

Contents

Preface.....	vii
Editors.....	ix
Contributors	xi
Chapter 1 Review of Nanofluid Applications	1
<i>Kaufui V. Wong and Omar De Leon</i>	
Chapter 2 The Role of Nanoparticle Suspensions in Thermo/Fluid and Biomedical Applications	25
<i>Khalil M. Khanafer and Kambiz Vafai</i>	
Chapter 3 Multiscale Simulation of Nanoparticle Transport in Deformable Tissue during an Infusion Process in Hyperthermia Treatments of Cancers.....	69
<i>Ronghui Ma, Di Su, and Liang Zhu</i>	
Chapter 4 Superparamagnetic Iron Oxide Nanoparticle Heating: A Basic Tutorial.....	97
<i>Michael L. Etheridge, Navid Manuchehrabadi, Rhonda R. Franklin, and John C. Bischof</i>	
Chapter 5 Light-Induced Energy Conversion in Liquid Nanoparticle Suspensions.....	123
<i>Patrick E. Phelan, Robert Taylor, Ronald J. Adrian, Ravi S. Prasher, and Todd P. Otanicar</i>	
Chapter 6 Radiative Properties of Micro/Nanoscale Particles in Dispersions for Photothermal Energy Conversion	143
<i>Qunzhi Zhu and Zhuomin M. Zhang</i>	
Chapter 7 On the Thermophysical Properties of Suspensions of Highly Anisotropic Nanoparticles with and without Field-Induced Microstructure.....	175
<i>Jerry W. Shan, Anna S. Cherkasova, Chen Lin, and Corinne S. Baresich</i>	

Chapter 8	Advances in Fluid Dynamic Modeling of Microfiltration Processes	215
	<i>John E. Wentz, Richard E. DeVor, and Shiv G. Kapoor</i>	
Chapter 9	Computational Analysis of Enhanced Cooling Performance and Pressure Drop for Nanofluid Flow in Microchannels	249
	<i>Clement Kleinstreuer, Jie Li, and Yu Feng</i>	
Chapter 10	Natural Convection in Nanofluids.....	277
	<i>Massimo Corcione</i>	
Index		319