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Nota di contenuto	1 -- Introduction. 2 -- Effects of Extreme Temperatures on Living Tissues. 3 -- Whole-body Models. 4 -- Regional Models— Skin and Deep Tissues. 5 -- Hyperthermia. 6 -- Cryomedicine. 7 -- Thermal Ablation in Silico. 8 -- Conclusions. -- Index.
Sommario/riassunto	This monograph discusses the physical phenomena encountered in the heat transfer in the living tissues and mathematical models. It also considers all the relevant information regarding heat transfer in humans, animals and plants in nature and medicine from the whole body down to cellular and sub-cellular models. Effects of the high or low temperature on the biological systems at the different levels - cells, tissues and organisms - as well a role of the blood circulation and the structure of the vascular network on the heat transfer are considered. The classic Pennes bioheat equation, a number of the non-Fourier heat transfer models (including the single-phase-lag and dual-phase-lag models), the porous media models, the models based on the fractional

differential equations, the discrete vascular models are analyzed and discussed at length. This book is particularly interesting for graduate students, postdoctoral fellows and researching working on heat transfer in biological systems.