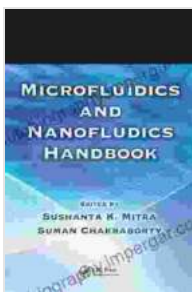


Microfluidics and Nanofluidics Handbook: Unveiling the Secrets of Fluid Behavior at Micro- and Nanoscales

Step into the captivating world of microfluidics and nanofluidics, where fluids exhibit remarkable properties and offer immense potential for groundbreaking applications. Microfluidics involves the manipulation and control of fluids at the microscale, while nanofluidics explores the behavior of fluids at the nanoscale, where quantum effects come into play.

Our groundbreaking two-volume handbook, "Microfluidics and Nanofluidics Handbook," provides an unparalleled resource for scientists, engineers, and industry professionals seeking to delve into this rapidly evolving field. With contributions from leading experts, this comprehensive guidebook covers the fundamental principles, cutting-edge research, and practical applications of micro- and nanofluidics.



Microfluidics and Nanofluidics Handbook, Two Volume Set (Microfluidics & Nanofludics Handbook)

★★★★★ 5 out of 5

Language : English

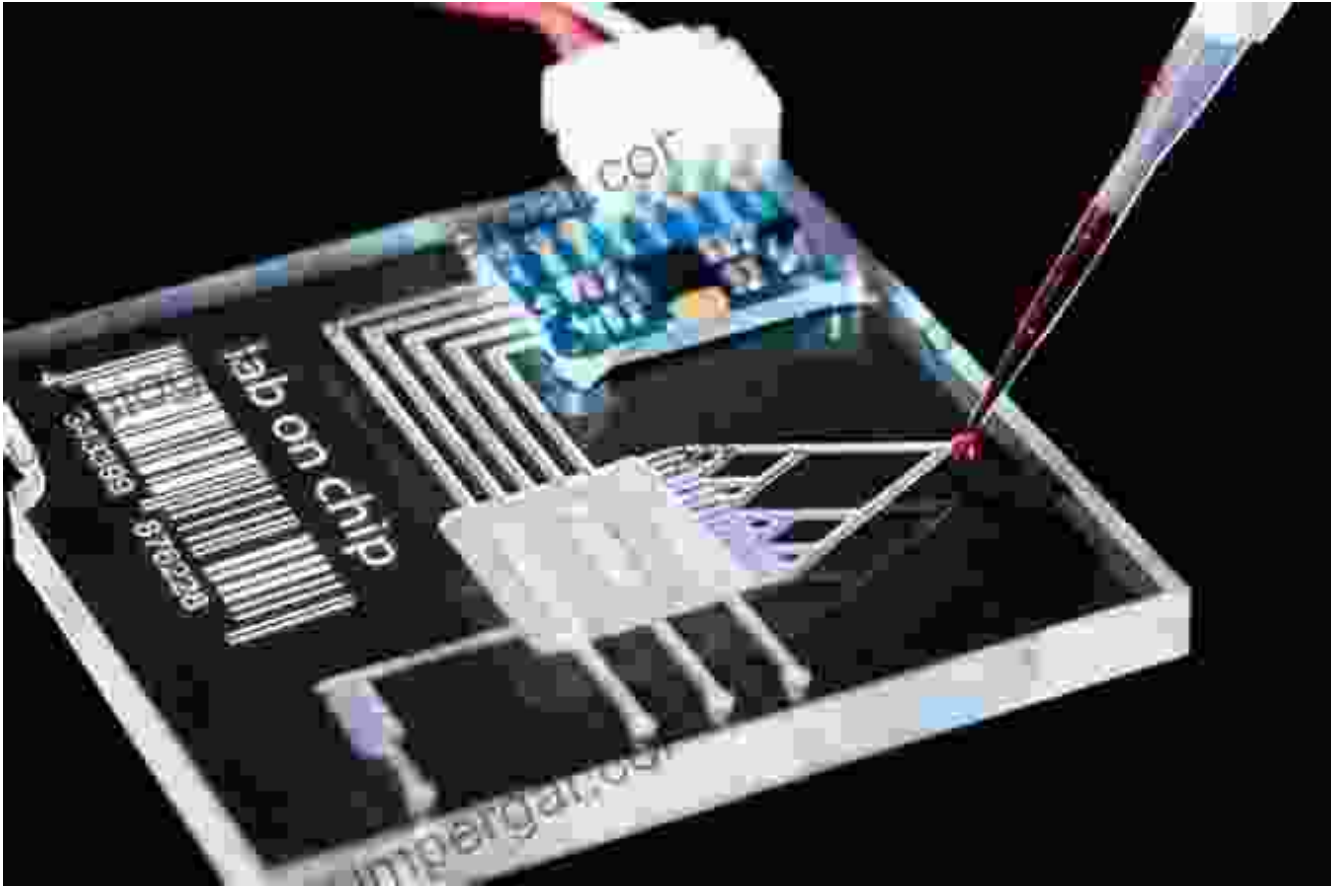
File size : 100017 KB

Print length : 1766 pages



Volume 1: Microfluidics

Chapter 1: to Microfluidics



Embark on a journey into the realm of microfluidics, discovering its origins, key concepts, and potential applications. Explore the miniaturization of fluidic systems, enabling unprecedented control over fluid behavior and opening up new possibilities in fields such as healthcare, biotechnology, and energy.

Chapter 2: Microfabrication Techniques

Delve into the intricate world of microfabrication, the art of creating microfluidic devices with precise dimensions and functionalities. Uncover the principles and applications of photolithography, soft lithography, and other advanced fabrication techniques. Master the techniques to design and fabricate custom microfluidic devices tailored to specific needs.

Chapter 3: Fluid Dynamics at the Microscale

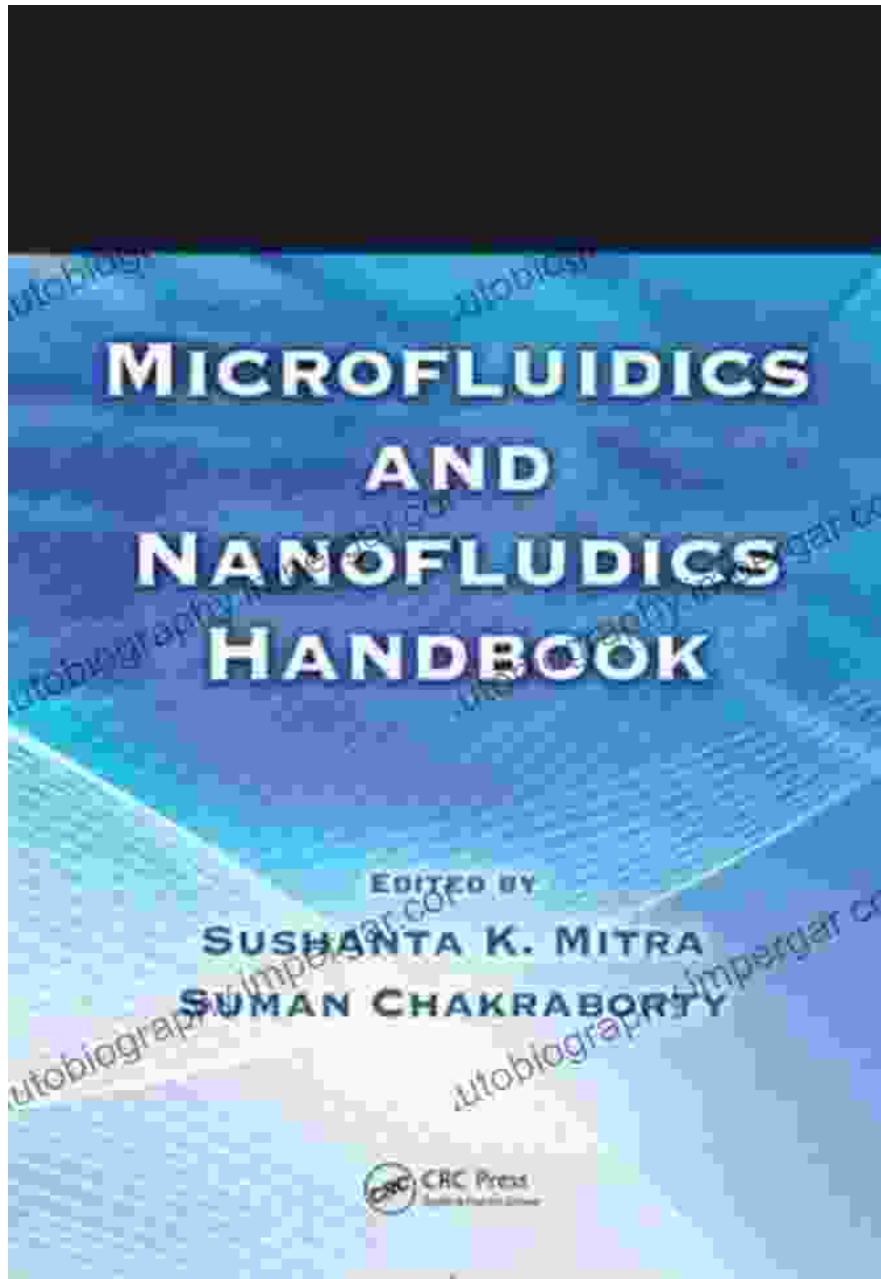
Unravel the mysteries of fluid dynamics at the microscale, where viscous forces dominate and unique flow phenomena emerge. Explore the role of surface tension, capillary forces, and electrokinetic effects in shaping fluid behavior in microchannels. Understand the complexities of two-phase flow and its implications for microfluidic applications.

Chapter 4: Microfluidic Devices and Applications

Witness the transformative power of microfluidic devices in a multitude of applications. Discover the principles and designs of microfluidic mixers, sensors, actuators, and droplet generators. Explore their applications in chemical synthesis, drug delivery, diagnostics, and beyond.

Volume 2: Nanofluidics

Chapter 5: to Nanofluidics



Venture into the uncharted territory of nanofluidics, where fluids exhibit quantum effects and exhibit extraordinary properties. Grasp the fundamental principles governing fluid behavior at the nanoscale, including quantum confinement, surface effects, and intermolecular forces.

Chapter 6: Nanofluidics Characterization Techniques

Master the art of characterizing nanofluids, unlocking their unique properties and behavior. Explore experimental techniques such as dynamic light scattering, nanoparticle tracking analysis, and zeta potential measurements. Learn to interpret experimental data and gain insights into the physicochemical properties of nanofluids.

Chapter 7: Nanofluid Heat Transfer and Energy Applications

Harness the exceptional heat transfer capabilities of nanofluids for groundbreaking applications in thermal management and energy conversion. Explore the mechanisms of enhanced thermal conductivity in nanofluids and their potential in cooling electronic devices, solar energy systems, and thermal batteries.

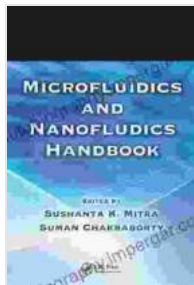
Chapter 8: Nanofluids in Biological and Medical Applications

Discover the transformative potential of nanofluids in biological and medical applications. Investigate the use of nanofluids as drug delivery vehicles, biosensors, and diagnostic tools. Delve into the latest research on nanofluid-based cancer therapies, targeted drug delivery, and regenerative medicine.

Our comprehensive "Microfluidics and Nanofluidics Handbook" empowers you to unlock the full potential of these groundbreaking technologies. Whether you are a researcher, engineer, or industry professional, this unparalleled guidebook will equip you with the knowledge, insights, and practical guidance to make significant contributions to the rapidly evolving field of micro- and nanofluidics.

Embark on this scientific odyssey today and discover the fascinating world of fluids at the micro- and nanoscales. Free Download your copy of

"Microfluidics and Nanofluidics Handbook: Two Volume Set" now and unlock the secrets to harnessing the power of micro- and nanoscale fluidic systems.



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