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Titolo	Structured population models in biology and epidemiology / / Pierre Magal, Shigui Ruan (eds.) ; with contributions by P. Auger ... [et al.]
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Descrizione fisica	1 online resource (XII, 302 p. 63 illus., 32 illus. in color.)
Collana	Lecture notes in mathematics, , 0075-8434 ; ; 1936
Altri autori (Persone)	AugerPierre MagalPierre RuanShigui <1963->
Disciplina	577.88015118
Soggetti	Population biology - Mathematical models Epidemiology - Research - Methodology
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Population Models Structured by Age, Size, and Spatial Position -- Infinite ODE Systems Modeling Size-Structured Metapopulations, Macroparasitic Diseases, and Prion Proliferation -- Simple Models for the Transmission of Microparasites Between Host Populations Living on Noncoincident Spatial Domains -- Spatiotemporal Patterns of Disease Spread: Interaction of Physiological Structure, Spatial Movements, Disease Progression and Human Intervention -- Aggregation of Variables and Applications to Population Dynamics -- The Biofilm Model of Freter: A Review.
Sommario/riassunto	This book consists of six chapters written by leading researchers in mathematical biology. These chapters present recent and important developments in the study of structured population models in biology and epidemiology. Topics include population models structured by age, size, and spatial position; size-structured models for metapopulations, macroparasitic diseases, and prion proliferation; models for transmission of microparasites between host populations living on non-coincident spatial domains; spatiotemporal patterns of disease spread; method of aggregation of variables in population dynamics; and biofilm models. It is suitable as a textbook for a mathematical

biology course or a summer school at the advanced undergraduate and graduate level. It can also serve as a reference book for researchers looking for either interesting and specific problems to work on or useful techniques and discussions of some particular problems.

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