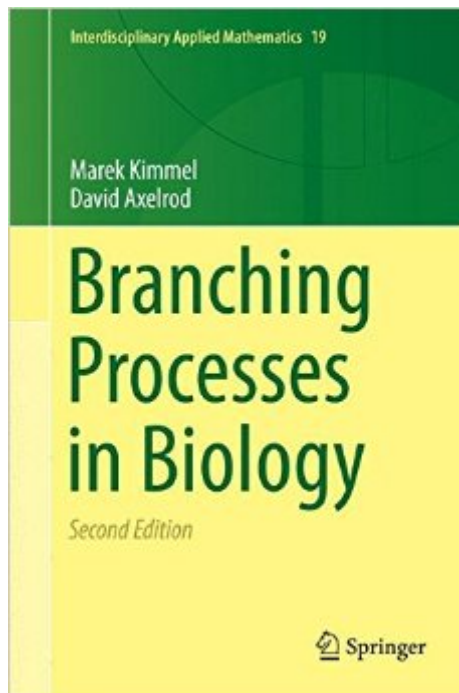


The book was found

# Branching Processes In Biology (Interdisciplinary Applied Mathematics)



## Synopsis

This book provides a theoretical background of branching processes and discusses their biological applications. Branching processes are a well-developed and powerful set of tools in the field of applied probability. The range of applications considered includes molecular biology, cellular biology, human evolution and medicine. The branching processes discussed include Galton-Watson, Markov, Bellman-Harris, Multitype, and General Processes. As an aid to understanding specific examples, two introductory chapters, and two glossaries are included that provide background material in mathematics and in biology. The book will be of interest to scientists who work in quantitative modeling of biological systems, particularly probabilists, mathematical biologists, biostatisticians, cell biologists, molecular biologists, and bioinformaticians. The authors are a mathematician and cell biologist who have collaborated for more than a decade in the field of branching processes in biology for this new edition. This second expanded edition adds new material published during the last decade, with nearly 200 new references. More material has been added on infinitely-dimensional multitype processes, including the infinitely-dimensional linear-fractional case. Hypergeometric function treatment of the special case of the Griffiths-Pakes infinite allele branching process has also been added. There are additional applications of recent molecular processes and connections with systems biology are explored, and a new chapter on genealogies of branching processes and their applications. Reviews of First Edition: "This is a significant book on applications of branching processes in biology, and it is highly recommended for those readers who are interested in the application and development of stochastic models, particularly those with interests in cellular and molecular biology." (Siam Review, Vol. 45 (2), 2003) • This book will be very interesting and useful for mathematicians, statisticians and biologists as well, and especially for researchers developing mathematical methods in biology, medicine and other natural sciences. • (Short Book Reviews of the ISI, Vol. 23 (2), 2003)

## Book Information

Series: Interdisciplinary Applied Mathematics (Book 19)

Hardcover: 280 pages

Publisher: Springer; 2nd ed. 2015 edition (February 17, 2015)

Language: English

ISBN-10: 1493915584

ISBN-13: 978-1493915583

Product Dimensions: 6.1 x 0.7 x 9.2 inches

Shipping Weight: 1.3 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #820,637 in Books (See Top 100 in Books) #210 in Books > Textbooks > Medicine & Health Sciences > Research > Biostatistics #217 in Books > Computers & Technology > Computer Science > Bioinformatics #364 in Books > Medical Books > Basic Sciences > Biostatistics

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

Branching Processes in Biology (Interdisciplinary Applied Mathematics) An Invitation to 3-D Vision: From Images to Geometric Models (Interdisciplinary Applied Mathematics) Practical Problems in Mathematics for Heating and Cooling Technicians (Applied Mathematics) Branching Streams Flow in the Darkness: Zen Talks on the Sandokai Applied Probability and Stochastic Processes Numerical Computing With Modern Fortran (Applied Mathematics) A First Course in Coding Theory (Oxford Applied Mathematics and Computing Science Series) Error-Correcting Codes and Finite Fields. Student Edition (Oxford Applied Mathematics and Computing Science Series) Coding Theory: The Essentials (Pure and Applied Mathematics : a Series of Monographs and Textbooks, 150) Quaternary Codes (Series on Applied Mathematics) Error-Correcting Codes and Finite Fields (Oxford Applied Mathematics and Computing Science Series) Finite Fields, Coding Theory, and Advances in Communications and Computing (Lecture Notes in Pure and Applied Mathematics) Entropy (Princeton Series in Applied Mathematics) Rarefied Gas Dynamics: From Basic Concepts to Actual Calculations (Cambridge Texts in Applied Mathematics) Introduction to Programming in Java: An Interdisciplinary Approach Designing Adaptive and Personalized Learning Environments (Interdisciplinary Approaches to Educational Technology) Elementary and Middle School Social Studies: An Interdisciplinary, Multicultural Approach The Transplanted: A History of Immigrants in Urban America (Interdisciplinary Studies in History) The Menstrual Cycle Volume 1: A Synthesis of Interdisciplinary Research Disaster Theory: An Interdisciplinary Approach to Concepts and Causes

[Dmca](#)