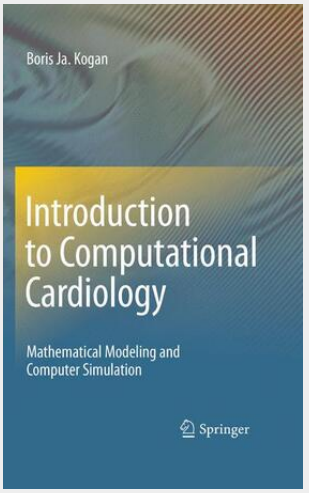
Kogan

Introduction to Computational Cardiology

Mathematical Modeling and Computer Simulation



Introduction to Computational Cardiology provides a comprehensive, in-depth treatment of the fundamental concepts and research challenges involved in the mathematical modeling and computer simulation of dynamical processes in the heart, under normal and pathological conditions. About this textbook: - Presents descriptions of models used in both biology and medicine for discovering the mechanisms of heart function and dysfunction on several physiological scales across different species. - Provides several examples throughout the textbook and exercises at the end which facilitate understanding of basic concepts and introduces, for implementation, treated problems to parallel supercomputers. Introduction to Computational Cardiology serves as a secondary textbook or reference book for advanced-level students in computer science, electrical engineering, biomedical engineering, and cardiac electrophysiology. It is also suitable for researchers employing mathematical modeling and computer simulations of biomedical problems.

Introduction to Computational Cardiology provides a comprehensive, in-depth treatment of the fundamental concepts and research challenges involved in the mathematical modeling and computer simulation of dynamical processes in the heart, under normal and pathological conditions. This book is based on the author's lecture notes from his course 'Introduction to Computational Cardiology' in the Department of Computer Science within the University of California, Los Angeles. It also encompasses the scientific discoveries made by the author, his doctoral students, and his colleagues in the U.S.A. and U.S.S.R. in the last 35 years. Several features of this textbook are listed below: - A description of models used in both biology and medicine for discovering the mechanisms of heart function and dysfunction on several physiological scales across different species. - An introduction to the theory of stationary reentrant wave propagation in one- and two-dimensional tissues. - Several examples throughout this textbook and exercises at the end which facilitate understanding of basic concepts and introduces, for implementation, treated problems to parallel supercomputers. Introduction to Computational Cardiology serves as a secondary textbook or reference book for advanced-level students in computer science, electrical engineering, biomedical engineering, and cardiac electrophysiology. It is also suitable for researchers employing mathematical modeling and computer simulations of biomedical problems.

106,99 €
99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780387766850
Medium: Buch
ISBN: 978-0-387-76685-0
Verlag: Springer Nature Singapore
Erscheinungstermin: 21.12.2009
Sprache(n): Englisch
Auflage: 2010. Auflage 2009
Produktform: Gebunden
Gewicht: 1160 g
Seiten: 231
Format (B x H): 175 x 236 mm

Kundenservice Fachmedien Otto Schmidt
Neumannstraße 10, 40235 Düsseldorf | kundenservice@fachmedien.de | 0800 000-1637 (Inland)