

1. Record Nr.	UNINA9910538067603321
Autore	Armbruster Dieter
Titolo	Networks of interacting machines [[electronic resource]] : production organization in complex industrial systems and biological cells // editors, Dieter Armbruster, Kunihiko Kaneko, Alexander S. Mikhailov
Pubbl/distr/stampa	Hackensack, NJ, : World Scientific, c2005
ISBN	1-281-37289-7 9786611372897 981-270-324-1
Descrizione fisica	1 online resource (280 p.)
Collana	World Scientific lecture notes in complex systems ; ; v. 3
Altri autori (Persone)	KanekoKunihiko MikhailovA. S <1950-> (Alexander S.)
Disciplina	658.5
Soggetti	Production management Production (Economic theory) Cell interaction Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Preface; CONTENTS; 1 Continuum Models for Interacting Machines Dieter Armbruster, Pierre Degond, Christian Ringhofer; 2 Supply and Production Networks: From the Bullwhip Effect to Business Cycles Dirk Helbing, Stefan Lammer; 3 Managing Supply-Demand Networks in Semiconductor Manufacturing Karl Kempf; 4 Modelling Manufacturing Systems for Control: A Validation Study Erjen Lefeber, Roel van den Berg, J.E. Rooda; 5 Adaptive Networks of Production Processes Adam Ponzi; 6 Universal Statistics of Cells with Recursive Production Kunihiko Kanelco, Chikara Furusaura 7 Intracellular Networks of Interacting Molecular Machines Alexander S . Mikhailov8 Cell is Noisy Tatsuo Shibata; 9 An Intelligent Slime Mold: A Self-organizing System of Cell Shape and Information Tetsuo Ueda; 10 Communication and Structure within Networks Kim Sneppen, Martin Rosvall, Ala Trusina
Sommario/riassunto	This review volume is devoted to a discussion of analogies and differences of complex production systems - natural, as in biological

cells, or man-made, as in economic systems or industrial production. Taking this unified look at production is based on two observations: Cells and many biological networks are complex production units that have evolved to solve production problems in a reliable and optimal way in a highly stochastic environment. On the other hand, industrial production is becoming increasingly complex and often hard to predict. As a result, modeling and control of such productio
