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Sommario/riassunto

"This book serves as a manual of research techniques for electrochemically active biofilm research. Using examples from real biofilm research to illustrate the techniques used for electrochemically active biofilms, this book is of most use to researchers and educators studying microbial fuel cell and bioelectrochemical systems. The book emphasizes the theoretical principles of bioelectrochemistry, experimental procedures and tools useful in quantifying electron transfer processes in biofilms, and mathematical modeling of electron transfer in biofilms. It is divided into three sections: Biofilms: Microbiology and microbioelectrochemistry - Focuses on the microbiologic aspect of electrochemically active biofilms and details the key points of biofilm preparation and electrochemical measurement. Electrochemical techniques to study electron transfer processes - Focuses on electrochemical characterization and data interpretation, highlighting key factors in the experimental procedures that affect reproducibility. Applications - Focuses on applications of electrochemically active biofilms and development of custom tools to study electrochemically active biofilms. Chapters detail how to build the reactors for applications and measure parameters. "--