

A CUTTING-EDGE GUIDE TO BIOINFORMATICS AND ITS ROLE IN MODERN BIOLOGY

The field of bioinformatics is advancing at a remarkable rate. With the development of new analytical techniques that make use of the latest advances in machine learning and data science, today's biologists are gaining fantastic new insights into the natural world's most complex systems. These rapidly progressing innovations can, however, be difficult to keep pace with.

The expanded fourth edition of the best-selling *Bioinformatics* aims to remedy this by providing students and professionals alike with a comprehensive survey of the current field. Revised to reflect recent advances in computational biology, it offers practical instruction on the gathering, analysis, and interpretation of data, as well as explanations of the most powerful algorithms presently used for biological discovery. *Bioinformatics*, Fourth Edition offers the most readable, up-to-date, and thorough introduction to the field for biologists at all levels, covering both key concepts that have stood the test of time and the new and important developments driving this fast-moving discipline forward.

This new edition features:

- New chapters on metabolomics, population genetics, metagenomics and microbial community analysis, and translational bioinformatics
- A thorough treatment of statistical methods as applied to biological data
- Special topic boxes and appendices highlighting experimental strategies and advanced concepts
- Annotated reference lists, comprehensive lists of relevant web resources, and an extensive glossary of commonly used terms in bioinformatics, genomics, and proteomics

Bioinformatics is an indispensable companion for researchers, instructors, and students of all levels in molecular biology and computational biology, as well as investigators involved in genomics, clinical research, proteomics, and related fields.

Praise for the Third Edition of *BIOINFORMATICS*

"This book is a gem to read and use in practice."

—*Briefings in Bioinformatics*

"This volume has a distinctive, special value as it offers an unrivalled level of details and unique expert insights from the leading computational biologists, including the very creators of popular bioinformatics tools."

—*ChemBioChem*

"A valuable survey of this fascinating field. . . I found it to be the most useful book on bioinformatics that I have seen and recommend it very highly."

—*American Society for Microbiology News*

"This should be on the bookshelf of every molecular biologist."

—*The Quarterly Review of Biology*

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Cover Design: Wiley
Cover Images: © David Wishart,
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Also available
as an e-book

ISBN 978-1-119-33558-0

