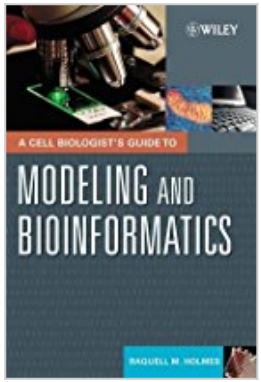

A Cell Biologist's Guide to Modeling and Bioinformatics

By Raquell M. Holmes

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes

A step-by-step guide to using computational tools to solve problems in cell biology

Combining expert discussion with examples that can be reproduced by the reader, *A Cell Biologist's Guide to Modeling and Bioinformatics* introduces an array of informatics tools that are available for analyzing biological data and modeling cellular processes. You learn to fully leverage public databases and create your own computational models. All that you need is a working knowledge of algebra and cellular biology; the author provides all the other tools you need to understand the necessary statistical and mathematical methods.

Coverage is divided into two main categories:

- Molecular sequence database chapters are dedicated to gaining an understanding of tools and strategies—including queries, alignment methods, and statistical significance measures—needed to improve searches for sequence similarity, protein families, and putative functional domains. Discussions of sequence alignments and biological database searching focus on publicly available resources used for background research and the characterization of novel gene products.
- Modeling chapters take you through all the steps involved in creating a computational model for such basic research areas as cell cycle, calcium dynamics, and glycolysis. Each chapter introduces a new simulation tooland is based on published research. The combination creates a rich context for ongoing skill and knowledge development in modeling biological research systems.

Students and professional cell biologists can develop the basic skills needed to learn computational cell biology. This unique text, with its step-by-step instruction, enables you to test and develop your new bioinformatics and modeling skills. References are provided to help you take advantage of more advanced techniques, technologies, and training.

A Cell Biologist's Guide to Modeling and Bioinformatics

By Raquell M. Holmes

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes

A step-by-step guide to using computational tools to solve problems in cell biology

Combining expert discussion with examples that can be reproduced by the reader, *A Cell Biologist's Guide to Modeling and Bioinformatics* introduces an array of informatics tools that are available for analyzing biological data and modeling cellular processes. You learn to fully leverage public databases and create your own computational models. All that you need is a working knowledge of algebra and cellular biology; the author provides all the other tools you need to understand the necessary statistical and mathematical methods.

Coverage is divided into two main categories:

- Molecular sequence database chapters are dedicated to gaining an understanding of tools and strategies—including queries, alignment methods, and statistical significance measures—needed to improve searches for sequence similarity, protein families, and putative functional domains. Discussions of sequence alignments and biological database searching focus on publicly available resources used for background research and the characterization of novel gene products.
- Modeling chapters take you through all the steps involved in creating a computational model for such basic research areas as cell cycle, calcium dynamics, and glycolysis. Each chapter introduces a new simulation tooland is based on published research. The combination creates a rich context for ongoing skill and knowledge development in modeling biological research systems.

Students and professional cell biologists can develop the basic skills needed to learn computational cell biology. This unique text, with its step-by-step instruction, enables you to test and develop your new bioinformatics and modeling skills. References are provided to help you take advantage of more advanced techniques, technologies, and training.

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes Bibliography

- Sales Rank: #4247044 in Books
- Published on: 2007-12-19
- Original language: English
- Number of items: 1
- Dimensions: 10.14" h x .65" w x 7.26" l, 1.17 pounds
- Binding: Hardcover
- 224 pages

Editorial Review

Review
"*A Cell Biologist's Guide to Modeling and Bioinformatics* is well written, well illustrated…this volume is a must-read for any biologist who wants an introduction to quantitative methods. It will also be a useful textbook for students." (*The Quarterly Review of Biology*, September 2008)

From the Back Cover

A step-by-step guide to using computational tools to solve problems in cell biology

Combining expert discussion with examples that can be reproduced by the reader, this text introduces an array of informatics tools that are available for analyzing biological data and modeling cellular processes. You learn to fully leverage public databases and create your own computational models. All that you need is a working knowledge of algebra and cellular biology; the author provides all the other tools you need to understand the necessary statistical and mathematical methods.

Coverage is divided into two main categories:

- Molecular sequence database chapters are dedicated to gaining an understanding of tools and strategies—including queries, alignment methods, and statistical significance measures—needed to improve searches for sequence similarity, protein families, and putative functional domains. Discussions of sequence alignments and biological database searching focus on publicly available resources used for background research and the characterization of novel gene products.
- Modeling chapters take you through all the steps involved in creating a computational model for such basic research areas as cell cycle, calcium dynamics, and glycolysis. Each chapter introduces a new simulation tooland is based on published research. The combination creates a rich context for ongoing skill and knowledge development in modeling biological research systems.

Students and professional cell biologists can develop the basic skills needed to learn computational cell biology. This text, with its step-by-step instruction, enables you to test and develop your new bioinformatics and modeling skills. References are provided to help you take advantage of more advanced techniques, technologies, and training.

About the Author
Dr. Holmes is a cell biologist who has worked to develop the Bioinformatics Graduate Program at Boston University and works with computational scientists in the Education, Outreach, and Training Partnership for Advanced Computational Infrastructure. She is presently a Program Manager and researcher at the Center for Computational Science at Boston University.

Users Review

From reader reviews:

Arthur Bennett:

The book A Cell Biologist's Guide to Modeling and Bioinformatics give you a sense of feeling enjoy for your spare time. You can utilize to make your capable considerably more increase. Book can to become your best friend when you getting strain or having big problem with the subject. If you can make studying a book A Cell Biologist's Guide to Modeling and Bioinformatics for being your habit, you can get far more advantages, like add your capable, increase your knowledge about some or all subjects. It is possible to know everything if you like open up and read a book A Cell Biologist's Guide to Modeling and Bioinformatics. Kinds of book are a lot of. It means that, science guide or encyclopedia or some others. So , how do you think about this book?

Patricia Kirby:

What do you with regards to book? It is not important with you? Or just adding material when you require something to explain what the ones you have problem? How about your free time? Or are you busy particular person? If you don't have spare time to accomplish others business, it is give you a sense of feeling bored faster. And you have spare time? What did you do? Everybody has many questions above. The doctor has to answer that question mainly because just their can do which. It said that about publication. Book is familiar in each person. Yes, it is right. Because start from on pre-school until university need this specific A Cell Biologist's Guide to Modeling and Bioinformatics to read.

Patricia Frazier:

This A Cell Biologist's Guide to Modeling and Bioinformatics are reliable for you who want to be considered a successful person, why. The reason of this A Cell Biologist's Guide to Modeling and Bioinformatics can be one of many great books you must have is giving you more than just simple examining food but feed a person with information that probably will shock your previous knowledge. This book will be handy, you can bring it everywhere and whenever your conditions at e-book and printed versions. Beside that this A Cell Biologist's Guide to Modeling and Bioinformatics giving you an enormous of experience like rich vocabulary, giving you tryout of critical thinking that we know it useful in your day action. So , let's have it and luxuriate in reading.

Roberta Haile:

Within this era which is the greater particular person or who has ability to do something more are more precious than other. Do you want to become one among it? It is just simple solution to have that. What you must do is just spending your time very little but quite enough to possess a look at some books. On the list of books in the top collection in your reading list is usually A Cell Biologist's Guide to Modeling and Bioinformatics. This book which can be qualified as The Hungry Slopes can get you closer in getting precious person. By looking right up and review this book you can get many advantages.

Read A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes for online ebook

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes books to read online.

Online A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes ebook PDF download

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes Doc

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes Mobipocket

A Cell Biologist's Guide to Modeling and Bioinformatics By Raquell M. Holmes EPub