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### Sommario/riassunto

The book provides a unique collection of in-depth mathematical, statistical, and modeling methods and techniques for life sciences, as well as their applications in a number of areas within life sciences. The book provides also with a range of new ideas that represent emerging frontiers in life sciences where the application of such quantitative methods and techniques is becoming increasingly important. Many areas within life sciences are becoming increasingly quantitative and the progress in those areas will be more and more dependent on the successful development of advanced mathematical, statistical and modelling methodologies and techniques. The state-of-the-art developments in such methodologies and techniques are scattered throughout research journals and hardly accessible to the practitioners in those areas. This book identifies a number of frontier areas where such methodologies and techniques have recently been developed and are to be published here for the first time, bringing substantial potential benefit to a range of applications in life sciences. In addition, the book contains several state-of-the-art surveys at the interface of mathematics and life sciences that would benefit a larger interdisciplinary community. It is aimed at researchers in academia, practitioners and graduate students who want to foster interdisciplinary collaborations required to meet the challenges at the interface of modern life sciences and mathematics.

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