

Preface

I say 'locus-locus' instead of 'gene-gene' because if you work in human genetics long enough, you realize that you may never have a gene. But you learn not to let that put you off.

Peter A. Holmans

Making sense of the results of a genetic experiment is a challenge on any level. Writing a book about the use of bioinformatics to achieve this goal might seem like a somewhat vainglorious exercise. Individual perceptions of what is constituted by bioinformatics vary widely. However, in the context of this book, bioinformatics seeks to illuminate biological function, while disease genetics, our primary focus, is essentially about understanding biological dysfunction. With this in mind, please think of bioinformatics as a tool for improving the understanding of genetics.

Since the first edition of this book, the reasons for thinking this way have become more compelling. Human disease genetics is rapidly becoming a high-throughput activity, and that means that making sense of a genetic experiment now means making sense of millions of data points. Again this underlines the need for genetics-focused bioinformatics. Quite simply, we need the *informatics* to manipulate and analyse data on this scale, and we need the *bio* to make sense of it all in the holistic biological system that is a human being.

This book could not have been realised without the insightful contributions of all the chapter authors. I really feel they have helped to make this book worthy of both the *bio* and the *informatics* monikers. I would also like to send my warmest thanks to Ian C. Gray, who co-edited the first edition with me, for providing helpful input and support on this edition. All the exciting science you see here would not exist without the incredibly dedicated team at Wiley, who have always kept things on track, including Joan Marsh, Andrea Baier, Fiona Woods, Kate Pamphilon and Emilie McDonough. I have a day job besides editing books, and so I would also really like to thank Philippe Sanseau and David Searls at GSK for giving me the time, encouragement and support to get this done. Finally, I would like to thank my wife, Aruna, for her constant love, support, encouragement and superior punctuation. Without her, I would not have had the will or punctuation skills to complete this magnum opus.

Michael R. Barnes

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