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Microfluidics and Nanofluidics is an international peer reviewed journal exploring all aspects of microfluidics, nanofluidics, and lab-on-a-chip science and technology. The journal seeks to improve the fundamental understanding of microfluidic and nanofluidic processes, examining the current state of research and development and the latest applications.

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Microfluidics and Nanofluidics is an

international peer-reviewed journal that aims to publish papers in all aspects of microfluidics, nanofluidics and lab-on-a-chip science and technology.

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Microfluidics and Nanofluidics is a peer-reviewed scientific journal. The scope of Microfluidics and Nanofluidics covers Condensed Matter Physics (Q2), Electronic, Optical and Magnetic Materials (Q2), Materials Chemistry (Q2), Nanoscience and Nanotechnology (Q2).

~~Microfluidics and Nanofluidics Journal Impact 2019-20 ...~~

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~~Journal | Microfluidics and Nanofluidics~~

Microfluidics and Nanofluidics Impact Factor, IF, number of article, detailed information and journal factor. ISSN: 1613-4982.

~~Microfluidics and Nanofluidics - Journal Impact - Bioxbio~~

Microfluidics and nanofluidics deal with fluid flows in geometries of micro/nano scales. New phenomena unique to these small scales bring exciting research interests in the past two decades. Practical applications can be found in the analysis of analytical

chemistry, chemical engineering, biomedical devices, micro-thermal technologies, etc.

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~~Microfluidics and Nanofluidics | RG Journal Impact ...~~

Standard Journal Abbreviation (ISO4) - Microfluidics and Nanofluidics The Standard Abbreviation (ISO4) of Microfluidics and Nanofluidics is “Microfluid Nanofluidics”.

~~Microfluidics and Nanofluidics | Standard Journal ...~~

Journals Related to Microfluidics and Nanofluidics As the field of Microfluidics and Nanofluidics is expanding rapidly, the number of publications related to this field is also increasing. There are some journals that are focused on publishing micro and nano fluidic work and several other journals publish related work.

~~Journals Related to Microfluidics and Nanofluidics~~

Microfluidics and Nanofluidics. ISSN (printed): 1613-4982. ISSN (electronic): 1613-4990. Microfluidics and Nanofluidics is

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~~Microfluidics and Nanofluidics citation style [Update 2020 ...~~
The journal Optofluidics, microfluidics and nanofluidics has been closed since the beginning of the 2019. One of the fastest growing peer-reviewed journals published, devoted to scholarly research in all areas of optofluidics.

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Microfluidics Microfluidics is the science of designing, manufacturing, and formulating devices and processes that deal with volumes of fluid on the order of nanoliters or picoliters. Microfluidics hardware requires construction and design that differs from macroscale hardware.

~~Microfluidics | List of High Impact Articles | PPts ...~~

2009 (2 papers) H. Yeh and J. P. Hsu, * “Electrophoresis of a Finite Rod along the Axis of a Long Cylindrical Microchannel Filled with Carreau Fluids”, Microfluidics and Nanofluidics, 7, 383-392 (2009).

Electrokinetics is currently the mechanism of choice for fluid actuation and bioparticle manipulation at microscale and nanoscale dimensions. There has recently been widespread interest in the use of AC electric fields, given the many advantages it offers over DC electrokinetics. Nevertheless, a fundamental understanding of the governing mechanisms underlying the complex and

nonlinear physicochemical hydrodynamics associated with these systems is required before practical microfluidic and nanofluidic devices can be engineered. This text aims to provide a comprehensive treatise on both classical equilibrium electrokinetic phenomena as well as the more recent non-equilibrium phenomena associated with both DC and AC electrokinetics in the context of their application to the design of microfluidic and nanofluidic technology. In particular, Leslie Yeo and Hsueh-Chia Chang discuss the linear and nonlinear theories underlying electroosmosis, electrophoresis, and dielectrophoresis pertaining to electrolytes as well as dielectric systems. Interfacial electrokinetic phenomena such as electrospraying, electrospinning, and electrowetting are also discussed.

Fluidics originated as the description of pneumatic and hydraulic control systems, where fluids were employed (instead of electric currents) for signal transfer and processing. Microfluidics and Nanofluidics: Theory and Selected Applications offers an accessible, broad-based coverage of the basics through advanced applications of microfluidics and nanofluidics. It is essential reading for upper-level undergraduates and graduate students in engineering and professionals in industry.

Now in its Third Edition, the Artech House

bestseller, Fundamentals and Applications of Microfluidics, provides engineers and students with the most complete and current coverage of this cutting-edge field. This revised and expanded edition provides updated discussions throughout and features critical new material on microfluidic power sources, sensors, cell separation, organ-on-chip and drug delivery systems, 3D culture devices, droplet-based chemical synthesis, paper-based microfluidics for point-of-care, ion concentration polarization, micro-optofluidics and micro-magnetofluidics. The book shows how to take advantage of the performance benefits of microfluidics and serves as an instant reference for state-of-the-art microfluidics technology and applications. Readers find discussions on a wide range of applications, including fluid control devices, gas and fluid measurement devices, medical testing equipment, and implantable drug pumps. Professionals get practical guidance in choosing the best fabrication and enabling technology for a specific microfluidic application, and learn how to design a microfluidic device. Moreover, engineers get simple calculations, ready-to-use data tables, and rules of thumb that help them make design decisions and determine device characteristics quickly.

In the present book, various applications of microfluidics and nanofluidics are introduced. Microfluidics and nanofluidics

span a broad array of disciplines including mechanical, materials, and electrical engineering, surface science, chemistry, physics and biology. Also, this book deals with transport and interactions of colloidal particles and biomolecules in microchannels, which have great importance to many microfluidic applications, such as drug delivery in life science, microchannel heat exchangers in electronic cooling, and food processing industry. Furthermore, this book focuses on a detailed description of the thermal transport behavior, challenges and implications that involve the development and use of HTFs under the influence of atomistic-scale structures and industrial applications.

To provide an interdisciplinary readership with the necessary toolkit to work with micro- and nanofluidics, this book provides basic theory, fundamentals of microfabrication, advanced fabrication methods, device characterization methods and detailed examples of applications of nanofluidics devices and systems. Case studies describing fabrication of complex micro- and nanoscale systems help the reader gain a practical understanding of developing and fabricating such systems. The resulting work covers the fundamentals, processes and applied challenges of functional engineered nanofluidic systems for a variety of different applications, including discussions of lab-on-chip, bio-related applications and

emerging technologies for energy and environmental engineering. The fundamentals of micro- and nanofluidic systems and micro- and nanofabrication techniques provide readers from a variety of academic backgrounds with the understanding required to develop new systems and applications. Case studies introduce and illustrate state-of-the-art applications across areas, including lab-on-chip, energy and bio-based applications. Prakash and Yeom provide readers with an essential toolkit to take micro- and nanofluidic applications out of the research lab and into commercial and laboratory applications.

Multidisciplinary Microfluidic and Nanofluidic Lab-on-a-Chip: Principles and Applications provides chemists, biophysicists, engineers, life scientists, biotechnologists, and pharmaceutical scientists with the principles behind the design, manufacture, and testing of life sciences microfluidic systems. This book serves as a reference for technologies and applications in multidisciplinary areas, with an emphasis on quickly developing or new emerging areas, including digital microfluidics, nanofluidics, papers-based microfluidics, and cell biology. The book offers practical guidance on how to design, analyze, fabricate, and test microfluidic devices and systems for a wide variety of applications including separations, disease

detection, cellular analysis, DNA analysis, proteomics, and drug delivery. Calculations, solved problems, data tables, and design rules are provided to help researchers understand microfluidic basic theory and principles and apply this knowledge to their own unique designs. Recent advances in microfluidics and microsystems for life sciences are impacting chemistry, biophysics, molecular, cell biology, and medicine for applications that include DNA analysis, drug discovery, disease research, and biofluid and environmental monitoring. Provides calculations, solved problems, data tables and design rules to help understand microfluidic basic theory and principles Gives an applied understanding of the principles behind the design, manufacture, and testing of microfluidic systems Emphasizes on quickly developing and emerging areas, including digital microfluidics, nanofluidics, papers-based microfluidics, and cell biology

Covering all aspects of transport phenomena on the nano- and micro-scale, this encyclopedia features over 750 entries in three alphabetically-arranged volumes including the most up-to-date research, insights, and applied techniques across all areas. Coverage includes electrical double-layers, optofluidics, DNC lab-on-a-chip, nanosensors, and more.

Nanofluidic devices have the potential to offer unique functionality by exploiting length scales comparable to the Debye length or the size of individual biomolecules. Integration of nanofluidics with microfluidics also has potential benefits as a system can thereby draw from the benefits of both technologies. To leverage these functionalities, the physics associated with interfacing microchannels and nanochannels needs to be understood rigorously. In particular, when current is applied across a microchannel-nanochannel interface, surface charge effects inside the nanochannel often lead to an imbalance of fluxes of positive and negative species. This, in turn, creates a region of high ionic strength on one side of the nanochannel and low ionic strength on the other side, a phenomena known as concentration polarization (CP). Prior work on the physics of microchannel-nanochannel interfaces has neglected several key issues which we will address in this work. We review an analytical model of propagating CP and present experimental and computational validation of this model. In particular, our results show that enrichment and depletion regions propagate as 'shockwaves' of concentration which can profoundly change the flow and electric field conditions in a microfluidic system. Additionally, we present new analytical model which predicts the behavior of analyte ions in a microchannel-nanochannel system with CP. This work shows

that CP can restrict the transport of analyte ions such that they cannot reach all regions of a microfluidic-nanofluidic system. The effects of CP, therefore, must be considered in the design of microfluidic-nanofluidic systems for biological or chemical analysis. Finally we present the first simultaneous visualization of nanochannel ionic strength and conductance. Our experiments show that, for some cases, the propagating CP model is a fair predictor of trends in nanochannel concentration. However, in some cases, the concentration inside the nanochannel reaches a temporary 'meso' state before transitioning to a final, significantly different concentration which is not described by theory. The latter shows that there is yet much room for further studies of this phenomenon.

Micro/Nanofluidics and Lab-on-Chip Based Emerging Technologies for Biomedical and Translational Research Applications - Part B, Volume 187 represents the collation of chapters written by eminent scientists worldwide. Chapters in this new release include Design and fabrication of microfluidics devices for molecular biology applications, Micro/Nanofluidics devices for drug delivery, From organ-on-chip to body-on-chip: the next generation of microfluidics platforms for in vitro drug toxicity testing, Micro/Nanofluidics for high throughput drug screening, Design, fabrication and assembly

of lab-on-a-chip and its uses, Advances in microfluidic 3D cell culture for pre-clinical drug development, Tissue and organ culture on lab-on-a chip for biomedical applications, and much more. Offers a basic understanding of the state-of-the-art design and fabrication of microfluidics/ nanofluidics and lab on chip Explains how to develop microfluidics/nanofluidic for advanced application such as healthcare, high throughout drug screening, 3D cell culture and organ-on-chip Discusses the emerging demands and research of micro/nanofluidic based devices in biomedical and translational research applications

Numerous applications of micro-/nanofluidics are related to particle transport in micro-/nanoscale channels, and electrokinetics has proved to be one of the most promising tools to manipulate particles in micro/nanofluidics. Therefore, a comprehensive understanding of electrokinetic particle transport in micro-/nanoscale channels is crucial to the development of micro-/nanofluidic devices. Electrokinetic Particle Transport in Micro-/Nanofluidics: Direct Numerical Simulation Analysis provides a fundamental understanding of electrokinetic particle transport in micro-/nanofluidics involving electrophoresis, dielectrophoresis, electroosmosis, and induced-charge electroosmosis. The book emphasizes the direct numerical simulation of electrokinetic

particle transport phenomena, plus several supportive experimental studies. Using the commercial finite element package COMSOL Multiphysics®, it guides researchers on how to predict the particle transport subjected to electric fields in micro-/nanoscale channels. Researchers in the micro-/nanofluidics community, who may have limited experience in writing their own codes for numerical simulations, can extend the numerical models and codes presented in this book to their own research and guide the development of real micro-/nanofluidics devices. Corresponding COMSOL® script files are provided with the book and can be downloaded from the author’s website.