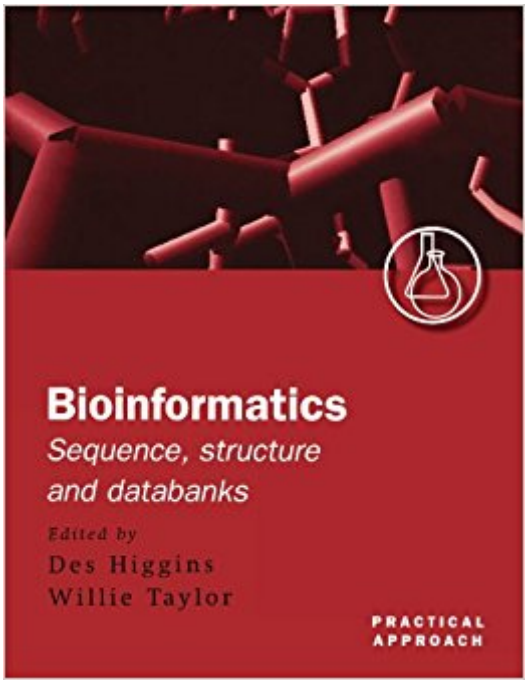
Bioinformatics: Sequence, Structure And Databanks: A Practical Approach



Synopsis

This volume covers practical important topics in the analysis of protein sequences and structures. It includes comparing amino acid sequences to structures comparing structures to each other, searching information on entire protein families as well as searching with single sequences, how to use the Internet and how to set up and use the SRS molecular biology database management system. Finally, there are chapters on multiple sequence alignment and protein secondary structure prediction. This book will be invaluable to occasional users of these techniques as well as experienced professionals or researchers.

Book Information

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Customer Reviews

"a worthwhile addition to your library"R * Briefings in Bioformatics *

Des Higgins is at University College, Cork. Willie Taylor is at National Institute for Medical Research, London.

The title of this collection of texts is slightly misleading because the book is entirely devoted to proteins. It does not cover either DNA sequence analysis or nucleic acid structure prediction. Nor does it expose methods of "genome informatics" such as computer-assisted genome annotation or function-associated genome segmenting. Moreover the problematics of molecular evolution is

covered only as much as protein phylogeny and homology is discussed. There is virtually no mention of methods for studying genome evolution.Despite the above negatives the book provides a remarkable survey and tutorial of protein sequence and structure analysis. The editors introduction (Higgins and Taylor) is brief, precise and to the point. Chapter 1 (Jones and Hadley) and Chapter 2 (Johnson and Lehtonen) constitute a tutorial of protein structure analysis. Both chapters are likely to be informative for the beginners and enjoyable by the experts. Chapter 6 (Heringa) and Chapter 8 (Yona and Brenner) are real masterpieces and should be read by all practitioners of bioinformatics as well as by all individuals who want to learn methods of sequence analysis. These two chapters and the editor's introduction make the entire book a valuable desk reference for practitioners and a candidate textbook for students. Just to be completely fair I need to say that Chapter 5 (Henikoff and Henikoff) is potentially confusing and poorly written. The same - although to a lesser degree - applies to Chapter 9 (Harper.)In summary: Higgins and Taylor have assembled a superb collection of short texts in protein sequence and structure analysis. Practitioners of both bioinformatics and protein biochemistry should use this book as a desk reference. Those who want to learn about bioinformatics will certainly benefit from reading selected chapters of this book as well. The book would not be harmed if it failed to contain confusing and poorly written Chapter 5 (Henikoff and Henikoff) and Chapter 9 (Harper.)

Gives a great overview of bioinformatic techniques in "sequence analysis and searching" and "protein structure analysis and prediction." Then it gives an overview of gene databases online as do all other bioinformatics books. The best part about it is that it spends 70% talking about new biology techniques which greatly helps a computer scientist like me to get into the field. Recommended.

Advanced Organic Chemistry: Part A: Structure and Mechanisms: Structure and Mechanisms Pt. A Protein Structure: A Practical Approach A Practical Approach to Cardiac Anesthesia (Practical Approach Series) Immunoassays: A Practical Approach (Practical Approach Series) A Practical Approach to Obstetric Anesthesia (A Practical Approach to Anesthesia) HPLC of Macromolecules: A Practical Approach (Practical Approach Series) Transition Metals in Organic Synthesis: A Practical Approach (The Practical Approach in Chemistry Series) Oligonucleotide Synthesis: A Practical Approach (The Practical Approach Series) A Practical Approach to Pediatric Anesthesia (Practical Approach to Anesthesia) Patient Education: A Practical Approach (PATIENT EDUCATION: A PRACTICAL APPROACH (MUMA))