Special Issue

Advances in Microbial Desalination Cells

Message from the Guest Editors

Finding engineering solutions for greener water treatment and power generation has been the focus of research in the last few years. Microbial desalination cells (MDCs) are a bioelectrochemical system that uses low-cost carbon sources as substrates and microorganisms to treat wastewater, perform desalination, and produce electricity. Therefore, MDCs offer the potential to overcome the challenges of water scarcity and renewable energy generation, addressing several SDGs. However, for their application, key challenges must be overcome. Additionally, compared to the existing desalination technologies, MDCs have lower desalination efficiency due to the lower current production rates of the bioelectrochemical systems. The major goal of this Special Issue is to delve deeper into understanding the different challenges of these systems and use this new knowledge to maximize electricity production (power output) and salt and chemical oxygen demand removal rates with lower costs to make this technology attractive to scale-up and to be used to simultaneously produce electricity, desalination, and wastewater treatment.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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