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Altri autori (Persone)	ChandraPranjal
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Nota di contenuto	Introduction to Biosensors for Personalized Health -- Non-Invasive Biomarkers for Disease Diagnosis and Health Monitoring -- Affinity-based clinical biomarkers for early disease detection -- Fundamentals, Fabrication, Engineering, and Prototyping Aspects of Bioelectronics and Biosensors for Biomedical Analysis -- Signal Amplification Strategies for Biosensing of Clinically Important Analytes.-Materials for developing electrochemical biosensing systems -- Personalized on-chip sample evaluation devices for biomedical applications: advantages, challenges and opportunities -- Nanozyme mediated biosensing -- Mechanisms for analytes biosensing -- The development process of point-of-care sensor-based detection modules for biomedical diagnoses -- Biosensors for rapid and early detection of chronic diseases -- Advances in affinity-based biosensing mechanisms for direct detection /monitoring of the biomarkers -- Sweat, interstitial fluid, and saliva based wearable devices for continuous monitoring of metabolites and biomarkers -- Implantable biosensors for personalized healthcare -- Ingestible biosensors for personalized health.

Sommario/riassunto

This book covers the basic principles and advanced methods used in the advancement of bioelectronics for therapeutic purposes. This book provides a thorough examination of the development and progress in bioelectronics devices and biosensors, emphasizing current improvements in individualized diagnostics using biosensing modules, tools, and approaches. It offers useful insights into the creation of biosensors for individualized healthcare diagnostics by analyzing the underlying principles of sensing methods. This book primarily emphasizes the incorporation of biosensing technologies into wearable, implantable, and biomedical devices. These advancements are transforming healthcare by enabling uninterrupted monitoring and immediate data gathering, ultimately improving patient care. The book also highlights the significance of downsizing biosensor platforms, demonstrating approaches that enhance the compactness and efficiency of these devices while maintaining their performance. The book also discusses point-of-care devices, which are of great importance. These devices are essential in clinical laboratories and care units, such as ICUs and ambulatory settings, since they provide fast, precise, and immediate diagnostic capabilities. The book showcases the most recent breakthroughs in personalized diagnostics via the use of biosensing-based bioelectronics devices, highlighting its capacity to revolutionize the provision of healthcare. This book examines the real-world uses of biosensor technology in customized healthcare throughout various chapters. It explores the customization of these devices to cater to the specific requirements of each patient, enabling accurate and prompt medical treatments. This book is a valuable resource for academics, practitioners, and enthusiasts in the subject of bioelectronics and healthcare. It combines in-depth scientific discussions with practical real-world applications. In essence, this book serves as a foundation for comprehending the profound influence of biosensor technology on personalized health care. This book encourages readers to investigate the promising opportunities that await in the field of bioelectronics, where groundbreaking devices and methods are poised to revolutionize medical diagnostics and patient treatment.