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Soggetti	Analytical chemistry Microarrays Biomedical engineering Regenerative medicine Tissue engineering Analytical Chemistry Biomedical Engineering and Bioengineering Regenerative Medicine/Tissue Engineering
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Nota di contenuto	1. Acoustofluidic blood component sample preparation and processing in medical applications -- 2. Microfluidic technologies and platforms for protein crystallography -- 3. Application of Sers-based Microfluidics for in Vitro Diagnostics -- 4. Miniaturized Electrochemical Sensors to Facilitate Liquid Biopsy for Detection of Circulating Tumor Markers -- 5. Spiral Inertial Microfluidics for Cell Separation and Biomedical Applications -- 6. Worms on a Chip -- 7. Microfluidic devices for gamete processing and analysis, fertilization and embryo culture and characterization -- 8. Microfluidic organs-on-chips to reconstitute cellular microenvironments -- 9. In vitro tissue construction for organ-on-a-chip applications -- 10. Nanobiodevices for Cancer Diagnostics and Stem Cell Therapeutics -- 11. Nanopore Device for Single-Molecule Sensing Method and Its Application -- 12. Paper Microfluidics for POC Testing in Low-resource Settings -- 13. Paper-Based Microfluidics for Point-of-Care Medical Diagnostics.

Sommario/riassunto

This book focuses on state-of-the-art microfluidic research in medical and biological applications. The top-level researchers in this research field explain carefully and clearly what can be done by using microfluidic devices. Beginners in the field —undergraduates, engineers, biologists, medical researchers—will easily learn to understand microfluidic-based medical and biological applications. Because a wide range of topics is summarized here, it also helps experts to learn more about fields outside their own specialties. The book covers many interesting subjects, including cell separation, protein crystallization, single-cell analysis, cell diagnosis, point-of-care testing, immunoassay, embryos/worms on a chip and organ-on-a-chip. Readers will be convinced that microfluidic devices have great potential for medical and biological applications.
