

1. Record Nr.	UNINA9910257398503321
Titolo	Transport and Structure [[electronic resource]] : Their Competitive Roles in Biophysics and Chemistry // edited by Stefan C. Müller, Jürgen Parisi, Walter Zimmermann
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1999
ISBN	3-540-48070-6
Edizione	[1st ed. 1999.]
Descrizione fisica	1 online resource (XIV, 400 p. 316 illus., 10 illus. in color.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 532
Disciplina	571.4
Soggetti	Biophysics Biological physics Biomathematics Biochemistry Condensed matter Statistical physics Dynamical systems Biological and Medical Physics, Biophysics Mathematical and Computational Biology Biochemistry, general Condensed Matter Physics Complex Systems Statistical Physics and Dynamical Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Pattern formation in the developing visual cortex -- The molecular motor actin-myosin on a substrate -- Force and motion generation of molecular motors: A generic description -- Reaction-diffusion waves of reversible actin filament assembly drive cell oscillations and locomotion -- Vesicle dynamics in chemotaxis, haptotaxis, and under shear flow -- Chemotaxis and aggregation in the cellular slime mould -- Calcium waves in rat cardiac myocytes underlie the principles of self-organization in excitable media -- Inositol 1,4,5-trisphosphate

induced calcium waves -- Electrophoretic mobility of charged spheres -- Complex fluids under shear: Block copolymers -- Coherent intramolecular dynamics in populations of allosteric enzymes -- Routes to chaos in the peroxidase-oxidase reaction -- Determination of fokker-planck equations from experimental data sets of complex systems -- The randomly driven ising ferromagnet -- Wave propagation in excitable media with fast inhibitor diffusion -- Mechanisms of spiral breakup in chemical and biological reaction-diffusion models -- Experimental realization and control of chemical turing-like patterns -- Reaction-diffusion patterns: From observations in halogene chemistry to a test for implication in mitosis.

Sommario/riassunto

Local and global spatial coupling mechanisms form the basis of transport processes that are of fundamental importance for the occurrence and the dynamic evolution of patterns on a mesoscopic and macroscopic scale. The present volume deals with these concepts and investigates applications in the fields of biophysics and chemistry.
