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Practical Bioinformatics

The book is unique in that it bridges the gap between bioinformaticists and molecular biologists, i.e. the developers and the users of computational methods for biological data analysis and in that it presents examples of practical applications of the bioinformatics tools in the "daily practice" of an experimental research scientist.

The book starts with reviews on computational methods for protein sequence-structure-function analysis (sequence studies, structure prediction), followed by methods that explicitly utilize experimental data routinely obtained in the laboratory to improve the functional predictions. The second part comprises a series of examples on how particular applications of different types of bioinformatics methods in combination with experimental studies to validate the hypotheses have led to important scientific discoveries.

Therefore, the book is a guide to application of bioinformatics methods in molecular biology, addressed mainly to research scientists, postdocs, and advanced graduate students.