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Titolo	Encyclopedia of Microfluidics and Nanofluidics [[electronic resource] /] / edited by Dongqing Li
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Descrizione fisica	1 online resource (XXXIII, 2226 p. 500 illus.)
Disciplina	620.1064
Soggetti	Fluid mechanics Nanotechnology Thermodynamics Heat engineering Heat - Transmission Mass transfer Biomedical engineering Analytical chemistry Medical microbiology Engineering Fluid Dynamics Engineering Thermodynamics, Heat and Mass Transfer Biomedical Engineering and Bioengineering Analytical Chemistry Medical Microbiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	A selection of entries in this reference include: Electrical double layers -- Electro osmosis -- Electrophoresis -- Dielectrophoresis -- Quantum dots -- Electrowetting -- Theoretical models and numerical simulations (e.g., continuum and MDS) -- Pressure-driven single phase liquid flows -- Pressure-driven single phase gas flows -- Pressure-driven two phase flows -- Electroosmotic flow -- Electrophoretic motion of particles and cells -- Joule heating in electrokinetic flow -- Mixing -- Electrokinetic focusing -- Electrokinetic dispensing --

Molecular dynamic simulations -- Other non-continuous approaches -- Electrowetting and droplets -- Nanofluidics -- Flow in channels with 3D elements -- Electrokinetic transport with biochemical reactions -- Photolithography -- Silicon micromachining -- Laser based micromachining -- LIGA -- Soft photolithography -- Nanochannel fabrication -- Molecular tagging method -- Micro PIV -- On-chip waveguide -- Other micro flow visualization techniques -- Fluorescent thermometry -- Electrical current monitoring methods for evaluating EOF velocity -- Methods for measuring zeta potential -- Methods for surface modification (e.g., self assembled monolayer, polymer coating) -- Microfluidic pumping -- Microfluidic mixing -- Microfluidic dispensing -- Microfluidic bioreactors -- Lab-on-chip devices for DNA analysis (e.g., PCR, hybridization, sequencing) -- Lab-on-chip devices for separation based detection (e.g., electrophoresis) -- Lab-on-chip devices for cell analysis (e.g., flow cytometry, dielectrophoresis) -- Lab-on-chip devices based on electro-wetting -- Lab-on-chip devices for protein analysis -- Lab-on-chip devices for immunoassay -- Lab-on-chip devices for chemical analysis -- Lab-on-chip devices for bio-defense applications -- Micro-fuel cells -- Micro heat pipes -- Opto-microfluidics and opto-nanofluidics.

Sommario/riassunto

Covering all aspects of transport phenomena on the nano- and micro-scale, Springer’s Encyclopedia of Microfluidics and Nanofluidics includes over 750 entries in three alphabetically-arranged volumes including the most up-to-date research, insights, and applied techniques across all areas. Specifically, subjects covered in this comprehensive Springer Reference include electrical double-layers, optofluidics, DNC lab-on-a-chip, nanosensors, and more. Please note that this publication is available as print only OR online only OR print + online set. Save 75% of the online list price when purchasing the bundle.