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Titolo	Modeling living systems [[electronic resource]] : from cell to ecosystem // Alain Pave
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Altri autori (Persone)	PaveAlain
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Nota di contenuto	Cover; Modeling Living Systems; Title Page; Copyright Page; Table of Contents; Preface; Introduction; Chapter 1. Methodology of Modeling in Biology and Ecology; 1.1. Models and modeling; 1.1.1. Models; 1.1.2. Modeling; 1.2. Mathematical modeling; 1.2.1. Analysis of the biological situation and problem; 1.2.2. Characterization and analysis of the system; 1.2.3. Choice or construction of a model; 1.2.4. Study of the properties of the model; 1.2.5. Identification; 1.2.6. Validation; 1.2.7. Use; 1.2.8. Conclusion; 1.3. Supplements 1.3.1. Differences between a mathematical object and a mathematical model 1.3.2. Different types of objects and formalizations used in mathematical modeling; 1.3.3. Elements for choosing a mathematical formalism; 1.3.4. Stochastic and deterministic approaches; 1.3.5. Discrete and continuous time; 1.3.6. Biological and physical variables; 1.3.7. The quantitative - qualitative debate; 1.4. Models and modeling in life sciences; 1.4.1. Historical overview; 1.4.2. Modeling in biological disciplines; 1.4.3. Modeling in population biology and ecology; 1.4.4. Actors; 1.4.5. Modeling and informatics

1.4.6. Definition of bioinformatics
1.5. A brief history of ecology and the importance of models in this discipline; 1.6. Systems: a unifying concept; Chapter 2. Functional Representations: Construction and Interpretation of Mathematical Models; 2.1. Introduction; 2.2. Box and arrow diagrams: compartmental models; 2.3. Representations based on Forrester diagrams; 2.4. "Chemical-type" representation and multilinear differential models; 2.4.1. General overview of the translation algorithm; 2.4.2. Example of the logistic model; 2.4.3. Saturation phenomena
2.5. Functional representations of models in population dynamics
2.5.1. Single population model; 2.5.2. Models with two interacting populations; 2.6. General points on functional representations and the interpretation of differential models; 2.6.1. General hypotheses; 2.6.2. Interpretation: phenomenological and mechanistic aspects, superficial knowledge and deep knowledge; 2.6.3. Towards a classification of differential and integro-differential models of population dynamics; 2.7. Conclusion; Chapter 3. Growth Models - Population Dynamics and Genetics; 3.1. The biological processes of growth
3.2. Experimental data
3.2.1. Organism growth data; 3.2.2. Data relating to population growth; 3.3. Models; 3.3.1. Questions and uses of models; 3.3.2. Some examples of classic growth models; 3.4. Growth modeling and functional representations; 3.4.1. Quantitative aspects; 3.4.2. Qualitative aspects: choice and construction of models; 3.4.3. Functional representations and growth models; 3.4.4. Examples of the construction of new models; 3.4.5. Typology of growth models; 3.5. Growth of organisms: some examples; 3.5.1. Individual growth of the European herring gull, *Larus argentatus*
3.5.2. Individual growth of young muskrats, *Ondatra zibethica*

Sommario/riassunto

Modeling is now one of the most efficient methodologies in life sciences. From practice to theory, this book develops this approach illustrated by many examples; general concepts and the current state of the art are also presented and discussed. An historical and general introduction informs the reader how mathematics and formal tools are used to solve biological problems at all levels of the organization of life. The core of this book explains how this is done, based on practical examples coming, for the most part, from the author's personal experience. In most cases, data are include

2. Record Nr.	UNINA9910275049503321
Autore	Bogai Dieter
Titolo	France-Allemagne. Les défis de l'euro. Des politiques économiques entre traditions nationales et intégration // Bernd Zielinski, Michel Kauffmann
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Altri autori (Persone)	BrodersenHans DehayEric FlassbeckHeiner HentschelDieter HerzogPhilippe KauffmannMichel PrieweJan SandhövelArnim SchumacherAlois ZettelmeierWerner ZielinskiBernd
Soggetti	Economics History politique économique euro Europe Allemagne
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Sommario/riassunto	L'euro va-t-il générer un véritable fédéralisme européen ? Entre libéralisme anglo-saxon, "capitalisme rhénan" et tradition étatique française, quel visage prendra un modèle économique européen encore à construire ?

