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Altri autori (Persone)	BockGregory GoodeJamie
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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Integrative biological modelling in silico / Andrew D. McCulloch and Gary Huber -- Advances in computing, and their impact on scientific computing / Mike Giles -- From physics to phenomenology : levels of description and levels of selection / David Krakauer -- Making sense of complex phenomena in biology / Philip K. Maini -- On ontologies for biologists : the Gene Ontology : untangling the web / Michael Ashburner and Suzanna Lewis -- Model validation -- The KEGG database / Minoru Kanehisa -- Bioinformatics of cellular signalling /

Shankar Subramaniam and the Bioinformatics Core Laboratory -- Imaging-based integrative models of the heart : closing the loop between experiment and simulation / Raimond L. Winslow, Patrick Helm, William Baumgartner, Srinivas Peddi, Tilak Ratnanather, Elliot McVeigh and Michael I. Miller -- Modelling Ca²⁺ signalling -- The Virtual Cell project / Leslie M. Loew -- Modelling the bacterial chemotaxis receptor complex / Thomas Simon Shimizu and Dennis Bray -- The heart cell in silico : successes, failures and prospects / Denis Noble -- The IUPS Physiome Project / P.J. Hunter, P.M.F. Nielsen and D. Bullivant -- Using in silico biology to facilitate drug development / Jeremy M. Levin, R. Christian Penland, Andrew T. Stamps and Carolyn R. Cho -- Is there a 'theoretical biology'?

Sommario/riassunto

Over recent decades vast amounts of biological data have been accumulated. However, it is becoming increasingly difficult to apply traditional theoretical methods to the formulation of coherent pictures of cell and organ function because it is no longer possible for a human theorist to integrate all of the available information. Instead, computer technologies must now be used to perform this integration. This book brings together contributions from many different fields to summarize the current status of computer-assisted modelling of biological processes. The initial chapters deal with fund
