



Sean McBeath

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Sean McBeath is a chemical and environmental engineer with an extensive research background in the development of sustainable water and wastewater treatment technologies for small, remote and decentralized system applications. His research has primarily involved electrochemical systems and novel materials for low energy treatment alternatives, requiring no consumables and eliminating the chemical supply chain associated with conventional water treatment processes. In particular, Sean received his Master's degree at the University of British Columbia, researching and scaling-up an electrocoagulation process, an alternative to conventional coagulation and flocculation, for the treatment of natural organic matter, arsenic and manganese from ground and surface water sources. Sean received his PhD at Imperial College London, where he investigated an electro-oxidation process, whereby low-levels of iron and manganese in raw groundwater were converted into high cationic state species, namely ferrate and permanganate. Using this novel reaction pathway, simultaneously with electro-oxidation, the treatment of various common pollutants such as atrazine (pesticide) and PFOS were investigated. Currently, Sean is continuing his work in the field of electrochemical treatment technologies as a postdoctoral scholar at the California Institute of Technology. Additionally, he is helping to develop a novel wastewater-based epidemiology technology for the monitoring of SARS-CoV-2 in rural and developing systems