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Titolo	Micromachines for Dielectrophoresis
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Descrizione fisica	1 online resource (186 p.)
Soggetti	History of engineering & technology Technology: general issues
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	An outstanding compilation that reflects the state-of-the art on Dielectrophoresis (DEP) in 2020. Contributions include: - A novel mathematical framework to analyze particle dynamics inside a circular arc microchannel using computational modeling. - A fundamental study of the passive focusing of particles in ratchet microchannels using direct-current DEP. - A novel molecular version of the Clausius-Mossotti factor that bridges the gap between theory and experiments in DEP of proteins. - The use of titanium electrodes to rapidly enrich T. brucei parasites towards a diagnostic assay. - Leveraging induced-charge electrophoresis (ICEP) to control the direction and speed of Janus particles. - An integrated device for the isolation, retrieval, and off-chip recovery of single cells. - Feasibility of using well-established CMOS processes to fabricate DEP devices. - The use of an exponential function to drive electrowetting displays to reduce flicker and improve the static display performance. - A novel waveform to drive electrophoretic displays with improved display quality and reduced flicker intensity. - Review of how combining electrode structures, single or multiple field magnitudes and/or frequencies, as well as variations in the media suspending the particles can improve the sensitivity of DEP-based particle separations. - Improvement of dielectrophoretic particle chromatography (DPC) of latex particles by exploiting differences in both their DEP mobility and their crossover frequencies.