

1. Record Nr.	UNINA9910734098103321
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Titolo	Systems biomechanics of the cell / / by Ivan V.Maly
Pubbl/distr/stampa	New York, : Springer, 2013
ISBN	1-4614-6883-3
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (55 p.)
Collana	Springer briefs in bioengineering
Disciplina	610.28
Soggetti	Cells - Mechanical properties Systems biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Instability of symmetry -- Unipolar cell body -- Bipolar cell body -- Boundary dynamics -- Emergent irreversibility -- Dissipative oscillations.
Sommario/riassunto	Systems Biomechanics of the Cell attempts to outline systems biomechanics of the cell as an emergent and promising discipline. The new field owes conceptually to cell mechanics, organism-level systems biomechanics, and biology of biochemical systems. Its distinct methodology is to elucidate the structure and behavior of the cell by analyzing the unintuitive collective effects of elementary physical forces that interact within the heritable cellular framework. The problematics amenable to this approach includes the variety of cellular activities that involve the form and movement of the cell body and boundary (nucleus, centrosome, microtubules, cortex, and membrane). Among the elementary system effects in the biomechanics of the cell, instability of symmetry, emergent irreversibility, and multiperiodic dissipative motion can be noted. Research results from recent journal articles are placed in this unifying framework. It is suggested that the emergent discipline has the potential to expand the spectrum of questions asked about the cell, and to further clarify the physical nature of animate matter and motion.