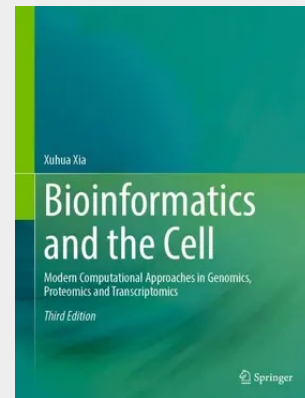


Bioinformatics and the Cell

Modern Computational Approaches in Genomics, Proteomics and Transcriptomics

This thoroughly updated third edition integrates the more technical and mathematical aspects of bioinformatics with concrete examples of their application to current research problems in molecular, cellular, and evolutionary biology. This broad, unified approach is made possible, in large part, by the very wide scope of Dr. Xia's own research experience. The integration of genomics, proteomics, and transcriptomics into a single volume makes this book required reading for anyone entering the new and emerging fields of Systems Biology and Evolutionary Bioinformatics. In particular, this book should appeal to biologists, as well as mathematicians, biostatisticians, and computational scientists, especially those with an ambition to conquer the rough terrain of computational molecular biology. The new integration solidifies the foundation of bioinformatics as the computational framework for advancing our understanding of the regulation and optimization of the three essential biological processes shared among all forms of life: genome replication, transcription, and translation.

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