Special Issue

Opportunities, Challenges and Prospects of Microbial Fuel Cell

Message from the Guest Editor

Microbial fuel cells (MFCs) and bioelectrochemical systems are used for waste-to-energy and cost-effective treatment. Microorganisms could deliver the next generation of sustainable energy; evidence of this has given rise to electromicrobiology, the study of microorganisms' electrical properties. Despite their enormous potential, our ability to fully use MFCs technology is limited by our narrow understanding of the mechanisms that allow electron harvesting from microorganisms and the key elements that enhance MFCs' performance. Due to these gaps in knowledge, MFCs are reduced to a laboratory interest. Although scaling up the systems was extremely challenging, the promise of these technologies still remains unexplored. High-efficiency electrode materials and catalysts can reduce fabrication costs. Similarly, the MFCs organic substrate is one of the key issues in electron generation through microbial activities. This Special Issue provides a platform to communicate the novel findings on electrode fabrication, the utilization of waste as a substrate or electrode, and the latest findings on the microbial mechanism of MFCs.

Guest Editor

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