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	Nota di contenuto	1 An Introduction to Asymptotic Homogenization -- 2 Asymptotic Homogenization with a Macroscale Variation in the Microscale -- 3 Mathematical Models for Acid-Mediated Tumor Invasion:From Deterministic to Stochastic Approaches -- 4 Numerical Simulation of a Contractivity Based Multiscale Cancer Invasion Model -- 5 Modelling Tissue Self-Organization: From Micro to Macro Models -- 6 A Multiscale Modeling Approach to Transport of Nano-Constructs in Biological Tissues -- 7 A Continuum Model of Skeletal Muscle Tissue with Loss of Activation -- 8 Optimal Control of Slender Microswimmers.
	Sommario/riassunto	This book presents and discusses the state of the art and future perspectives in mathematical modeling and homogenization techniques with the focus on addressing key physiological issues in the context of multiphase healthy and malignant biological materials. The highly

interdisciplinary content brings together contributions from scientists with complementary areas of expertise, such as pure and applied mathematicians, engineers, and biophysicists. The book also features the lecture notes from a half-day introductory course on asymptotic homogenization. These notes are suitable for undergraduate mathematics or physics students, while the other chapters are aimed at graduate students and researchers.