Special Issue

Advances in Bioelectrochemical Systems for Wastewater Treatment

Message from the Guest Editors

In recent years, bio-electrochemical processes have received significant attention due to their potential applications across various fields. From energy recovery to capturing and converting carbon emissions, the electrochemical activity of microorganisms is emerging as a new tool in environmental biotechnology. This Special Issue aims to highlight recent advancements, challenges, and future perspectives in the application of BESs for wastewater treatment. Topics of interest include, but are not limited to, the following:

- Design and optimization of bio-electrochemical reactors for wastewater treatment.
- Microbial communities and biocatalysts involved in BES processes.
- Novel electrode materials and configurations for enhanced performance.
- Integration of BESs with other treatment technologies for synergistic effects.
- Modeling and simulation of BESs for process understanding and optimization.
- Advances in monitoring, control, and scale-up of BES-based treatment systems.
- Environmental sustainability and life cycle assessment of BES applications.
- Techno-economic analysis and commercialization prospects of BESs in wastewater treatment.

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