2015 Radio-Canada Première : Le 6-a-9, Jul. 2.

Television appearance

2016 CBC TV Newfoundland & Labrador. Here and Now, Nov. 9.

Print and online publications (select)

2023 T Vargas, ‘Letting bad drivers stay on the road is costing D.C. more than money’. *Washington Post*, May 10. [→](#)

2023 M Cogan, ‘A fatal crash shows us everything that’s wrong with traffic enforcement’. *Vox*, Sep. 21 [→](#)

2023 M Wilson, ‘How a \$6B transmission project made it in New York’. *E&E News*, Mar. 1. [→](#)

2020 T Roberts, ‘Researcher raises Muskrat methylmercury alarm, but Nalcor contractor says levels safe’. *CBC News*, Nov. 24. [→](#)

2019 B White, ‘Weighing the methylmercury risk: What researchers say about country food’. *CBC News*, Jul. 26. [→](#)

2019 S Cox, ‘Mercury rising: how the Muskrat Falls dam threatens Inuit way of life’. *The Narwhal*, May 22. [→](#)

2016 I Austen, ‘Canada’s Big Dams Produce Clean Energy, and High Levels of Mercury’. *New York Times*, Nov. 10. [→](#)

2016 J Sokol, ‘How Dams Risk Poisoning Indigenous Diets’. *The Atlantic*, Nov. 9. [→](#)

2016 M Boone, ‘Not Just Muskrat Falls: Harvard Study Identifies Higher Health Risk in 11 Other Hydro Projects’. *CBC News*, Nov. 9. [→](#)

2010 R Renner, ‘Debunking the Detection Limit Myth’. *Chemical & Engineering News*, Oct. 14. [→](#)

SKILLS

Computer languages and software

Expert: Analytica, R, MATLAB, MS Excel. *Advanced:* Stata, ArcGIS, QGIS; *Intermediate:* C++, Fortran, HTML, MPI, NetCDF, Python

Languages

Native fluency (written, read, spoken): English and French. *Conversational:* German, Czech

PROFESSIONAL MEMBERSHIPS AND LICENSES

Professional engineering licensure

Nevada Board of Professional Engineers and Land Surveyors, Reno, NV

Since 2020 Professional Engineer, Nevada, USA (license no. 027969)

Ordre des ingénieurs du Québec, Montreal, Canada

Since 2012 Professional Engineer, Quebec, Canada (license no. 5017602)

Engineers Canada, Ottawa, Canada

Since 2020 International Professional Engineer, Canada (license no. MR-00336)

Since 2020 APEC Engineer (license no. MR-00336)

Professional associations

Scholars Strategy Network, Cambridge, MA (NC and VA chapters, member since 2019); American Geophysical Union (member since 2021).

PERSONAL

Nationality: Canada

Work authorization: United States (Lawful Permanent Resident), Canada