

Preface

We are delighted to offer this textbook to the scientific community, entitled *Human Genome Informatics*, which covers a timely topic in the rapidly evolving discipline of bioinformatics.

In the postgenomic era, the development of electronic tools to translate genomic information into a clinically meaningful format is of utmost importance to expedite the transition of genomic medicine into mainstream clinical practice. There are several well-established textbooks that cover the bioinformatics field, and there are also numerous protocols for bioinformatics analysis that one can retrieve from the Internet. However, the field of human genome informatics is a relatively new one that emerged in the postgenomic era, constituting a niche research discipline. As such, there are hardly any books that discuss this important new discipline, despite its broad implications for human health.

We therefore decided to deliver a textbook focused on human genome informatics, in order to first define the field and some of its history, and then provide an overview of the most commonly used electronic tools to analyze and interpret human genomic information into a clinically meaningful format, hence expediting the integration of genomic medicine into the mainstream clinical practice. At the same time, the book will provide an update on related topics, such as genomic data sharing, human genomic databases, and informatics tools in pharmacogenomics. To our knowledge, no other existing book deals exclusively with this topic.

We envision that this textbook will be of particular benefit to graduate and doctoral students, postdoctoral researchers in the field of genome informatics and bioinformatics, and representatives from bioinformatics companies and diagnostic laboratories interested in establishing such tools to translate/interpret the findings from their analyses. Also, this textbook will be ultimately useful as the main course material or supplementary reading in related graduate courses.

Our effort to compile most of the chapters included in this textbook has been assisted by many internationally renowned experts in their field, who have kindly accepted our invitation to share with us and our readers their expertise, experience, and results through contributed chapters. In addition, we made efforts to formulate the book contents using simple language and terminology, along with self-explanatory illustrations, in order that the book be useful not only to experienced professionals and academics, but also to undergraduate medical and life science students.

We are grateful to the publishing editors, Drs. Mariana Kuhl, Rafael Texeira, and Peter Linsley at Elsevier, who helped us in close collaboration to overcome encountered difficulties. We also express our gratitude to all contributors for delivering outstanding compilations that summarize their experience and many years of hard work in their field of research and to those colleagues who provided constructive comments and criticisms on the chapters. We are indebted to the copy editor, Jude Fernando, who has refined the final manuscript prior to letting it into production. Also, we owe special thanks to the academic reviewers for their constructive criticisms of the chapters and their positive evaluation of our proposal for this compilation.

We feel certain that some points in this textbook can be further improved. Therefore, we would welcome comments and criticism from attentive readers, which will contribute to improve the contents of this book even further in its future editions.

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