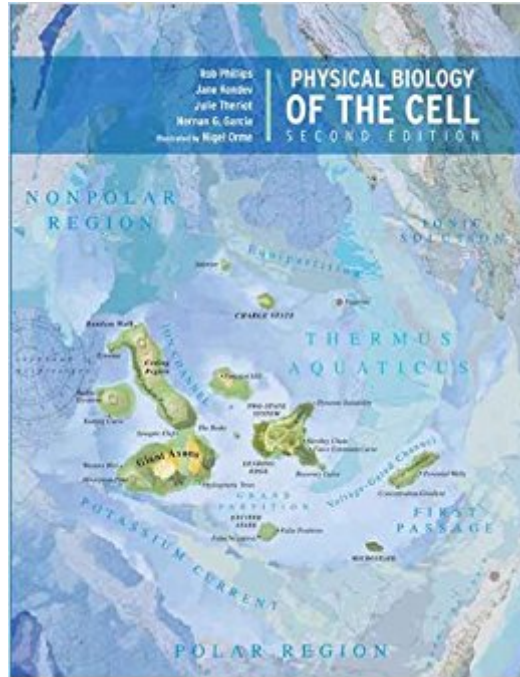


The book was found

Physical Biology Of The Cell, Second Edition



Synopsis

Physical Biology of the Cell is a textbook for a first course in physical biology or biophysics for undergraduate or graduate students. It maps the huge and complex landscape of cell and molecular biology from the distinct perspective of physical biology. As a key organizing principle, the proximity of topics is based on the physical concepts that unite a given set of biological phenomena. Herein lies the central premise: that the appropriate application of a few fundamental physical models can serve as the foundation of whole bodies of quantitative biological intuition, useful across a wide range of biological problems. The Second Edition features full-color illustrations throughout, two new chapters, a significantly expanded set of end-of-chapter problems, and is available in a variety of e-book formats.

Book Information

File Size: 197183 KB

Print Length: 1057 pages

Publisher: Garland Science; 2 edition (October 29, 2012)

Publication Date: October 29, 2012

Sold by:Â Digital Services LLC

Language: English

ASIN: B00AVA5V4E

Text-to-Speech: Not enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #189,560 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #6 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Biological Sciences > Biophysics #16 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Biological Sciences > Biology > Cell Biology #23 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Biological Sciences > Biology > Molecular Biology

Customer Reviews

This large, 800-page, 20 chapter, 9"x11" textbook is the size of a phonebook for a city of 200,000 people or so. Using many nicely-drawn figures and mathematical models, the authors work to unite the disciplines of biology, chemistry, and physics. Chapters 1 and 2 begin the book by first

describing the molecular structure of the chemical compounds found in the cell, and then the geometry of the cell and its components. Chapter 3 addresses the time scale and time constraints for cellular processes. The hierarchy of biological time scales is summed up by Fig.3.2 on pp.78-79. There it is seen that protein synthesis requires tens of seconds, as does RNA transcription. Gating of ion channels requires only a single second, while enzyme catalysis requires only a microsecond. The authors provide a good example of complex molecular synthesis via an experiment showing the evolving molecular components of the bacterial flagellum--the assembly of which is seen to require about 3 hours (p.104). The authors mention that the E. coli bacteria are able to divide in as little as 1000s, although copying its genome alone (i.e DNA replication) would seem to require 3000s (p.92). It is found, however, that E. coli are able to get a jump on DNA replication by starting to replicate its daughter's, granddaughter's, and great-granddaughter's chromosomes before it has even completed its own (p.113). It is also noted that the 3000s division time for E. coli division corresponds to the case where the environment supplies only glucose. For the case where the environment is rich in amino acids, the division time may be cut by a factor of two.

[Download to continue reading...](#)

Biology: The Ultimate Self Teaching Guide - Introduction to the Wonderful World of Biology - 3rd Edition (Biology, Biology Guide, Biology For Beginners, Biology For Dummies, Biology Books) Cell Biology: With STUDENT CONSULT Access, 2e (Pollard, Cell Biology, with Student Consult Online Access) Molecular Cell Biology (Lodish, Molecular Cell Biology) Physical Biology of the Cell, Second Edition Volume 1 - Cell Biology and Genetics (Biology: the Unity & Diversity of Life) Essentials of Stem Cell Biology, Second Edition The Neural Crest (Second Edition) (Developmental and Cell Biology Series) Cell Press Reviews: Cancer Therapeutics (Cell Press Reviews Series) Essential Cell Biology 3rd Edition (Third Edition) 3e By Bruce Alberts 2009 Introduccion a la Biologia Celular / Essential Cell Biology (Spanish Edition) Essential Cell Biology, 4th Edition Molecular Biology of the Cell, 5th Edition Karp's Cell and Molecular Biology: Concepts and Experiments, 8th Edition Molecular Biology of the Cell 5th Fifth Edition Cell and Molecular Biology: Concepts and Experiments, 7th Edition Anatomy, Histology, & Cell Biology: PreTest Self-Assessment & Review, Fourth Edition Essential Cell Biology, Fourth Edition Development of the Rat Spinal Cord: Immuno- and Enzyme Histochemical Approaches (Advances in Anatomy, Embryology and Cell Biology) Cell and Molecular Biology: Concepts and Experiments Essential Cell Biology

[Dmca](#)