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Altri autori (Persone)	SurampalliRao Y ZhangTian C DuteanuNarcis M
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Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Preface -- Chapter 1 Fuel Cells and Biofuel Cells -- 1.1 Energy Demand and Current Energy Scenario -- 1.2 Fundamentals of Fuel Cells -- 1.3 Introduction to Fuel Cells and Biofuel Cells -- 1.3.1 Microbial Fuel Cells -- 1.3.2 Enzymatic Fuel Cells -- 1.4 Basic Description of Bioelectrochemical Systems -- 1.5 An Overview of Bioelectrochemical Systems -- 1.6 Organization of the Book -- References -- Chapter 2 Electrochemistry Analytical Techniques and Interpretation of the Results -- 2.1 Electrochemistry Fundamentals -- 2.2 Introduction to Electrochemistry (Basics of Electrochemistry) -- 2.2.1 Principles of Electrochemical Reactions -- 2.2.2 Establishing an Electrochemical Reaction -- 2.2.2.1 Power Supply Unit -- 2.2.2.2 Electrodes -- 2.2.2.3 Inertness -- 2.2.2.4 Counter Electrode and Its Reaction -- 2.2.2.5 Reference Electrode and Its Reaction -- 2.2.3 Application Fields of Electrochemistry -- 2.2.3.1 Energy Conversion and Storage -- 2.2.3.2 Electrosynthesis -- 2.2.3.3 Corrosion -- 2.2.3.4 Electroanalytical Chemistry
Sommario/riassunto	This comprehensive two-volume work, edited by experts including

Makarand M. Ghangrekar, Rao Y. Surampalli, Tian C. Zhang, and Narcis M. Duteanu, explores the fundamentals and applications of microbial technologies. The book delves into advanced topics such as microbial fuel cells, biofuel cells, and microbial electrolysis cells, emphasizing their configurations, materials, and biotic components. It also examines the role of catalysts, various spectroscopy techniques, and analytical methods crucial for the development and optimization of these technologies. Aimed at researchers, scholars, and professionals in environmental and biochemical engineering, the volumes provide insights into sustainable energy production, value-added chemical production, and the biotechnological integration of systems. The authors aim to foster innovation in sustainable technology and bioeconomy, promoting a deeper understanding of microbial applications in energy and environmental sectors.
