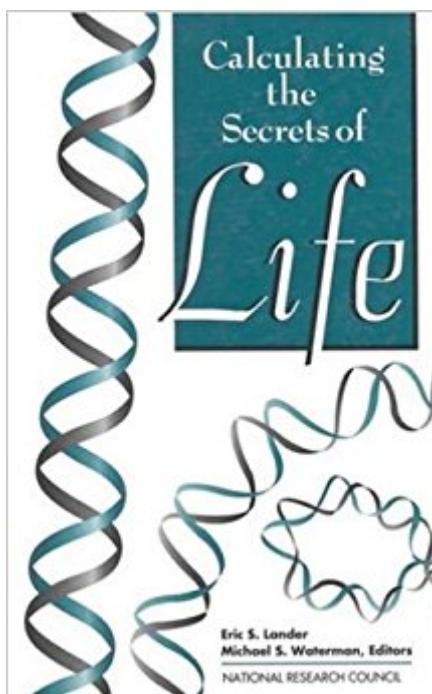


The book was found

# Calculating The Secrets Of Life: Contributions Of The Mathematical Sciences To Molecular Biology



## **Synopsis**

As researchers have pursued biology's secrets to the molecular level, mathematical and computer sciences have played an increasingly important role--in genome mapping, population genetics, and even the controversial search for "Eve," hypothetical mother of the human race. In this first-ever survey of the partnership between the two fields, leading experts look at how mathematical research and methods have made possible important discoveries in biology. The volume explores how differential geometry, topology, and differential mechanics have allowed researchers to "wind" and "unwind" DNA's double helix to understand the phenomenon of supercoiling. It explains how mathematical tools are revealing the workings of enzymes and proteins. And it describes how mathematicians are detecting echoes from the origin of life by applying stochastic and statistical theory to the study of DNA sequences. This informative and motivational book will be of interest to researchers, research administrators, and educators and students in mathematics, computer sciences, and biology.

## **Book Information**

Hardcover: 300 pages

Publisher: National Academies Press; First Edition edition (April 6, 1995)

Language: English

ISBN-10: 0309048869

ISBN-13: 978-0309048866

Product Dimensions: 1 x 6.2 x 9.2 inches

Shipping Weight: 1.1 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #1,828,795 in Books (See Top 100 in Books) #63 in Books > Science & Math > Mathematics > Applied > Biomathematics #1456 in Books > Science & Math > Biological Sciences > Biology > Molecular Biology #2156 in Books > Medical Books > Basic Sciences > Genetics

## **Customer Reviews**

As researchers have pursued biology's secrets to the molecular level, mathematical and computer sciences have played an increasingly important role - in genome mapping, population genetics, and even the controversial search for "Eve", hypothetical mother of the human race. Calculating the Secrets of Life is a survey of the partnership between the two fields, wherein leading experts look at how mathematical research and methods have made possible important discoveries in biology. The

volume explores how differential geometry, topology, and differential mechanics have allowed researchers to "wind" and "unwind" DNA's double helix to understand the phenomenon of supercoiling. It explains how mathematical tools are revealing the workings of enzymes and proteins. And it describes how mathematicians are detecting echoes from the origin of life by applying stochastic and statistical theory to the study of DNA sequences. This informative and motivational book will be of interest to researchers, research administrators, educators, students, and armchair biologists. -- Midwest Book Review

Eric S. Lander and Michael S. Waterman, Editors; Committee on the Mathematical Sciences in Genome and Protein Structure Research, National Research Council --This text refers to the Paperback edition.

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

Calculating the Secrets of Life: Contributions of the Mathematical Sciences to Molecular Biology  
Molecular Biology (WCB Cell & Molecular Biology) Current Topics in Computational Molecular Biology (Computational Molecular Biology) Simple Mathematical Models of Gene Regulatory Dynamics (Lecture Notes on Mathematical Modelling in the Life Sciences) Some Mathematical Questions in Biology: Circadian Rhythms (Lectures in Mathematics in the Life Sciences, Vol 19)  
Applied Functional Analysis: Applications to Mathematical Physics (Applied Mathematical Sciences) (v. 108) Mathematical Problems from Combustion Theory (Applied Mathematical Sciences) (v. 83)  
Bacteriophages: Methods and Protocols, Volume 2: Molecular and Applied Aspects (Methods in Molecular Biology) Molecular Biology and Pathogenesis of Peste des Petits Ruminants Virus (SpringerBriefs in Animal Sciences) Calculating Drug Dosages: A Patient-Safe Approach to Nursing and Math Calculating the Cosmos: How Mathematics Unveils the Universe Kumon Focus On Reducing and Calculating Fractions Calculating Dosages Safely: A Dimensional Analysis Approach (DavisPlus) Calculating Drug Dosages: An Interactive Approach to Learning Nursing Math, Third Edition Entropy-Driven Processes in Biology: Polymerization of Tobacco Mosaic Virus Protein and Similar Reactions (Molecular Biology, Biochemistry and Biophysics Molekularbiologie, Biochemie und Biophysik) An Introduction to Systems Biology: Design Principles of Biological Circuits (Chapman & Hall/CRC Mathematical and Computational Biology) Student Solutions Manual for Stewart/Day's Calculus for Life Sciences and Biocalculus: Calculus, Probability, and Statistics for the Life Sciences Developmental Biology, Ninth Edition (Developmental Biology Developmental Biology) Young Scientists: Learning Basic Biology (Ages 9 and Up): Biology Books for Kids (Children's Biology Books) Introductory Mathematical Analysis for Business, Economics, and the

Life and Social Sciences (13th Edition)

Contact Us

DMCA

Privacy

FAQ & Help