1. Record Nr. UNINA9910299848703321

Titolo	Encyclopedia of Microfluidics and Nanofluidics / / edited by Dongqing Li
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2015
ISBN	1-4614-5491-3
Edizione	[2nd ed. 2015.]
Descrizione fisica	1 online resource (2200 illus., 1150 illus. in color. eReference.)
Collana	Springer Reference
Disciplina	532/.05
Soggetti	Nanotechnology Biomedical engineering Fluids Renewable energy resources Mechanics Mechanics, Applied Materials science Nanotechnology and Microengineering Biomedical Engineering and Bioengineering Fluid- and Aerodynamics Renewable and Green Energy Solid Mechanics Materials Science, general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
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, the 800 entries include 300 essay entries. The Encyclopedia gives an up to date look at the fundamentals of the field as well as many experiments and applications in growing areas such as energy devices and bioengineering applications.