Special Issue

Microbial Electrochemical Systems

Message from the Guest Editors

MES mainly include microbial fuel cells (MFCs) and microbial electrolysis cells (MECs) both using electrogenic microorganisms on the anode. Microbial fuel cell (MFC) technology combines the developments in the biotechnology and fuel cell technology. The major difference between MFC and other types of fuel cells is the catalysts used. Instead of expensive noble metal or other chemical catalysts, microorganisms, such as bacteria and yeasts, are used. Microbial electrochemical system (MES) combining waste treatment and extracting energy and recovering resources from waste is a promising technology for sustainable chemical and fuel production, and will have positive impact on the environment and society. As a multidisciplinary research area, research on MES involves a wide range of topics across different disciplines including and not limited to microbiology, electrochemistry, materials and process integration. Due to the limitation on energy production from MFCs, the focus of the research in MES area has a shift to applying the technology to various applications, such as metal recovery, hydrogen production and microbial electrochemical synthesis of organic compounds from CO2, as well as using MFC technology for monitoring organic and pollutant concentrations.

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Deadline for manuscript submissions

closed (31 May 2018)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/9561

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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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