

„Microbes & materials: from advanced wastewater treatment to electricity-assisted bioproduction“

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Microbial Electrochemical Technologies (METs) are an emerging field of research at the interface of chemistry, biology, and engineering. A prominent example is the development of microbial fuel cells, in which electroactive bacteria are used to simultaneously clean wastewater and generate electricity. Today, the underlying technological concept has found a variety of further applications, including the remediation of environmental pollution and the bioproduction of valuable compounds. A challenge relevant for all METs is the design of suitable and cost-efficient electrode materials – for instance electrically conductive porous structures made from carbon, metals, and ceramics. This talk covers the basic concepts and applications of METs and provides an overview of the current strategies and engineering challenges in the field of microbial electrodes.