

BIOGRAPHY – Joule Bergerson

Dr. Joule Bergerson is an Associate Professor in the Department of Chemical and Petroleum Engineering and Tier 2 Canada Research Chair in Energy Technology Assessment. Dr. Bergerson is also a member of the Royal Society of Canada College of New Scholars, Artists and Scientists.

Dr. Bergerson is an emerging leader in energy technology assessment and has played a key role in the development and implementation of the University of Calgary's Energy Research Strategy "Energy Innovations for Today and Tomorrow". Dr. Bergerson directs an interdisciplinary and highly collaborative research team in the development of new methods for energy technology assessment. Dr. Bergerson has advanced the assessment of energy technologies by developing novel simulation tools, extending of life cycle assessment methods, and dynamic systems modelling, which have provided new insights into the economic and environmental performance of emerging technologies and thereby better informed decision making in both the public and private sector. Dr. Bergerson's research has demonstrated significant societal, industry and policy impact. She has developed an oil sands research consortium to support and inform her research on Life Cycle Assessment of Oil Sands Technologies in collaboration with Dr. Heather MacLean at the University of Toronto, 9 oil companies, 2 technology companies/consortiums, and 3 government agencies (federal and provincial). The impact of this work continues to grow including highly cited papers (e.g., 183 citations in one paper published in Environmental Research Letters) and the adoption of their results directly into policies such as California's Low Carbon Fuel Standard and policy relevant tools (e.g., U.S. GREET model).

Dr. Bergerson is the theme leader of Technology Assessment and Coordination Team withing the Canadian Research Excellence Fund, Global Research Initiative since 2016. In this role she has been collaborating with researchers across UCalgary, as well as UAlberta, to provide system-level analysis of lab scale and early stage technologies to reduce environmental impacts of energy systems. Dr. Bergerson has established the Life Cycle Assessment of Emerging Technologies network in 2018 and continues to expand the network. This network consists of Canadian and International experts in the field of LCA/TEA (technoeconomic assessment). She was the lead editor of a special issue in Journal of Industrial Ecology on the topic. She was also the lead and corresponding author on a foundational paper as part of the special issue.

Dr. Bergerson has 64 publications in the top journals in her field of energy systems analysis (35 in the past four years), including a recent paper in Nature Climate Change (impact factor (IF) = 20.89), a paper in Joule (IF = 27.054), a paper in Science (IF = 41.85) and 18 papers in Environmental Science and Technology (IF = 8.49). Dr. Bergerson has received several awards and recognitions associated with her research, including a best paper award in the top journal in her field, Environmental Science and Technology, and Journal of Industrial Ecology certificate for top downloaded paper in 2018-2019. She has been invited to numerous talks and presentations. Her unique expertise in energy technology assessment is also in great demand nationally and internationally: A few examples are her role as an expert panel member on "Validation of a Canadian Life Cycle Inventory Database Architecture and its Deployment for Techno-Economic and Life Cycle Assessment of Pulse Protein/Co-Product Processing Pathway" and an expert advisor on "Earth Shift Global Team- Building a Model that Gets Used to Regulate the Canadian Clean Fuel Standard".