Sarah Marie Jordaan, B.Sc., Ph.D.
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Research and teaching interests: technology assessment, life cycle assessment, techno economic analysis, technology innovation, energy and environmental systems analysis, international trade and energy, energy policy.

Education

2010	**Ph.D. Environmental Design**, specialization in Energy and Environmental Systems, University of Calgary, received on June 7.
2003	**B.Sc. Physics**, Computer Science minor, Department of Physics and Physical Oceanography, Memorial University of Newfoundland.
1998	French Bursary Program, Université de Montréal.

History of employment

2022 -	**McGill University.** Associate Professor of Life Cycle Assessment/Industrial Ecology, Department of Civil and Environmental Engineering & Trottier Institute of Sustainability in Engineering and Design.
2016 - 2022	**Johns Hopkins University**. Assistant Professor, School of Advanced International Studies; Assistant Professor, Department of Environmental Health and Engineering (secondary appointment, 2020-2023); Affiliate Member of the Institute for Data-Intensive Engineering and Science (2019-2023).
2013 - 2016	**University of Calgary**. Assistant Professor of Energy Politics and Policy, Department of Political Science.
2012 - 2014	**Electric Power Research Institute (EPRI)**. Project Manager, Environmental and Economic Challenges and Opportunities: Shale Gas in the U.S., Environment and Renewables (2012-2013); Consultant (through June 2013); Contractor (2013-2014).
2010 - 2012	**Harvard University**. Postdoctoral Fellow/Associate, Energy Technology Innovation Policy, J. F. Kennedy School of Government and Department of Earth and Planetary Sciences.
2010 - 2012	**University of California, San Diego**. Associate, Laboratory on International Law and Regulation.
2004 - 2010	**University of Calgary.** Postdoctoral Fellow/Ph.D. Candidate. Environmental Design/Institute for Sustainable Energy Economy and Environment. Transferred to Ph.D. program in 2006.
2006	**Shell Canada Limited**. Environmental planner (coop student), Peace River oil sands project.
2004	**Memorial University.** Science Technician, Ocean Sciences Center. Placement also held during high school (1995).
2003 - 2004	**Carpathian Wildlife Foundation, Romania**. Young Professionals International Intern, Department of Foreign Affairs and International Trade, Government of Canada.
2003	**Memorial University.** Research Assistant, Department of Physics.

Fundraising

- NSERC Alliance Missions Critical Minerals, 2024-2027 ($1,397,400). Development of sustainable direct recycling and upcycling technologies for spent Li-ion battery cathodes, Co-Principal Investigator (co-PI).
- MITACS Accelerate, 2023-2024 ($420,000 CAD). Expanding LCA Capabilities Through Component LCA and AI to Reduce Embodied Carbon with EcoDesign, co-PI.
- McISCE Catalyst Innovation Fund, 2023-2025 ($25,000). Development and sustainability analysis of circular NMC cathode recycling technologies, Co-PI.

- NSERC Discovery Grant, 2023-2028 ($190,000 CAD). Improving the environmental sustainability of Canadian electricity systems with highly resolved life cycle assessment, PI.
- NSERC Alliance Missions GHG, 2023-2026 ($1,181,840 CAD). Transportation-grid interdependence: how to make net zero energy work using energy storage, PI.
- McISCE Catalyst Innovation Fund, 2023-2025 ($25,000). LCA/TEA of battery technologies for short-term implementation in EVs in Quebec, PI.
- MITACS Accelerate, 2023-2024 ($30,000 CAD). Étude et validation de l'écosystème de ravitaillement et d'opération d'un train à hydrogène au Québec (sur la base de la mise en opération dans Charlevoix), co-PI.
- Carol McLeod Faculty Award in Renewable Energy and Energy Efficiency, 2023-2024 ($20,000). Creating a circular economy for Li-ion batteries, PI.
- U.S. National Institutes of Health, 2023-2028 ($107,648 CAD). Hubs of Interdisciplinary Research and Training in Global Environmental and Occupational Health (GEOHealth) Research (Aim 3: Life Cycle Emissions from Road Transportation in Lima, Peru), Co-PI.
- U.S. National Petroleum Council, 2023-2024 ($139,806 CAD). Reducing Emissions of Greenhouse Gases (GHG) from the U.S. Natural Gas Supply Chain, PI.
- Alfred P. Sloan Foundation Grant, 2019-2026 ($507,244 USD). Improved Spatiotemporal Energy Systems Data for the US: Land Requirements of U.S. Energy System Transitions, PI.
- Alfred P. Sloan Foundation Grant, 2019-2022 ($507,244 USD). Improved Spatiotemporal Energy Systems Data for the US: Land Requirements of U.S. Energy System Transitions, PI.
- Electric Power Research Institute, 2019 ($10,000 USD). Environmental Aspects of Renewables, co-PI.
- U.S. Department of Energy. 2019-2022 ($1,262,135 USD). Integrating Chemical Catalysis and Biological Conversion of Carbon Intermediates for Deriving Value-Added Products from Carbon Dioxide, co-PI.
- Catalyst Award, Johns Hopkins University, 2019-2020 ($75,000 USD). Energy Systems Analysis for Integrating Sustainability into Decision Support, PI.
- Alfred P. Sloan Foundation Grant, 2018 ($65,456 USD). Improving spatiotemporal energy infrastructure datasets for the United States, PI.
- Discovery Award, Johns Hopkins University, 2018-2019 ($100,000 USD). An Inventory of Methane Emissions from Natural Gas Infrastructure, co-PI.
- Life Cycle Assessment of Liquefied Natural Gas, Hydraulic Fracturing Initiative, University of Calgary, 2014-2015 ($29,000 CAD); Canadian Association of Petroleum Producers, 2015 ($7,500), PI.
- NREL-EPRI research grant ($40,000 CAD). The Spatial Footprint of Natural Gas Fired Electricity, 2013-2015, PI.
- Start-up Grant, University of Calgary, 2013-2015 ($20,000 CAD).
- EPRI research project, external fundraising ($400,000 USD). Shale Gas Production in the United States: Environmental and Economic Resource Challenges and Opportunities, 2012-2013.
- EPRI research project, internal research grant ($200,000 USD). Research Needs for Produced Water Treatment Technologies, 2012-2013.

Honorific awards and scholarships

- Educational LCA Leadership Award, 2022. American Center for Life Cycle Assessment.
- Faculty Member of the Year, Green Blue Jay Award, 2022. A university-level award recognizing individuals in the Johns Hopkins community who exemplify sustainability ideals and action.
- Outstanding Contribution in Reviewing, Renewable and Sustainable Energy Reviews, 2017.
- Outstanding Teaching Performance, Schulich School of Engineering, University of Calgary, 2015-2016.
- Technical Paper Award, 2013 Canadian Renewable Fuels Summit.
- Mentor of the Year, 2012 nominee. Harvard Graduate Women in Science and Engineering.
- Queen Elizabeth II Doctoral Scholarship, 2009 ($15,000 CAD).

- Environmental Design Departmental Scholarship, 2006-2009 ($2000-3000 each year CAD).
- Ethics of climate change essay contest winner in Environmental Science, 2007 ($1000 CAD).
- Dean's Entrance Award, 2006 ($6000 CAD).
- Alberta Graduate Scholarship, 2005 ($2000 CAD).

Articles under review, HQP noted with asterisks*

1. Srikanth, A.,* S. Ramesh,* G. Heath, and **S. M. Jordaan**. Harmonization and meta-analysis of life cycle emissions of natural gas supply chains.
2. Li, X.,* R. R. Hernandez, A. Armstrong, P. Liu, **S.M. Jordaan**. Global solar-land use interactions.
3. Li, X.,* Liu, P, Feng, M., **Jordaan, S. M.,** Wang, Y., Li, H., Zhang, X., Xia, Q., Gong, Y., Ye, L., and C. Wu. Policy portfolios for hydropower and variable renewable energy for grid decarbonization
4. Li, X.,* Liu, P., Ming, B., Jordaan, S. M., Wang, Y., Xie, K., Q. Cheng. Resolving economic trade-offs of hybrid hydro-wind-photovoltaic systems with a benefit sharing mechanism
5. Sperring, E.,* S. Gaskin, and **S. M. Jordaan**. Land use of hydro power in the Western Interconnection.
6. Krasner, N. Z., J. Fox, A. Armstrong, K. Ave, F. Carvalho, Y. Li, L. J. Walston, M. P. Ricketts, **S. M. Jordaan**, M. A. Najm, H. M. Hartmann, R. Lybrand, R. R. Hernandez. Impacts of photovoltaic solar energy on soil carbon: A global systematic review and framework.
7. Hu, S.,* Sun, Y., Hernandez, R. R., Jose, J. M., Patel, V. M., and **S. M. Jordaan**. Quantifying land metrics of solar photovoltaics in the Western Interconnection.

Published articles and books (2364 citations reported by Google Scholar as of 2024-09-05); HQP noted with asterisks*; 2-year Impact Factor (IF) sourced from Clarivate

1. Zhang, M.,* I. Vimont, **S. M. Jordaan**, L. Hu, K. McKain, M. Crotwell, D. Gaeta, S. Miller. (2024) US Ethane Emissions and Trends Estimated from Atmospheric Observations. Environmental Science & Technology; IF=10.8.
2. Dai, T.,* Jose, J. M., Zhao, Y., Zheng,* S., Sun, Y., Patel, V. M., and **S. M. Jordaan**. (2024) Land Resources for Wind Energy Development Requires Regionalized Characterization. Environmental Science & Technology, 8(11): 5014–5023; IF=10.8.
3. Li, X.,* Liu, P., Feng, M., **Jordaan, S. M.**, Cheng, L., Ming, B., Chen, J., Xie, K., and W. Liu. (2024) Energy transition paradox: Solar and wind growth can hinder decarbonization. Renewable and Sustainable Energy Reviews. 192: 114220; IF=16.3.
4. Feng, L., Tavakkoli, S.,* **Jordaan, S. M.**, Andrews, A., Benmergui, J., Waugh, D. W., Zhang, M., Gaeta, D. C., and S. M Miller. (2023) Inter-annual Variability in Atmospheric Transport Complicates Estimation of US Methane Emissions Trends. Geophysical Research Letters, 50(14), p. e2022GL100366; IF=4.6.
5. Dai, T.,* Jose, J. M., Patel, V. M., and **S. M. Jordaan**. (2023) The Life Cycle Land Use of Natural Gas-Fired Electricity in the US Western Interconnection. Environmental Science: Advances, *2*(5), pp.815-826; IF=3.5 (self-reported, new open-source journal).
6. Nock, D., L. Janicke, K. Surana, **S. M. Jordaan**. (2023) Air pollution co-benefits from electric transmission and distribution systems. Energy, 269, p.126735; IF=9.
7. Cagle, A. E., M. Shepherd, S. M. Grodsky, A. Armstrong, **S. M. Jordaan**, R. R. Hernandez. (2023) Standardized metrics to quantify solar energy-land relationships. Frontiers in Sustainability, *3*, p.1035705; Cite score=3.3 (self-reported, new open-source journal).
8. Rangarajan, S.*, Hernandez, R. R., and **S. M. Jordaan**. (2022) Life cycle impacts of land use on ecosystem services of concentrated solar power generation in the United States. Frontiers in Sustainability, 3, p.1021971; Cite score=3.3 (self-reported, new open-source journal).
9. **Jordaan, S. M**., Ruttinger,* A. W., Surana, K., Nock, D., Miller, S. M., and A. P. Ravikumar. (2022) Global mitigation opportunities for the life cycle of gas-fired power. Nature Climate Change, 2(11), pp.1059-1067; IF=29.6.

10. Hernandez, R. R., Cagle, A., Grodsky, S. M., Exley, G., and **S. M. Jordaan**. (2022) Comments on: Land use for United States power generation: A critical review of existing metrics with suggestions for going forward. Renewable and Sustainable Energy Reviews, 166, p.112526; IF=16.3.
11. Dai, T.,* **S. M. Jordaan,** and A. Wemhoff. (2022) Gaussian Process Regression as a Replicable, Streamlined Approach to Inventory and Uncertainty Analysis in Life Cycle Assessment. Environmental Science & Technology, 56(6): 3821–3829; IF=10.8.
12. Ruttinger, A.,* S. Tavakkoli,* H. Shen, C. Wang, and **S. M. Jordaan**. (2022) Designing an innovation system to support profitable electro- and bio-catalytic carbon upgrade. Energy & Environmental Science, 15: 1222-1233; IF=32.4.
13. Tavakkoli, S.,* L. Feng, S. Miller, and **S. M. Jordaan**. (2022) The implications of generation efficiencies and supply chain leaks for the life cycle greenhouse gas emissions from natural gas fired electricity. Environmental Science & Technology, 56(4):2540–2550; IF=10.8.
14. **Jordaan, S. M.,** J. Park,* and S. Rangarajan.* (2022) Innovation in intermittent electricity and stationary energy storage in the United States and Canada: A Review. Renewable and Sustainable Energy Reviews, 158, p.112149; IF=16.3.
15. **Jordaan, S. M.** and C. Wang. (2021) Electrocatalytic conversion of carbon dioxide for the Paris goals. Nature Catalysis, 4(11):915-920; IF=42.8.
16. Tavakkoli, S.,* Macknick, J., Heath, G.A. and **Jordaan, S.M.** (2021) Spatiotemporal energy infrastructure datasets for the United States: A review. Renewable and Sustainable Energy Reviews, 152:111616; IF=16.3.
17. **Jordaan, S.M.**, Combs, C.* and E. Guenther. (2021) Life Cycle Assessment of Electricity Generation: a systematic review of spatiotemporal methods. Advances in Applied Energy, p.100058; IF=13.
18. **Jordaan, S. M.**, J. Lee.,* M. McClung, and M. Moran. (2021) Quantifying the ecosystem services values of electricity generation in the US Chihuahuan Desert: A life cycle perspective. Journal of Industrial Ecology; IF=4.9.
19. Hernandez, R. R., ‡ **S. M. Jordaan**, ‡ B. Kaldunski, and N. Kumar (2020). Aligning climate change and Sustainable Development Goals with an innovation systems roadmap for renewable power. Frontiers in Sustainability, 1:11; Cite score=3.3 (self-reported, new open-source journal).
‡ denotes shared first authorship (recognized on the publication).
20. Zhang, M.,* S. Miller, **S. M. Jordaan**, W. Peng, and Q. Zhang. (2020) Potential uses of coal mine methane in China and associated benefits for air quality, health and climate. Environmental Science & Technology, 54(19):12447-12455; IF=10.8.
21. **Jordaan, S. M**., Q. Xu, and B. Hobbs. (2020) Grid-scale Life Cycle Greenhouse Gas Benefits of Renewable, Storage and Carbon Pricing Options. Environmental Science & Technology, 54(17):10435-10445; IF=10.8.
22. Jenkins, L., M.,* R. Alvarez, and **S. M. Jordaan**. (2020) Unmanaged climate risks to spent fuel from U.S. nuclear power plants: the case of sea level rise. Energy Policy, 137:111106; IF=9.3.
23. **Jordaan, S. M.**, A. Siddiqi, B. Kakenmaster, and A. Hill. (2019) The Climate Vulnerabilities of Global Nuclear Power. Global Environmental Politics, 19(4): 3-13; IF=3.9.
24. Surana, K. and **S. M. Jordaan**.‡ (2019) The climate mitigation opportunity behind global power transmission and distribution. Nature Climate Change, 9: 660–665; IF=29.6.
‡ denotes equal contribution (recognized on the publication).
25. **Jordaan, S. M.**, A. Davidson,* J. Nazari, I. M. Herremans. (2019) The Dynamics of Advancing Climate Policy in Federal Political Systems. Environmental Policy and Governance, 29(3):220-234; IF=3.
26. Umeozor, E. C.,* **S. M. Jordaan**, and I. D. Gates. (2018) On Methane Emissions from Shale Gas Development. Energy, 152:594-600; IF=9.
27. **Jordaan, S. M**., L. A. Patterson, and L. Diaz Anadon. (2018) A spatially-resolved inventory analysis of the water consumed by the coal-to-gas transition of Pennsylvania. Journal of Cleaner Production, 184:366–374; IF=9.7.

28. Kasumu, A.,* V. Li,* J. W. Coleman, J. Liendo,* **S. M. Jordaan**. (2018) Country-level Life Cycle Assessment of Liquefied Natural Gas Trade for Electricity Generation. Environmental Science & Technology, 52(4):1735–1746; IF=10.8.
29. Konschnik, K. and **S. M. Jordaan**. (2018) Reducing fugitive methane emissions from the North American oil and gas sector: a proposed science-policy framework. Climate Policy, 18(9):1133-1151; IF=5.3.
30. **Jordaan, S. M**. (2018) Resilience for power systems amid a changing climate. Bulletin of the Atomic Scientists, 74(2):95–101; IF=1.9.
31. **Jordaan, S. M**., G. A. Heath, J. Macknick, E. Mohammadi,* D. Ben-Horin, V. Urrea and D. Marceau. (2017) Understanding the life cycle surface land requirements of natural gas-fired electricity. Nature Energy, 2:804–812; IF=49.7.
32. **Jordaan, S. M**., E. Romo-Rabago, R. McLeary, L. Reidy,* J. Nazari, I. M. Herremans. (2017) The role of energy technology innovation in reducing greenhouse gas emissions in Canada. Renewable and Sustainable Energy Reviews, 78:1397–1409; IF=16.3.
33. Boersma, T. and **S. M. Jordaan**. (2017) Whatever happened to the golden age of natural gas? Energy Transitions, 1:5; IF=no data.
34. Ciliberti, C., **S. M. Jordaan**, S. V. Smith, S. Spatari. (2016) A life cycle perspective on land use and project economics of electricity from wind and anaerobic digestion. Energy Policy, 89:52–63; IF=9.3.
35. Brandt, A. R., G. A. Heath, E. A. Kort, F. O'Sullivan, G. Pétron, **S. M. Jordaan**, P. Tans, J. Wilcox, A. M. Gopstein, D. Arent, S. Wofsy, N. J. Brown, R. Bradley, G. D. Stucky, D. Eardley, and R. Harriss. (2014) Methane Leaks from North American Natural Gas Systems. Science, 343:733–735; IF=44.7.
36. **Jordaan, S. M.**, L. D. Anadon, E. Mielke, D. P. Schrag. (2013) Regional water implications of reducing oil imports with liquid transportation fuel alternatives in the United States. Environmental Science & Technology, 47(21): 11976–11984. (Awarded Best Technical Paper at the Canadian Renewable Fuels Summit); IF=10.8.
37. **Jordaan, S. M.** (2012) Land and water impacts of oil sands production in Alberta. Environmental Science & Technology, 46(7): 3611–3617; IF=10.8.
38. Doluweera, G., **S. M. Jordaan**, M. Moore, D. W. Keith, and J. A. Bergerson. (2011) Evaluating the role of cogeneration for carbon management in Alberta. Energy Policy, 39:7963–7974; IF=9.3.
39. Yeh, S., **S. M. Jordaan**, A. Brandt, S. Spatari, M. Turetksy, D. W. Keith. (2010) Land use greenhouse gas emissions from conventional oil and oil sands production. Environmental Science & Technology, 44(22):8766–8772; IF=10.8.
40. **Jordaan, S. M.**, D. W. Keith, B. Stelfox. (2009) Quantifying land use of oil sands production: a life cycle perspective, Environmental Research Letters, 4:024004; IF=5.8.
41. **Jordaan, S. M.** (2007) Ethical risks of attenuating climate change through new energy systems: the case of a biofuel system. Ethics in Science and Environmental Politics, 2007:23–29. (Essay Contest Winner, Environmental Science); Citescore=7.3.

Reports

42. National Academies of Sciences, Engineering, and Medicine. 2024. *Carbon Utilization Infrastructure, Markets, and Research and Development: A Final Report*. Washington, DC: The National Academies Press. https://nap.nationalacademies.org/catalog/27732/carbon-utilization-infrastructure-markets-and-research-and-development-a-final.
43. National Petroleum Council, 2024. *Charting the Course, Reducing GHG Emissions from the U.S. Natural Gas Supply Chain*; https://chartingthecourse.npc.org/.
44. Electric Power Research Institute (EPRI) (2019). *Environmental Aspects of Renewables Workshop: 2019 Workshop Summary and Research Needs*. Electric Power Research Institute. Report 3002016553. Palo Alto, CA: EPRI.
45. Electric Power Research Institute. (2013) *Shale Gas Production in the United States: Environmental and Economic Resource Challenges and Opportunities*. Palo Alto, CA. 3002002014.

Books and book chapters

46. Wright, L., Fava, J., **Jordaan, S. M.**, Levy, M., Severinghaus, S., Nebel, B., E. Wang. (2023). The Power of Life Cycle Assessment: Data Driven Decision Making for Environmental Sustainability. American Center for Life Cycle Assessment (LCA).
47. **Jordaan, S. M.** (2021) Wells to wire: life cycle assessment of natural gas-fired electricity. Springer Nature.
48. **Jordaan, S. M**., C. Stevens, D. B. Brooks. (2009) Chapter 12, Removing institutional barriers: challenges and opportunities *in* Making the Most of the Water We Have: The Soft Path Approach to Water Management. Editors D. B. Brooks, O. M. Brandes, S. Gurman. EarthScan Publications.

Policy briefs and memos

49. **Jordaan, S. M.** and K. Konschnik. (2019) Measuring and Managing the Unknown: Methane Emissions from the Oil and Gas Value Chain. C.D. Howe Institute, Issue Brief.
50. Kasumu, A., **S. M. Jordaan,** V. Li, J. W. Coleman, and J. Liendo. (2018) The Greenhouse Gas Implications of Exporting LNG from B.C. C.D. Howe Institute, Intelligence Memo: https://www.cdhowe.org/intelligence-memos/kasumu-jordaan-li-coleman-liendo-greenhouse-gas-implications-exporting-lng-bc.
51. **S. M. Jordaan**. (2017) From Laggard to Leader – Canada as champion of the Paris Agreement? C.D. Howe Institute, Intelligence Memo: https://www.cdhowe.org/intelligence-memos/sarah-m-jordaan-laggard-leader-–-canada-champion-paris-agreement.
52. Coleman, J. W. and **S. M. Jordaan.** (2016) Clearing the Air: How Canadian LNG Exports Could Help Meet World Greenhouse Gas Reduction Goals. C.D. Howe Institute, Issue Brief.
53. **Jordaan, S. M.** and M. C. Moore. (2010) Ethical risks of environmental policies: ethanol production in North America. School for Public Policy, University of Calgary, 3(9).

Working and occasional papers

54. Patterson, L. A., **S. M. Jordaan**, and L. Diaz Anadon. (2016) A Spatiotemporal Exploration of Water Consumption Changes Resulting from the Coal-to-Gas Transition in Pennsylvania. Nicholas Institute of Environmental Policy Solutions, Duke University and the Belfer Center for International Affairs, Harvard Kennedy School. NI WP 16-01. Durham, NC: http://nicholasinstitute.duke.edu/publications.
55. Coleman, J. W., A. Kasumu, J. Liendo, V. Li, **S. M. Jordaan.** (2015) Calibrating Liquefied Natural Gas Export Life Cycle Assessment: Accounting for Legal Boundaries & Post-Export Markets, CIRL Occasional Paper #49. Canadian Institute of Resources Law.
56. **Jordaan, S. M.** (2011) Governance of impacts to land and water resources from oil sands development in Alberta. Working paper series, Laboratory on International Law and Regulation, University of California, San Diego.

Opinion articles

57. **Jordaan S. M**., and K. Surana. (2019) We calculated emissions due to electricity loss on the power grid – globally, it's a lot. The Conversation: https://theconversation.com/we-calculated-emissions-due-to-electricity-loss-on-the-power-grid-globally-its-a-lot-128296
58. **S. M. Jordaan** and K. Konschnik. (2019). Regulating methane emissions will keep Canada's oil and gas sector competitive, not hurt it. The Globe and Mail, Op-Ed: https://www-theglobeandmail-com.cdn.ampproject.org/c/s/www.theglobeandmail.com/amp/business/commentary/article-regulating-methane-emissions-will-keep-canadas-oil-and-gas-sector/
59. **S. M. Jordaan.** (2018) How Climate Change Threatens the US Power Supply. Expert Analysis – Opinion, for Law360: https://www.law360.com/articles/1028436/how-climate-change-threatens-the-us-power-supply.
60. Konschnik, K. and **S. M. Jordaan**. (2018) How to reduce methane emissions from the oil and gas industry across North America. The Conversation: https://theconversation.com/how-to-reduce-methane-emissions-from-the-oil-and-gas-industry-across-north-america-91635.

61. **S. M. Jordaan** and D. Gordon. (2017) Power to the States: How Carbon Pricing Can Be a Winning Strategy Under a Trump Administration. Carnegie Endowment for International Peace, Washington DC: http://carnegieendowment.org/2017/04/03/power-to-states-how-carbon-pricing-can-be-winning-strategy-under-trump-administration-pub-68530.
62. Coleman, J. W. and **S. M. Jordaan.** (2016) B.C. LNG could reduce emissions overseas – if it's done correctly. Globe and Mail, Op-Ed: https://www.theglobeandmail.com/report-on-business/rob-commentary/bc-lng-could-reduce-emissions-overseas-if-its-done-correctly/article31515914/.

Conference papers

63. **Jordaan, S. M.**, A. Davidson, J. Nazari, I. M. Herremans. (2017) The Influence of Global Climate Change on Energy Technology Innovation in Federal Political Systems. Association for Public Policy Analysis and Management. International Conference: Public Policy and Governance Beyond Borders, July 14 2017.
64. Cucura, J., B. Burnap, P. Gallagher, S. Spatari, **S. M. Jordaan.** (2011) Geospatial LCA of land disturbance in Pennsylvanian Marcellus Shale. Paper accepted in Life Cycle Assessment VIII Conference, American Center for Life Cycle Assessment, Chicago.
65. Doluweera, G., **S. M. Jordaan**, J. A. Bergerson, M. Moore. (2009) Cogeneration and potential for emission reductions in oil sands operations. Paper accepted in IEEE Power and Energy Society General Meeting. Calgary, AB.
66. Yeh, S., S. Spatari, **S. M. Jordaan**, and A. Brandt. (2009) Land use greenhouse gas emissions of conventional and unconventional oil production. Extended abstract published in International Association for Energy Economics, 32nd Conference. San Francisco, CA.

Poster and oral presentations by Highly Qualified Personnel (HQP)

Accepted / Upcoming

1. Dwivedi-Leng, M., **S. M. Jordaan** (2024) Application of the Circular Economy Life Cycle Assessment and Visualization Framework (CELAVI) model to wind power. SURE 2024, Summer Undergraduate Research in Engineering, poster presentation, August 19th
2. Edwards, E., **S. M. Jordaan** (2024). Understanding the cost and the performance of hydrogen production and storage technology in Canada. SURE 2024, Summer Undergraduate Research in Engineering, poster presentation, August 19th.
3. Weng, W., Wang, Y., McCalla, E., Navarra, A., and **S. M. Jordaan** (2024) Techno-Economic Analysis (TEA) of the Forefront Battery Technologies of Electric Vehicles (EVs) using BatPaC Model. SURE 2024, Summer Undergraduate Research in Engineering, poster presentation, August 19th.
4. Dwivedi-Leng, M., **S. M. Jordaan**. (2024) Application of the Circular Economy Life Cycle Assessment and Visualization Framework (CELAVI) model to wind power. ACLCA 2024, American Center for Life Cycle Assessment, poster presentation, September 24-26th.
5. Xu, T., Coulombe, S., **S. M. Jordaan** (2024).An Integrated Life Cycle and Techno-economic Assessment on Green Ammonia Production in Canada. ACLCA 2024, American Center for Life Cycle Assessment,poster presentation, September 24-26th.
6. Hosny, M., Aballah, M., Masoud, W., Al_omour, A., **S. M. Jordaan** (2024) Evaluation of Dual Water Supply Systems Using Seawater for Toilet Flushing: Techno-Economic and Environmental Aspects. To be submitted to the Journal of Cleaner Production.
7. Hosny, M., Aballah, M., Masoud, W., Al_omour, A., **S. M. Jordaan** (2024) A Scenario-based Sustainability Assessment of Dual Water Supply Systems. ACLCA 2024, American Center for Life Cycle Assessment, oral presentation, September 24-26th.
8. Hosny, M., Dwivedi-Leng, M., **S. M. Jordaan** (2024) Life Cycle Assessment of Electricity Generation in Canada: A Systematic Review and Meta-Analysis. ACLCA 2024, American Center for Life Cycle Assessment, poster presentation, September 24-26th.
9. Paris, N., Saoji, V., Wang, Y., Romero, Y., **S. M. Jordaan** (2024) Increasing the Spatio-Temporal Resolution of a Fleet-Level Life Cycle Assessment of Air Pollutants from Road Transportation in Lima,

Peru. ACLCA 2024, American Center for Life Cycle Assessment, oral presentation, September 24-26th.

10. Li, X., Edwards E., **S. M. Jordaan** (2024) Life cycle environmental impacts and costs of storage technologies in net zero scenarios in Canada. ACLCA 2024, American Center for Life Cycle Assessment, poster presentation, September 24-26th.
11. Almheiri, Z, Pollet, B and **S. M. Jordaan** (September 2024). Exploring the environmental impact of hydrogen fuel cell versus diesel passenger trains. American Center for Life Cycle Assessment, oral presentation, September 24-26th.
12. Donova, A., Mohammadi, A., **S. M. Jordaan** (2024) Supply chain of Electric Vehicle Lithium-ion Batteries in Quebec: quantifying and comparing manufactured with recycled materials using the EverBatt Model, American Center for Life Cycle Assessment, oral presentation, September 24-26th.
13. Wang, Y, F., Peters, J. M., **S. M. Jordaan** (2024) Integrating Lifetime Energy Throughput Estimates into Life Cycle Assessments of Repurposing Electric Vehicle Battery Packs for Grid Energy Storage. ACLCA 2024, American Center for Life Cycle Assessment, poster presentation, September 24-26th.

Past (completed, e.g., ACLCA 2023)

1. Dwivedi-Leng, M., **S.M. Jordaan** (2023) Life cycle assessments of electricity generation: A systematic review. SURE Spotlight Sustainability in Research, Summer Undergraduate Research in Engineering TISED x SEAM event, poster presentation, November 23th,
2. Wang, Y, Peters, J. F., **S.M. Jordaan** (2023) Life cycle Implications of Repurposing Electric Vehicle Packs for Battery Energy Storage. ACLCA 2023, American Center for Life Cycle Assessment, poster presentation, September 25-29th.
3. Donova, A. and **S. M. Jordaan** (2023) Supply chain of Electric Vehicle Lithium-Ion Batteries in Quebec: quantifying and comparing manufacture with recycled materials using the EverBatt model. SURE, Summer Undergraduate Research in Engineering, poster presentation, September 17th.
4. Almheiri, Z, Pollet, B and **S.M. Jordaan** (September 2023). Life Cycle Assessment of The Hydrogen Fuel Cell Train in Quebec. Paper presented at The American Center for Life Cycle Assessment (ACLCA) Conference, Vermont, United States (September 25-28, 2023).

<u>Conference presentations (as presenting author)</u>

1. **Jordaan, S. M.,** chair for Session 18 (invited) *on Implementing Sustainable Innovation through AI and Digitalization* (2024). Life Cycle Innovation Conference (LCIC) 2024, FSLCI - Forum for Sustainability through Life Cycle Innovation e.V., Berlin, Germany, June 3-5th.
2. **Jordaan, S. M.,** Developing land use inventories for life cycle assessment of electricity generation (2024). Life Cycle Innovation Conference (LCIC) 2024, FSLCI - Forum for Sustainability through Life Cycle Innovation e.V., Berlin, Germany, June 3-5th.
3. **Jordaan, S. M.,** Life cycle inventories for the land use of electricity generation and the identification of land sparing opportunities (poster presentation), Gordon Research Conference on Industrial Ecology, Les Diablerets, Switzerland, May 24-31st.
4. **Jordaan, S. M.,** Developing land use inventories for life cycle assessment of electricity generation (2023). ALCA 2023, American Center for Life Cycle Assessment, September 26-29th.
5. **Jordaan, S. M.**, A. Ruttinger., D. Nock, K. Surana, S. Miller, and A. Ravikumar (2021). Global mitigation opportunities for life cycle emissions of global gas-fired power. ALCA 2021, American Center for Life Cycle Assessment, September 22-24th.
6. **Jordaan, S. M.**, J. Lee., M. McClung, and M. Moran (2020). Quantifying the ecosystem services of electricity generation in the U.S. Chihuahuan Desert using a life cycle perspective. ALCA 2020, American Center for Life Cycle Assessment, September 22-24th.
7. **Jordaan, S. M.**, C. Combs, and E. Guenther (2020). Life Cycle Assessment of Electricity Generation: a systematic review of spatiotemporal methods. ALCA 2020, American Center for Life Cycle Assessment, September 22-24th.

8. Surana, K. and **S. M. Jordaan**. (2019) The climate mitigation opportunity behind global power transmission and distribution. LCA XIX, American Center for Life Cycle Assessment, Tucson AZ, September 25-28th.
9. **Jordaan, S. M.,** Qingyu Xu, and B. Hobbs (2019). Grid-scale Life Cycle Greenhouse Gas Benefits of Electricity Storage and Carbon Pricing Options. APPAM International Conference, Barcelona Spain.
10. **Jordaan, S. M.,** Qingyu Xu, and B. Hobbs (2019). Grid-scale Life Cycle Greenhouse Gas Benefits of Electricity Storage and Carbon Pricing Options. EURO conference, Dublin Ireland, June 23rd-26th.
11. **Jordaan, S. M.,** Qingyu Xu, and B. Hobbs (2019). Grid-scale Life Cycle Greenhouse Gas Benefits of Electricity Storage and Carbon Pricing Options. MIT Applied Energy 2019 Symposium, Cambridge, MA May 22nd-24th.
12. **Jordaan, S. M.,** Qingyu Xu, and B. Hobbs (2019). Grid-scale Life Cycle Greenhouse Gas Benefits of Electricity Storage and Carbon Pricing Options. Institute of Industrial Engineers (IISE), Annual Conference & Expo 2019, Orlando, Florida May 18th-21st.
13. **Jordaan, S. M.** (2018) Cost-effective policy for reducing emissions from the North American oil and gas sector. American Geophysical Union, Fall 2018 meeting, Washington DC, December 12th.
14. **Jordaan, S. M**., Qingyu Xu, and B. Hobbs. (2018) Grid-scale Life Cycle Greenhouse Gas Benefits of Electricity Storage Options. Trans-Atlantic Infraday 2018, Federal Energy Regulatory Commission, Washington DC, November 1st-2nd.
15. **Jordaan, S. M.**, L. Patterson, L. Diaz Anadon. (2018) A spatially-resolved inventory analysis of the water consumed by the coal-to-gas transition of Pennsylvania. International Sustainable Production and Consumption Conference, Institution of Chemical Engineers (IChemE), Manchester UK, October 4-6th.
16. **Jordaan, S. M**., Qingyu Xu, and B. Hobbs. (2018). Grid-scale Life Cycle Greenhouse Gas Benefits of Electricity Storage Options. LCA XVIII, American Center for Life Cycle Assessment, Fort Collins CO, September 25-28th.
17. **Jordaan, S. M.**, L. Patterson, L. Diaz Anadon. (2018) A spatially-resolved inventory analysis of the water consumed by the coal-to-gas transition of Pennsylvania. LCA XVIII, American Center for Life Cycle Assessment, Fort Collins CO, September 25-28th.
18. **Jordaan, S. M.** (2018). The life cycle land requirements of unconventional oil and natural gas. Ecological Society of America, 2018 Annual meeting. Invited submission to Symposium "Connecting Physical, Biological, and Social Risks from High Volume Hydraulic Fracturing." New Orleans LA, August 5-10th.
19. **Jordaan, S. M.**, A. Davidson, J. Nazari, I. M. Herremans. (2017) The Influence of Global Climate Change on Energy Technology Innovation in Federal Political Systems. Association for Public Policy Analysis and Management. International Conference: Public Policy and Governance Beyond Borders, July 14th.
20. **Jordaan, S. M**. (2017) Session Chair for Panel on Scientific Research and Partnership. Association for Public Policy Analysis and Management. International Conference: Public Policy and Governance Beyond Borders, July 14th.
21. **Jordaan, S. M**., Garvin Heath, Jordan Macknick, Ehsan Mohammadi, Dan Ben-Horin and Victoria Urrea. (2014) The Spatial Footprint of the Life Cycle of Natural Gas Fired Electricity. LCA XIV, American Center for Life Cycle Assessment. San Francisco, CA, October 6-8th.
22. **Jordaan, S. M**., Garvin Heath, Jordan Macknick, Ehsan Mohammadi, Dan Ben-Horin and Victoria Urrea. (2014) The Spatial Footprint of the Life Cycle of Natural Gas Fired Electricity. Fracturing Impacts and Technologies Conference. Air and Waste Management Association. Lubbock, TX, September 4-5th.
23. **Jordaan, S. M.** (2014) Emissions of natural gas production systems: Current status and future research. Session 01: Shale gas strategic perspectives, 2nd International Symposium on Energy Challenges and Mechanics (ECM2). Aberdeen, Scotland, August 19-21st.

24. **Jordaan, S. M**. and S. Bushart. (2013) Environmental and Economic Impact Assessment of Shale gas Production. 16th Annual Energy, Utility & Environment Conference. Presenter, session co-chair.
25. **Jordaan, S. M.**, L. Diaz Anadon and D. Schrag. (2011) Temporal aspects of water use in shale gas development: implications for LCA. LCA VIII, American Center for Life Cycle Assessment, Chicago, October 4-6th.
26. **Jordaan, S. M.** (2010) The land use footprint of energy extraction in Alberta. Technology, Management and Policy Graduate Consortium, University of Cambridge, UK, June 27-29th.
27. **Jordaan, S. M.**, D. W. Keith and B. Stelfox. (2009) Land use and habitat fragmentation of oil sands production: a life cycle perspective. LCA IX, American Center for Life Cycle Assessment. Boston, MA, September 29th-October 2nd.
28. **Jordaan, S. M.** and D. W. Keith. (2008) Accounting for land use in a life cycle framework: oil sands development in Alberta. LCA VIII, American Center for Life Cycle Assessment. Seattle, WA, September 30th-October 2nd.

Invited seminars, presentations and panels

1. **Jordaan, S. M.** Life cycle assessment and energy transitions: A Spatiotemporal Approach, invited speaker, Concordia, June 2024.
2. **Jordaan, S. M**. EmPOWERing Global Change with Life Cycle Assessment: A Geographical Textured Approach, TISED Talk. October 14th, 2022.
3. **Jordaan, S. M.** Life Cycle Assessment of Energy Transitions: the Geospatial Context of Global Change, invited speaker, UTexas Energy Symposium
4. **Jordaan, S. M.** Life cycle assessment and energy transitions: A Spatiotemporal Approach, invited speaker, CIRAIG midi-dialogue.
5. **Jordaan, S. M.** EmPOWERing Global Change with Life Cycle Assessment: A Geographical Textured Approach, University of California, Davis, Energy Graduate Group. October 14th, 2022.
6. **Jordaan, S. M.** Behind the Light Switch: Understanding Cradle-to-Grave Land Transformations of Energy Systems, Wild Energy Seminar Series, University of California, Davis. November 17th, 2021.
7. **Jordaan, S. M.** Life cycle implications of natural gas-fired power for greenhouse gas emissions of the global electric grid, Earth & Environmental Science Seminar Series, Temple University, February 12th, 2021.
8. **Jordaan, S. M.** Grid-scale Life Cycle Assessment of Electricity Generation. New Energy Seminar, Arthur L. Irving Institute for Energy and Society, Dartmouth University, February 3rd, 2021.
9. **Jordaan, S. M.** Emerging perspectives on the life cycle greenhouse gas emissions from electricity generated from natural gas, Atmospheric and Environmental Chemistry Seminars, Harvard University, January 22, 2021.
10. **Jordaan, S. M**. Panelist, Role of Climate Change Policy and Negotiations. Virtual symposium on US. foreign policy, Johns Hopkins University SAIS, December 9th, 2020.
11. **Jordaan, S. M**. Panelist, Presenter and Panelist, Life Cycle Assessment a Key for Clean Energy Transition, Webinar, Rice University Baker Institute, November 13th, 2020.
12. **Jordaan, S. M** (2020). Panelist, Educating Future Macro-Energy Systems Researchers, Stanford Macro-Energy Systems Workshop. September 17th -18th 2020
13. **Jordaan, S. M** (2020). Life cycle assessment of power generation at the grid-scale: emerging frontiers. Seminar to the Federal Energy Regulatory Commission (FERC), Washington DC, February 5th.
14. **Jordaan, S. M** (2019). North American natural gas: market evolution and life cycle emissions implications for the global power sector. Invited seminar, Departments of Civil and Environmental Engineering, George Washington University, September 23rd.
15. **Jordaan, S. M** (2019). The climate mitigation opportunity behind global power transmission and distribution. Invited seminar, Departments of Civil Engineering and Environment Health Engineering, Whiting School of Engineering, Johns Hopkins University, March 7th.

16. **Jordaan, S. M.** (2019) Global natural gas: market evolution and life cycle greenhouse gas emissions implications for the power sector. Webinar to Pakistan, hosted by: Women Engineers, Pakistan; Women in Energy, Pakistan; and, SAIS Women Lead. Wednesday, January 30th. Women Engineers, Pakistan reports: 3,100 people watched the webinar, and 1430 actively engaged with the content.
17. **Jordaan, S. M.** (2018) Life cycle assessment: informing decisions about energy technologies. Seminar, Johns Hopkins Center for Global NCD Research and Training, Johns Hopkins University, December 7th.
18. **Jordaan, S. M.** (2018) Life Cycle Assessment as a tool for understanding the water implications of energy decisions. Randolf Bromery Lecture Series, Department of Earth and Planetary Sciences, Johns Hopkins University, October 25th.
19. **Jordaan, S. M.** (2018) Global natural gas: market evolution and life cycle emissions implications for the power sector. David Bradford STEP seminar series, Princeton University, October 8th.
20. **Jordaan, S. M.** (2018) Greenhouse gas implications of LNG export from British Columbia: Global to local costs and benefits, Canada LNG Conference & Exhibition, Vancouver, British Columbia, May 14th.
21. **Jordaan, S. M.** (2018) The Life Cycle Land Footprint of Energy Infrastructure. Initiative for Sustainable Energy Policy Seminar Series, Johns Hopkins University, April 26th.
22. **Jordaan, S. M.** (2018) Global natural gas: market evolution and climate implications. EPC-ESP Forum, Advanced Academic Programs, Johns Hopkins University, March 8th.
23. **Jordaan, S. M.** (2017) Liquefied Natural Gas Export: Markets and Environmental Implications. SPE Panel on Domestic and International LNG Trade and Development. Society of Petroleum Engineers, Houston TX, October 3rd, 2017. Participants: Elias Cortinas, Gas Markets Advisor, Chevron.
24. **Jordaan, S. M.** (2017) Capturing a Commodity: Reducing Emissions from Expanding Natural Gas Markets. School of Public Policy, University of Maryland, Global Sustainability Forum.
25. **Jordaan, S. M.** (2016) The Evolution of Climate Policy with Expanding Natural Gas Markets. Department of Environmental Health and Engineering, Environmental Science & Management Seminar. Johns Hopkins University.
26. **Jordaan, S. M.** (2016) Keynote Presentation on Emissions from Liquefied Natural Gas Export from Canada. Invited by Seven Generations Energy Ltd. Petroleum Club, Calgary, Alberta.
27. **Jordaan, S. M.** (2015) Keynote Speech: A Sustainable Energy Future. Energy Bowl, University of Calgary, March 7, 2015.
28. **Jordaan, S. M.** (2015) Panel on Hydraulic Fracturing. Canadian Political Science Student's Association (CPSSA) National Conference on Energy and Environmental Politics. January 21-24, 2015. Calgary, Alberta. Participants: Alex Ferguson, Vice-President of Policy and Environment, Canadian Association of Petroleum Producers; Peter Howard, President Emeritus, Canadian Energy Research Institute.
29. **Jordaan, S. M.** (2015) Panel on Pipeline Politics. CPSSA National Conference on Energy and Environmental Politics. January 21-24, 2015. Calgary, Alberta. Participants: Laura Estep, Denton; Prof. James Coleman, Assistant Professor of Law, University of Calgary.
30. **Jordaan, S. M.**, I. M. Herremans, J. Nazari. (2015) Bridging the Innovation Gap for Energy Technologies: The Canadian Context. CPSSA National Conference on Energy and Environmental Politics. Calgary, Alberta, January 21st-24th.
31. **Jordaan, S. M.** (2014) Public Policy and Canada's Resource Sector: The Role of Knowledge and Science in Democratic Decision-Making. Panel on Alternative Perspectives – Environmental Impacts of Oil Sands, 13th Aboriginal Oil & Gas Forum. November 25th-26th. Edmonton, Alberta. Participants: Soledad Mills, VP, Equitable Origin; Neil Philcox, Co-Founder and Partner, The Blended Capital Group; Dan Zilnik, President of Oil and Gas Sustainability Ltd. Moderated by Jason Switzer, the Pembina Institute.

32. **Jordaan, S. M.**, I. M. Herremans, J. Nazari. (2014) Bridging the Innovation Gap for Energy Technologies: The Canadian Context. Keynote, Think Sustain Ability Forum, October 28, 2014. Calgary, Alberta.
33. **Jordaan, S. M.** (2014) Session Chair for New Energy Sources, Energy in the Americas: Critical Reflections on Energy & History, October 23-24, 2014. University of Calgary, Calgary, Alberta. Participants: Paul Chastko, Instructor, Department of History, University of Calgary; Jeffrey T. Manuel, Assistant Professor, Department of History, Southern Illinois University-Edwardsville; Tyler Priest, Associate Professor of History and Geography, University of Iowa.
34. **Jordaan, S. M.** (2014) Panel on Sustainable Development and the Energy Mix. World Summit on Sustainability, the Energy Mix and Fragile Environments, July 20-24th. San Cristobal, Ecuador. Panelists: Byron Chiliquinga-Mazon, OLADE; Horacio Cuevas, Inter-American Development Bank (IDB); Adriana Valencia, IDB. Moderated by Michael Quinn, Mount Royal University.
35. **Jordaan, S. M.** (2014) PES Energy Talks: Panel on Alberta Oil Sands. University of Calgary, Petroleum and Energy Society, March 19th. Panelists: Rhona DelFrari Director of Media Relations and Issue Management at Cenovus; Kali Taylor, Executive Director at Student Energy; Chris Hunt, Director of Planning and Public Engagement, Diversification Strategy at Department of Energy, Government of Alberta. Moderated by Patrick Beatty, Government Relations at Suncor.
36. **Jordaan, S. M.** (2014) The Water-Energy Nexus: Acquiring Unconventional Fossil Fuels. Big Rock Lecture Series (proceeds for undergraduate scholarships), Calgary, Alberta, March 12th.
37. **Jordaan, S. M.** (2014) Water energy nexus in the United States: current research and emerging questions. ISEEE Energy and Environmental Systems (EES) Specialization Seminar series, University of Calgary.
38. **Jordaan, S. M.** and K. Konschnik. (2013) Current Practices and future projections, unconventional gas in the United States. Workshop to Develop Recommendations for Environmental Monitoring related to Unconventional Oil and Gas, Washington DC, December 12th-13th. Natural Resource Defense Council and the Harvard Center for Health and the Global Environment.
39. **Jordaan, S.M.**, L. D. Anadon, E. Mielke, D. P. Schrag. (2013) Regional water implications of reducing oil imports in the United States. Canadian Renewable Fuels Summit. Montreal, QC, December 2nd-4th.
40. **Jordaan, S. M.** (2012) Water-energy nexus for the future of transportation fuels. Resources for the Future Workshop on Water Resource Challenges of Unconventional Fossil Fuels.
41. **Jordaan, S. M.** (2012) Panel on Produced Water Management of Shale Gas production. Bloomberg Water Leadership Workshop, October 24th-25th. Panelists: Amanda Brock, CEO of Water Standard; and Jim Matheson, CEO of Flagship Ventures. Moderated by Frank O'Sullivan, MIT Energy Initiative.
42. **Jordaan, S. M**. (2012) The use of shale gas by the electric sector. Virginia Governor's Conference on Energy, Richmond Virginia. October 2nd- 4th.
43. **Jordaan, S. M.** (2011) Quantifying Land Use Impacts of Energy Extraction. ETIP/Energy Policy Consortium Seminar Series, Harvard University. February 28th.
44. **Jordaan, S. M.** (2011) Governance of impacts to land and water resources from oil sands development in Alberta. Workshop on the Governance of the Water-Energy Nexus. Laboratory on International Law and Regulation, University of California, San Diego.
45. **Jordaan, S. M.** and D. W. Keith (2009) Alberta's energy sources: land disturbance and fragmentation. Workshop on Land Use and Geospatial Aspects of LCA for Renewable Energy, sponsored by the National Science Foundation, Boston, MA.
46. **Jordaan, S. M**. and D. W. Keith (2008) Life-cycle eco-impacts of oil sands extraction in Alberta. Invited seminar, U.C. Davis Institute for Transportation Studies, CA.

Peer review

Applied Energy, Nature Climate Change, Nature Energy, Nature Partner Journals series – Climate and Atmospheric Science, Nature Communications, Renewable and Sustainable Energy Reviews, Land Degradation and Development, Environmental Science and Technology, Journal of Cleaner Production,

Biofuels, Bioproducts & Biorefining), Environmental Research Letters, Applied Energy, Science Magazine, the Journal of Environmental Management, Mitigation and Adaptation Strategies for Global Change, AIMS Environmental Science. Abstract reviewer for the American Center of Life Cycle Assessment's LCA XI conference.

Teaching

McGill University

- Life Cycle-based Environmental Footprinting (2023 – present)
- Industrial Ecology (2024 – present)
- Life Cycle Assessment and the Circular Economy (coming soon, 2025)

Johns Hopkins University (2016-2022)

- Climate Change: Science, Economics, and Politics (Fall 2019 – 2021).
- Science, Technology, and International Affairs (Spring 2019, Fall 2019 – 2021).
- North American Climate Policy in a Warming World (2018).
- Life Cycle Assessment (2018 – 2021).
- Comparative U.S. and Canadian Energy Policy.

University of Calgary (2013-2016)

- Introduction to Public Policy Analysis.
- Environmental Policy Analysis.
- U.S. and Canadian Energy Policy.
- Energy Politics in Alberta.
- Introduction to Government & Politics.

Mentorship and teaching training

- "Best Practices in University Teaching Workshop," Center for Educational Resources, Johns Hopkins University, January 2018. Associate Dean & Director Michael Reese, Center for Educational Resources, Johns Hopkins University.
- "Top tips to build student teams that excel" webinar, Taylor Teaching and Learning Center, University of Calgary, January 2018.
- "Preparing students for the unknown" webinar, Taylor Teaching and Learning Center, University of Calgary, January 2018.
- Evaluation and co-teaching workshops, Taylor Teaching and Learning Center, University of Calgary, 2014-2015.
- One-on-one teaching mentorship with Dr. Carol Berenson at the Taylor Teaching and Learning Center, University of Calgary, 2014-2015.

Teaching fellowships and assistantships

- Teaching Fellow, Energy Consequences. Center for the Environment, Harvard University, 2010.
- Teaching Assistant, Life Cycle Assessment: Tools, Methods and Applications. Faculty of Environmental Design and the Department of Chemical Engineering, University of Calgary, 2007.
- Teaching Assistant, Conceptual Bases of Environmental Design, Faculty of Environmental Design, University of Calgary, 2005 and 2006.
- Teaching Assistant, Electromagnetic Fields I, Department of Physics, Memorial University of Newfoundland, 2002.
- Tutor, Math Help Center, Department of Mathematics, Memorial University of Newfoundland, 2000-2002.

Supervision and mentorship

Pre- and Postdoctoral Scholars

Xiao Li (Ph.D. Water Resources and Hydropower Engineering Science), Postdoctoral Scholar, Department of Civil Engineering, McGill University 2023 - present.

Zainab Almheiri. (Ph.D. Civil Engineering), Postdoctoral Scholar, Department of Civil Engineering, McGill University 2023 - present.
Tao Dai (Ph.D. Mechanical Engineering), Postdoctoral Scholar, Johns Hopkins SAIS 2020 - 2022.
Sakineh Tavakkoli (Ph.D. Environmental and Civil Engineering), Postdoctoral Scholar, Johns Hopkins SAIS 2018- 2020.
Adrienne Davidson, (pre-doctoral Fulbright Canada Scholar, Political Science), Johns Hopkins SAIS 2016-2017.
Adebola Kasumu (Ph.D. Chemical Engineering), Postdoctoral Scholar, University of Calgary 2014-2016.
Ehsan Mohammadi (Ph.D. Candidate in Geomatics Engineering), pre-doctoral scholar, University of Calgary 2014-2015.

Graduate students (thesis, engineering)
Mariam Sameh, doctoral student, Department of Civil Engineering, McGill University 2023 - present.
Tongfei (Alex) Xu, doctoral student, Department of Civil Engineering, McGill University 2023 - present.
Nicolas Paris, master's student, Department of Civil Engineering, McGill University 2023 - present.
Yisen Wang, master's student, Department of Civil Engineering, McGill University 2023 - present.
Armita Mohammadi, master's student, Department of Civil Engineering, McGill University 2024 - present.
Maya Dwivedi-Leng, master's student, Department of Civil Engineering, McGill University 2024 - present.

Graduate students (project, engineering)
Vibhor Saoji, Department of Civil Engineering, McGill University, graduated 2024.
Sai Jayaraman Ramesh, Department of Bioresource Engineering, McGill University, graduated 2023.
Adithya Srikanth, Department of Bioresource Engineering, McGill University, graduated 2023.

Co-advised students (engineering)
Andrew Ruttinger, PhD candidate, School of Chemical and Biomolecular Engineering, Cornell University; visiting scholar at Johns Hopkins University (PhD advisor: Dr. Paulette Clancy).

Ph.D. examination committees
Mingyang Zhang (Doctoral defense), Department of Environmental Health Engineering, Johns Hopkins University, 2/2024.
Scott Seymore (Doctoral, comprehensive), Department of Civil Engineering, McGill University, 2023.
Pouria Rahmati (Doctoral, comprehensive), Department of Civil Engineering, McGill University, 2023.
Juliana Victor, Johns Hopkins SAIS, 12/2022.
Yinong Sun (Doctoral defense), Department of Environmental Health Engineering, Johns Hopkins University, 6/2023.
Leyang Feng (Doctoral qualifying), Department of Environmental Health Engineering, 5/2022.
Yinong Sun (Doctoral qualifying, departmental and university), Department of Environmental Health Engineering, 8/2021 and 12/2021).
Elsie Moore (Doctoral qualifying, departmental), Department of Environmental Health Engineering, 7/2021.
Mingyang Zhang (Doctoral qualifying, departmental and university), Department of Environmental Health Engineering, 11/2020 and 03/2021.
Kevin Palmer-Wilson (Doctoral defense), Department of Mechanical Engineering, University of Victoria, 02/2020.
Anne-Marie Livingstone (Doctoral defense), Department of Sociology, , Johns Hopkins University, 09/2018.
Maha Al'Zubi (Doctoral defense), Environmental Design, specialization in Energy and Environmental Systems, University of Calgary, 12/2016.
Andrew Butt (Doctoral defense), Interdisciplinary Studies, University of Calgary, 04/2014.
Maha Al'Zubi (Candidacy exam), Environmental Design, specialization in Energy and Environmental Systems, University of Calgary, 03/2014.

Alison Aminto, Environmental Engineering (Candidacy exam), Drexel University, 04/2012.

MSc thesis review
Nicholas Pinkerton. 2023. An assessment of the commercial feasibility of iron fuel for clean heat and power, Department of Mechanical Engineering, McGill University; supervisor: Jeff Bergthorson.
Sophia Watret. 2023. Studying the impact of reserve capacity in transmission lines, Department of Electrical Engineering; supervisor: Francois Bouffard.

Doctoral of International Affairs
Juliana Victor, Johns Hopkins SAIS, 12/2022.

Summer Research Fellows
Shreya Rangarajan, Johns Hopkins SAIS 2020 - 2021.
Patrick Nahhas, Johns Hopkins SAIS 2020 - 2021.
Vincent Hu, Johns Hopkins SAIS 2020 - 2021.
Shuwen (Ivy) Zheng, Johns Hopkins SAIS 2020.
Jacob Lee, Johns Hopkins SAIS 2019.
Cory Combs, Johns Hopkins SAIS 2019.
Jiyun Park, Johns Hopkins SAIS 2018.

Graduate Research Assistants
Yu Wang, McGill Civil Engineering 2023-2024.
Sai Jayaraman Ramesh, McGill Civil Engineering 2023-2024.
Adithya Srikanth, McGill Civil Engineering 2023-2024.
Shreya Rangarajan, Johns Hopkins SAIS 2019 - 2022.
Patrick Nahhas, Johns Hopkins SAIS 2019 - 2021.
Alexander Kessler, Johns Hopkins SAIS 2019 - 2020.
Brian Webster, Johns Hopkins SAIS 2019.
JinGe Yu, Johns Hopkins SAIS 2019.
Aditya Bhalchandra, Johns Hopkins SAIS 2018 - 2019.
Lisa Jenkins, Johns Hopkins SAIS 2017 - 2019.
Jiyun Park, Johns Hopkins SAIS 2017 - 2019.
Wenye Sun, Johns Hopkins SAIS 2017 - 2018.
Viviana Specioso (Research Assistant), Johns Hopkins SAIS 2017 - 2018.
Yixuan Zhu, Johns Hopkins SAIS 2017.

Undergraduate Research Assistants
Elsa Edwards, SURE summer student, Mechanical Engineering, McGill University, 2024
Winston Weng, SURE summer student, Chemistry, McGill University, 2024
Maya Dwivedi-Leng, Department of Bioresource Engineering, McGill University, 2022 - present.
Anna Donova, Department of Civil Engineering, McGill University, 2023 - present.
Malik Cherrat, Department of Civil Engineering, McGill University, 2023 - present.
Alexandre Bouffard, School of Architecture, McGill University, 2023 – present
Tana Sun, Department of Civil Engineering, McGill University, 2022 – 2023.
Emily Sperring (Environmental Engineering), Johns Hopkins University, 2021-present.
Luke Reidy (Political Science), University of Calgary 2014.
Jack Middleton (Political Science), University of Calgary 2014.
Amy Glassman (Political Science), University of Calgary 2015.

Student Assistants
Lindsey Breier, (Online Curriculum Assistant), Johns Hopkins SAIS 2018 - 2019.
Akanksha Goyal, (Online Curriculum Assistant), Johns Hopkins SAIS 2018 - 2019.

Past thesis-based graduate students

Audrey Cheung. A comparative study of wind energy policy between Canada and the United States. Department of Political Science, University of Calgary. Primary supervisor with co-supervisor Dr. Ted Morton, 2017.

Past project-based graduate students
Joeti Lall. A review of the proposed Carbon Competitiveness Regulation: A Cost-Effective Approach to reducing Oil Sands Emissions. M.Sc. student, Sustainable Energy Development Program, University of Calgary, 2016.

Jillian Haneiph. Methane Emissions Regulations in Western Canadian LNG: Realizing Opportunities for Success. M.Sc. student, Sustainable Energy Development Program, University of Calgary, 2016.

Rebecca Vinova. Adjustments to Alberta's SGER to Ensure the Polluter Pays. M.Sc. student, Sustainable Energy Development Program, University of Calgary. Co-supervised with Dr. Irene Herremans, 2017.

Daryl Strom. Methane Emissions from Marcellus Shale Gas Wells. M. Eng. Energy Systems Engineering (ESE), Lehigh University. Co-supervised with Dr. Andrew Coleman, 2013.

Yida Xin. Traditional Estimated Ultimate Recovery Method Feasibility and Probable Error for Shale Gas Reservoirs. M. Eng. ESE, Lehigh University. Co-supervised with Dr. Andrew Coleman, 2013.

Additional mentorship and supervision
C. Rose Kennedy (Harvard Graduate Women in Science and Engineering (HGWISE)), 2011.
Hannah Lee (HGWISE), 2010-2011.
Jennifer McKee (undergraduate research assistant, Harvard University), 2011.

Academic and university service

- Served as Pro-dean, summer 2024.
- Organized a 2-day workshop on the circularity of lithium-ion batteries entitled *Circubatt-chat*, funded by TISED (a Research Workshop Program grant and a Carol MacLeod Award).
- Co-organized, co-facilitated, and spoke on a panel for a 1.5-day workshop funded by TISED and the Trottier Family Foundation entitled *Green Hydrogen: avoiding pitfalls to unlock its potential for Canadian industries*.
- Moderator for the panel entitled *Enabling Electric Mobility*, Future-Charged: The Renewable Energy Revolution, McGill University, November 15th, 2023.
- Moderator for the McISCE Engage Seminar, Energy *Transition: From Hype to Hope*, McGill University, March 13th, 2024.
- Graduate Program Director, TISED M.Eng. Program in Sustainable Engineering and Design, McGill University, 2022-present.
- Chair, curriculum subcommittee, TISED M.Eng. Program in Sustainable Engineering and Design, McGill University, 2022-present.
- Chair, academic subcommittee, TISED M.Eng. Program in Sustainable Engineering and Design, McGill University, 2022-present.
- Member of the steering committee (2022/23-present), McGill Centre for Innovation in Conversion & Storage of Energy.
- Member of the steering committee (2022/23-present), Computing and Data Science Initiative, McGill University.
- Chair of Partnerships committee (2022/23-present), McGill Centre for Innovation in Conversion & Storage of Energy.
- EDI committee (2022 - present), Department of Civil Engineering, McGill University.
- Served as a mentor for two McGill students with McCall / McBain scholarships, 2023/2024.
- Guest speaker on life cycle assessment, CIVE 615/664 (2023), CHEE 401 (2022), MECH 560 (2022).

- Served on Women in Renewable Energy panel, a collaborative effort between Women in Renewable Energy (WiRE), SEAM (Sustainability in Engineering at McGill), and POWE McGill (Promoting Opportunities for Women in Engineering), February 12th, 2024.
- Faculty representative (2022), carbon roadmap working group, Johns Hopkins Sustainability Plan.
- ERE faculty advisor for student practicum (academic year 2020/21). Practicum focus: greenhouse gas emissions and liquefied natural gas trade.
- Served on 2020/21 Co-Curricular and Experiential Learning (CCEL) Faculty Advisory Committee, SAIS.
- Served on Administration and Budget Committee Meeting, SAIS (2019-present).
- Served on the 2020/21 Hopkins Energy Alliance, Whiting School of Engineering.
- Founder and head of the Energy Technology and Policy Assessment (ETAPA) research group; launched Summer Fellows program with funded research scholar positions for SAIS students over the summer).
- Faculty advisor for the Organization for Science, Technology, and International Affairs at Johns Hopkins University (OSTIA JHU). https://johnshopkins.campuslabs.com/engage/organization/ostia_jhu
- Fireside chat with Amb. Laura Holgate, former U.S. Representative to the Vienna Office of the UN and International Atomic Energy Agency, Johns Hopkins SAIS Women Lead Conference, "Advancing Women's Leadership in Peace and Security," November 15th.
- Co-organized annual 2019 ERE conference. Invited and coordinated keynote speaker and moderated panel on US Energy Transitions, Johns Hopkins SAIS, October 23rd.
- Johns Hopkins University, Sustainability Leadership Council, Founding Member (2019 – present).
- Peer reviewer for Digital Education & Learning Technology Acceleration (DELTA) Grants provided by the Office of the Provost at Johns Hopkins University.
- Moderated panel for Energy Dialogues in Washington DC, "Perspectives on Global Energy Access and Solutions to Eradicating Energy Poverty - Emerging Initiatives & The Need For Efficient Collaboration on a Global Scale," featuring Dan Byers, Vice President Policy, U.S. Chamber of Commerce, Tina Zuzek , Principal, Boston Consulting Group and Leandro Alves, President & COO, Falvez Energy/WingHQ.
- Initiated, organized, and moderated two 2019 ERE Global Leader's Fora on Science, Technology and International Affairs. The second held on April 3rd entitled "An International Perspective on Science and Technology Diplomacy" featured Seiichi Shimasaki, Chief of Science Section, Science Counsellor, Embassy of Japan and Simon Marti, PhD, Head of Office, Office of Science, Technology and Higher Education, Embassy of Switzerland. The third panelist, Andrew Price, Head of Team, UK Science & Innovation Network, British Embassy, had to decline at the last minute due to family obligations.
- Organized the March 14th World Resources Institute Seminar featuring Dr. Karl Hausker WRI seminar hosted by SAIS-ERE entitled "Climate Challenges and Bridging Divides: The Debate Over 100% Renewables vs. 100% Clean Energy," moderated by Dr. Jonas Nahm.
- Initiated, organized, and moderated the first 2019 SAIS-ERE Global Leader's Forum on Science, Technology and International Affairs, entitled "From Dominance to Diplomacy: the U.S. approach to advances in science and technology" featuring Andrew Hebbeler, Ph.D. (Deputy Director, Office of Science and Technology, Department of State), Jaime C. Adams (Senior Advisor for International Affairs, Office of the Chief Scientist, Office of the Secretary, U.S. Department of Agriculture) and Jeremy Muldavin, Ph.D. (Deputy Director of Defense Software & Microelectronics Activities, Office of the Undersecretary of Defense for Research and Engineering).
- Invited Seminar, Life cycle assessment: informing decisions about energy technologies. Johns Hopkins Center for Global NCD Research and Training, Johns Hopkins University, December 7th, 2018.
- Invited Seminar, Life Cycle Assessment as a tool for understanding the water implications of energy decisions. Randolf Bromery Lecture Series, Department of Earth and Planetary Sciences, Johns Hopkins University, October 25th, 2018.

- Speaker for JHU Carey School Workshop entitled "Networking without Borders" with Dr. Nayoung Louie. Workshop organized by graduate students in Carey School's Women in Business.
- Member of Bloomberg Distinguished Professor Committee, 2018.
- Member, SAIS-ERE full-time faculty committee, 2018. Researched and advised the committee on curriculum development, including drafting learning outcomes for ERE program.
- Oversaw the development of "Online Basics of Environment" for the SAIS-ERE program through hiring and working with two student assistants (Fall of 2018 – Spring of 2019).
- Initiated, organized, and moderated the 2018 SAIS-ERE Climate Policy and Clean Energy Special Lecture Series featuring: Dr. Rachel McCormick (Energy and Environmental Program, Embassy of Canada), Alice Hill (Former Advisor to President Obama and Hoover Fellow, Stanford University), Hector Castro Vizcarra (Minister for Energy Affairs, Embassy of Mexico to the United States), Fall Semester 2018.
- Organized and moderated SAIS-ERE special lecture on careers in energy by Mr. Barry Worthington, Executive Director of the United States Energy Association, October 22, 2018.
- Invited seminar. Life Cycle Assessment as a Tool for Understanding the Water Implications of Energy Decisions. Randolf Bromery Lecture Series, Department of Earth and Planetary Sciences, Johns Hopkins University, October 25th, 2018.
- Opening remarks for the Asian Americans in Energy, Environment and Commerce co-hosted event with the SAIS Energy and Environment Club entitled "Energizing the Future – Looking at the Global Nuclear Energy Industry," September 25th, 2018.
- Invited seminar. The Life Cycle Land Footprint of Energy Infrastructure. Initiative for Sustainable Energy Policy research seminar series, Johns Hopkins University, April 26, 2018.
- Invited seminar. Global natural gas: market evolution and climate implications. EPC-ESP Forum, Advanced Academic Programs, Johns Hopkins University, March 8, 2018.
- Guest Lecture for Energy Systems Analysis (course led by Professor Dennice Gayme) entitled "Life cycle assessment: introduction and application to energy technologies," Whiting School of Engineering, Johns Hopkins University, March 27, 2018.
- Participant, Faculty Mentoring Lunch Workshop, Johns Hopkins University, SAIS, 2017.
- SAIS-ERE representative, Energy Work Group, Whiting School of Engineering, Johns Hopkins University, 2017 - present.
- Member, PhD committee (non-participant, on leave), Johns Hopkins University, SAIS, 2017.
- Invited seminar. Department of Environmental Health and Engineering, Environmental Science & Management Seminar. Johns Hopkins University, November 15, 2016
- Student project supervisor, graduate program in Sustainable Energy Development, Haskayne School of Business, University of Calgary (2015 - 2017).
- Member, Faculty Search Committee for Tenure-Track Assistant Professor, Electrical and Computer Engineering, Schulich School of Engineering, University of Calgary (2016).
- Adjudicator, Undergraduate Research Symposium, University of Calgary (2014, 2015).
- Faculty advisor, Canadian Political Science Student Association's National Conference on Energy and Environment (2014-2015).
- Adjudicator, Poster Competition, Fracturing Impacts and Technologies Conference, Texas Tech University and the Air and Waste Management Association (2014).
- Participation in various departmental committees (e.g. undergraduate), Department of Political Science, University of Calgary (2013-2015).
- Research Ethics Committee, Faculty of Environmental Design, University of Calgary (2006-2007).
- Campus Environment Representative, Environmental Design Student Association (2006-2007).
- Co-founder, Mercury upRISING. Student initiative to raise awareness about climate change on campus, funding from the Government of Alberta (2006-2009).
- Vice-President, Environmental Design Student Association (2005-2006).

External service

- Expert, Canadian representative for the International Energy Agency Photovoltaic Power Systems Programme (IEA PVPS), Task 12: PV Sustainability Activities (2024 – present).
- Member, CREATE Review Committee, Natural Sciences and Engineering Research Council of Canada (NSERC), 2023 - 2026.
- Member and subgroup chair, National Academies of Sciences, Engineering, and Medicine ad hoc committee on markets and infrastructure for carbon capture, utilization, and storage, 1/2023 – 1/2025.
- Member and subgroup chair, National Petroleum Council task on the life cycle emissions of natural gas production systems, 1/2023 – 4/2024.
- Session co-Convener with Dr. Scot Miller (Environment and Health Engineering), "Emissions of Atmospheric Pollutants from Oil, Gas, and Coal Operations," American Geophysical Union, Fall 2018-2024 meetings.
- Associate Editor, Scientific Reports (2022 – 2024).
- Associate Editor, Frontiers in Sustainability (2020 – 2022).
- Session Chair and member of the organizing committee, 2nd annual Harvard-MIT-Applied Energy conference on climate change, rescheduled for August 2020.
- Editor of special issue of Applied Energy, with submissions from the 1st annual Harvard-MIT-Applied Energy to solve to the climate change.
- Women in Energy DC, day of service: Team Leader, STEM badges for Girl Scouts (September 2019).
- Moderated panel on ACLCA webinar "Water Footprint - Application in LCA and Water Management," August 28, 2019 (https://aclca.org/webinars/).
- Panelist (Reviewer, Applicant Submissions) Hubert H. Humphrey Fellowship Program, Institute of Education, 2018. Primary funder: U.S. Department of State.
- Adjudicator for student presentations, Ecological Society of America, 2018 Annual meeting.
- Panelist (Reviewer, Proposal Submissions), National Science Foundation, 2018, 2019.
- Board Member (Events Committee), Women in Energy DC (2018 - present).
- Education Committee, American Center for Life Cycle Assessment (2018 - present).
- Policy Committee, American Center for Life Cycle Assessment (2017).
- Peer reviewer for US DOE water research (2017).
- Technical Committee, Equitable Origin (2015 - present).
- Reviewer, Shale Gas Standards, Equitable Origin (2015).
- Country Analyst for PRIX index on Political Risk and Oil Exports (2015).
- Board Member, Young Environmental Professionals (YEP), Calgary Chapter (2005-2010).
- Environmental Advisory Committee, City of Calgary (2008).
- Science Writer, Protect Our Winters (2007).
- Participant, Shell Canada Sustainability Report Review Panel (2006-2007). Honorarium received.
- Cancer Society, Newfoundland (2000).

Media (samples with links)

- Washington Post. "Finding space for wind farms might be easier than we thought." Huge wind farms use much less land than you might think - The Washington Post
- Forbes. "Current Climate: Greener Gas Plants, Glass Onion's Hydrogen Goof And The High Cost Of Disasters." www.forbes.com/sites/alanohnsman/2023/01/14/current-climate-greener-gas-plants-glass-onions-hydrogen-goof-and-the-high-cost-of-disasters/?sh=e0467ca6925b
- AAAS / SciLine media briefing. "Methane emissions in the United States." https://www.sciline.org/climate/methane-emissions/

- Popular Science. “Biden’s infrastructure act bets big on 3 types of ‘green’ energy tech.” https://www.popsci.com/science/energy-investments-infrastructure-act/
- Invitation to comment on progress on methane emissions at COP26 by AAAS / SciLine. https://www.sciline.org/climate/quotes-cop26-glasgow-summit/
- Yale Climate Connections (radio): “Sea-level rise could threaten coastal nuclear waste facilities” https://yaleclimateconnections.org/2021/02/sea-level-rise-could-threaten-coastal-nuclear-waste-facilities/
- S&P: “Nuclear plant climate change risk assessment, action plans needed: researchers” https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/111219-nuclear-plant-climate-change-risk-assessment-action-plans-needed-researchers
- S&P: “US LNG industry sees curbing emissions as key to its long-term future” https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/091319-us-lng-industry-sees-curbing-emissions-as-key-to-its-long-term-future.
- Inside Science: “Improving Electrical Grids Could Help Protect the Climate” https://www.insidescience.org/news/improving-electrical-grids-could-help-protect-climate
- E&E news: “Grid inefficiencies releasing 1B tons of GHGs — study” https://www.eenews.net/energywire/2019/08/15/stories/1060953983
- Engadget: “Is it time we gave nuclear power another chance?” https://www.eenews.net/energywire/2019/08/15/stories/1060953983
- Business in Vancouver: “Canada implements methane reduction regulations” https://biv.com/article/2018/04/canada-implements-methane-reduction-regulations
- ScienceDaily, “Methane emissions reduction from oil and gas in North America examined”
- https://www.sciencedaily.com/releases/2018/02/180212084357.htm
- Washington Examiner, “Methane gets fresh look as Trump scraps rules”
- http://www.washingtonexaminer.com/methane-gets-a-fresh-look-as-trump-scraps-rules/article/2648781
- S&P Global Markets: “US, Canadian LNG benefits climate if it replaces coal, study finds”
- https://platform.mi.spglobal.com/web/client?auth=inherit#news/article?id=43293892&cdid=A-43293892-11562
- Business in Vancouver: “Gas could help put brakes on climate change, study finds”
- https://biv.com/article/2018/02/gas-could-help-put-brakes-climate-change-study-finds
- E&E news: “Studies attack conventional wisdom on natural gas” https://www.eenews.net/stories/1060062933
- ScienceDaily, “New method to quantify life cycle land use of natural gas” https://www.sciencedaily.com/releases/2017/10/171003111059.htm
- TV and radio: Business News, CTV television news network (Canadian National News, 2016); Business in Vancouver’s radio show (2016), Much Music Talks: Climate Change (2008).

Other outreach (in progress)

- Webinar presenter to Pakistan, hosted by: Women Engineers, Pakistan; Women in Energy, Pakistan; and, SAIS Women Lead (2019). “Global natural gas: market evolution and life cycle greenhouse gas emissions implications for the power sector,” Wednesday, January 30th. Women Engineers, Pakistan reports: 3,100 people watched the webinar, and 1430 actively engaged with the content.
- Webinar organizer, host, and speaker, Expert Review Webinar entitled “Improving Spatiotemporal Energy Infrastructure Datasets for the United States.” Project funded by Alfred P. Sloan Foundation. January 2019.
- Webinar co-presenter with Dr. Garvin Heath (2018) “Land Use Requirements and Impacts of Electricity Generation from Natural Gas and Renewables,” Environmental Aspects of Renewables Forum, Electric Power Research Institute, May 31.
- Webinar panelist, Gastalk Webinar March: Special focus on Canada (2018), March 27.

http://www.gastechevent.com/node/6350

- Webinar presenter, Joint Institute for Strategic Energy Analysis (JISEA) (2016).
- Webinar organizer and presenter, Clean Energy Innovation in Canada, Haskayne School of Business, University of Calgary (2015).
- Webinar presenter, Natural Resources Defense Council and Harvard Center for Health and the Global Environment (2014).
- Volunteer outreach assistant, Canadian Parks and Wilderness Society, Calgary (2005-2006).
- Volunteer outreach and field assistant, Balkan Wildlife Society, Bulgaria (2004).

Workshop and symposium participant/presenter

- Organized and led a 2-day workshop on the circularity of lithium-ion batteries entitled *Circubatt-chat*, funded by a TISED Research Workshop Program grant and a Carol MacLeod Faculty Award
- Co-organized, co-facilitated, and spoke on a panel for a 1.5-day workshop funded by TISED and the Trottier Family Foundation entitled *Green Hydrogen: avoiding pitfalls to unlock its potential for Canadian industries*.
- Moderated for the panel entitled *Enabling Electric Mobility*, Future-Charged: The Renewable Energy Revolution, McGill University, November 15th, 2023.
- Panelist, Educating Future Macro-Energy Systems Researchers, Stanford Macro-Energy Systems Workshop. September 17th -18th 2020
- Moderator and participant, Environmental Aspects of Renewables expert participant, Electric Power research Institute. Sixty experts across industry, government, non-profit, and academia participated. April 29-30, 2019.
- Contributor, U.S.-Canada Shared Priorities for a Sustainable Future Working Summit, Meridian International Center, May 24, 2018, Washington, DC.
- Expert Stakeholder Workshop: Wholesale Electricity Markets at a Crossroads? Examining PJM Market Designs from the Perspective of the States. Organized by the Great Plains Institute & Nicholas Institute for Environmental Policy Solutions, September 29, 2017, Columbus OH.
- Expert Workshop on the Future of Power Markets in a Low Marginal Cost World. Organized by Resources for the Future and the National Renewable Energy Laboratory. September 14, 2017, Washington, DC.

Outside professional activity

- Carbon Management Canada. Policy proposal review, greenhouse gas emissions reduction strategy for the Government of Alberta (2015).
- British Petroleum. Project on produced water technologies and the water energy nexus in the U.S. (2013).
- EPRI. Shale gas project transition and completion (2013).
- Shell Canada. Spatial models of Elk *(Cervus elaphus)* in Southwest Alberta. Project completed for a graduate course in Geography at the University of Calgary (2005).

Memberships

- International Society of Industrial Ecology, 2024 – present.
- American Center for Life Cycle Assessment, 2008-2012, 2014 - present.
- American Geophysical Union, 2014-2015, 2018 - present.
- Ecological Society of America, 2018 – 2020.
- Association for Public Policy Analysis and Management, 2017 - 2022.
- Women in Energy DC, 2017 - 2022.
- Canadian Sustainability Indicators Network, 2007-2010.

Executive training (voluntary)

- Technology Entrepreneurship, Executive Education Seminar, Carey Business School, Johns Hopkins University, July 2018.
- Women in Leadership: Approach and Impact, Short Course in Executive Education, Carey Business School, Johns Hopkins University, January 2018.
- Strategic Conflict Management, Executive Education Seminar, Carey Business School, Johns Hopkins University, 2017.
- Women in Energy DC, Executive Training Workshop, 2017.

Communications training (voluntary)

- Communicating with Tact and Skill, Johns Hopkins University, 2017.
- Relationship Awareness Theory: The Key to Better Communication and More Productive Conflict, Johns Hopkins University, 2017.

Extra-curricular memberships and certifications

- US Sailing Small Boat certification, DC Sail, 2017.
- Member of DC Sail, 2017-present.
- Avalanche Awareness Certification, Outdoors Center, University of Calgary, 2009.
- Extracurricular activities include snowboarding, yoga, sailing, hiking, walking, and art.

Computer skills

ArcGIS/Pro, MATLAB, Python, OpenLCA, Adobe Illustrator, Microsoft Office, Oracle Crystal Ball.

Languages

English and French.