

1. Record Nr.	UNINA9910739411103321
Autore	Bellomo N
Titolo	Complex systems and society : modeling and simulation // Nicola Bellomo, Giulia Ajmone Marsan, Andrea Tosin
Pubbl/distr/stampa	New York, : Springer, 2013
ISBN	1-4614-7242-3
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (xii, 90 pages) : illustrations (some color)
Collana	SpringerBriefs in mathematics
Altri autori (Persone)	Ajmone MarsanGiulia TosinAndrea
Disciplina	300.151
Soggetti	Social sciences - Mathematical models Economics - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"ISSN: 2191-8198."
Nota di bibliografia	Includes bibliographic references.
Nota di contenuto	1. The Role of Individual Behaviors in Socio-Economic Sciences -- 2. Mathematical Tools for Modeling Social Complex Systems -- 3. Modeling Cooperation and Competition in Socio-Economic Systems -- 4. Welfare Policy: Applications and Simulations -- 5. Forward Look at Research Perspectives -- References.
Sommario/riassunto	This work aims to foster the interdisciplinary dialogue between mathematicians and socio-economic scientists. Interaction among scholars and practitioners traditionally coming from different research areas is necessary more than ever in order to better understand many real-world problems we face today. On the one hand, mathematicians need economists and social scientists to better address the methodologies they design in a more realistic way; on the other hand, economists and social scientists need to be aware of sound mathematical modelling tools in order to understand and, ultimately, solve the complex problems they encounter in their research. With this goal in mind, this work is designed to take into account a multidisciplinary approach that will encourage the transfer of knowledge, ideas, and methodology from one discipline to the other. In particular, the work has three main themes: Demystifying and unravelling complex systems; Introducing models of individual behaviours in the social and economic sciences; Modelling socio-economic sciences as complex living systems. Specific tools examined

in the work include a recently developed modelling approach using stochastic game theory within the framework of statistical mechanics and progressing up to modeling Darwinian evolution. Special attention is also devoted to social network theory as a fundamental instrument for the understanding of socio-economic systems.
