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Collana	Emerging Trends in Mechatronics Series
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Nota di contenuto	1. Modeling Hemodynamics of Rotary Blood Pumps and Predicting the Potential Risks -- 2. Microfluidic-Integrated Biosensors -- 3. Droplet Microfluidics: A Multiphase System -- 4. Subject Specific Modelling of Aortic Flows -- 5. 3D Printing of Polymer Composites -- 6. Magnetorheological Fluids -- 7. Ceramic Manufacturing for Green Energy Applications -- 8. Rheology and Cure Kinetics of Modified and Non-modified Resin Systems.
Sommario/riassunto	This book presents improved numerical techniques and applied computer-aided simulations as a part of emerging trends in mechatronics in all areas related to complex fluids, with particular focus on using a combination of modeling, theory, and simulation to study systems that are complex due to the rheology of fluids (i.e., ceramic pastes, polymer solutions and melts, colloidal suspensions, emulsions, foams, micro-/nanofluids, etc.) and multiphysics phenomena in which the interactions of various effects (thermal, chemical, electric, magnetic, or mechanical) lead to complex dynamics. The areas of applications span materials processing, manufacturing, and biology.