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Titolo	Modern techniques in biosensors : detection methods and commercial aspects // Gorachand Dutta, Arindam Biswas, Amlan Chakrabarti, editors
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ISBN	981-15-9612-3
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (X, 312 p. 121 illus., 91 illus. in color.)
Collana	Studies in systems, decision and control ; ; Volume 327
Disciplina	610.28
Soggetti	Biosensors - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Nanomaterials, classifications, and properties and their use in clinical diagnostics -- Electrochemical Biosensors for Point-of-Care Devices -- Nanobiomaterials and nanocomposites in cancer theranostics -- Biosensor signal amplification strategies for early stage disease detection -- Nano biomaterials: immobilization and biosensing -- Label-free and wash-free methods in biosensing -- Biosensor development for drug discovery and drug delivery -- Microfluidics system utilizing various biomaterials for medical applications -- Infectious disease diagnosis based on nanobiomaterials -- Biosensors and Multiplexing -- Lab-on-PCB: tackling the TAS commercial upscaling bottleneck -- Commercialization and Future perspectives of biosensors -- THz Biosensors: Fundamentals and Applications.
Sommario/riassunto	This book focusses on recent advances and different research issues in the biosensor technology and also presents theoretical, methodological, well-established and validated empirical work dealing with the technology. The book addresses challenges for the development of a point-of-care test platform. The book also describes printed chip-based assay (Lab-on-a-Chip, Lab-on-a-PCB) for rapid, inexpensive, multiplex detection of disease biomarkers in real samples. It aims to overcome existing barriers for Lab-on-a-Chip commercialization (lack of cost effective mass manufacturing methods, self-contained, fully autonomous operation and user-friendliness).

Different advanced techniques including electrochemical, optical, mass, colorimetric and signal amplification strategies describe early stage disease diagnosis. The book gathers scientific and technological novelties and advancements already developed or under development in the academic and research communities. It covers a vast audience from basic science to engineering and technology experts and learners.

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