Cancer Bioinformatics: From Therapy Design to Treatment

Description: The emerging field of cancer bioinformatics is facilitating an unprecedented synthesis of knowledge arising from the life and clinical sciences. The complexity of the questions being addressed requires experts from diverse backgrounds to engage in close and ongoing discourse and collaboration. They therefore need to be familiar with the research questions, terminology and methodology of the specialists in related subject areas.

The primary aim of the book is to provide a comprehensive and up-to-date account of the enormous range of bioinformatics techniques now being developed for cancer research and therapy, from the laboratory to clinical trials. It will function as a guide to integrated data exploitation and synergistic knowledge discovery, and support the consolidation of the multidisciplinary research community involved.

The book features a balanced range of topics, including both well-established techniques and emergent approaches in genomics, systems biology and e-science. Each chapter delivers an overview of the topic, combined with more detailed technical descriptions of key aspects of informatics, biology and clinical science. With contributions from clinical oncologists, research scientists, bioinformaticians and mathematical modellers, the book will facilitate scientific dialogue and collaboration across disciplinary boundaries. Finally, three chapters on the ethical and legal implications of cancer bioinformatics provide an expanded view of these groundbreaking developments and how they may impact on patients and other health care stakeholders.

This multidisciplinary book will be of interest to a broad audience including clinical oncologists, basic researchers in both academia and industry, computer scientists/bioinformaticians, clinical trial managers, ethicists and ethics boards.

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