1. Record Nr. UNINA9910143231003321

Titolo	'In silico' simulation of biological processes [[electronic resource] /] / [editors, Gregory Bock and Jamie A. Goode]
Pubbl/distr/stampa	Chichester, West Sussex, UK ; ; Hoboken, NJ, : John Wiley, 2002
ISBN	1-280-27080-2 9780470857900 9786610270804 0-470-66805-9 0-470-85790-0 0-470-85789-7
Descrizione fisica	1 online resource (272 p.)
Collana	Novartis Foundation symposium ; ; 247
Altri autori (Persone)	BockGregory GoodeJamie
Disciplina	570/.1/13 660.6
Soggetti	Biology - Computer simulation Bioinformatics Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Symposium on 'In silico' simulation of biological processes, held at the Novartis Foundation, London, 27-29 November 2001"--Contents p.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	'IN SILICO' SIMULATION OF BIOLOGICAL PROCESSES; Contents; Participants; Chair's introduction; Integrative biological modelling in silico; Discussion; Advances in computing, and their impact on scientific computing; Discussion; From physics to phenomenology. Levels of description and levels of selection; Making sense of complex phenomena in biology; Discussion; On ontologies for biologists: the Gene Ontology-untangling the web; Discussion; General discussion I; Model validation; The KEGG database; Discussion; Bioinformatics of cellular signalling; Discussion; General discussion II Standards of communicationSemantics and intercommunicability; Imaging-based integrative models of the heart: closing the loop between experiment and simulation; Discussion; General discussion III; Modelling Ca(2+) signalling; The Virtual Cell project; Discussion;

Modelling the bacterial chemotaxis receptor complex; The heart cell in silico: successes, failures and prospects; Discussion; Discussion; General discussion IV; The IUPS Physiome Project; Discussion; Using in silico biology to facilitate drug development; Discussion; Final discussion; Is there a theoretical biology?
Index of contributorsSubject index

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