This useful volume contains the contributions from the keynote speakers of the BIOMAT 2006 symposium as well as selected contributions in the areas of mathematical biology, biological physics, biophysics and bioinformatics. It contains new results, contributions and comprehensive reviews to the mathematical modeling of infectious diseases such as HIV, tuberculosis and hepatitis B. Mathematical models for physiological disorders including tumors, aneurysms and metabolic diseases are discussed and analyzed.

This book also contains original contributions to de novo protein structure prediction and multi-objective optimization techniques applied to protein tertiary structure prediction. DNA evolutionary issues, stem cell biology, dynamics of biologic membranes, reaction–diffusion mechanisms, population dynamics, and bioeconomics are covered and discussed throughout this book.

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