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Nota di contenuto	Chapter1. Dynamical Systems in Biology - A Short Introduction -- Chapter2. Modelling of Molecular Networks -- Chapter3. Large-Scale Epidemic Models and a Graph-Theoretic Method for Constructing Lyapunov Functions -- Chapter4. Mixing in Meta-Population Models -- Chapter5. Structured Population Models for Vector-Borne Infection Dynamics -- Chapter6. Stochastic Population Kinetics and Its Underlying Mathematicothermodynamics -- Chapter7. The Turing Model for Biological Pattern Formation -- Chapter8. Persistence, Competition and Evolution -- Chapter9. Kinetic equations and cell motion: An Introduction.
Sommario/riassunto	The book presents nine mini-courses from a summer school, Dynamics of Biological Systems, held at the University of Alberta in 2016, as part of the prestigious seminar series: Séminaire de Mathématiques Supérieures (SMS). It includes new and significant contributions in the field of Dynamical Systems and their applications in Biology, Ecology,

and Medicine. The chapters of this book cover a wide range of mathematical methods and biological applications. They - explain the process of mathematical modelling of biological systems with many examples, - introduce advanced methods from dynamical systems theory, - present many examples of the use of mathematical modelling to gain biological insight, - discuss innovative methods for the analysis of biological processes, - contain extensive lists of references, which allow interested readers to continue the research on their own. Integrating the theory of dynamical systems with biological modelling, the book will appeal to researchers and graduate students in Applied Mathematics and Life Sciences. .