

1. Record Nr.	UNINA9910159387903321
Titolo	Econophysics and Sociophysics: Recent Progress and Future Directions // edited by Frédéric Abergel, Hideaki Aoyama, Bikas K. Chakrabarti, Anirban Chakraborti, Nivedita Deo, Dhruv Raina, Irena Vodenska
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-47705-6
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (viii, 256 pages, 85 illustrations, 77 illustrations in colour.)
Collana	New Economic Windows, , 2039-4128
Disciplina	330.015195
Soggetti	System theory Statistics Graph theory Complex Systems Statistics in Engineering, Physics, Computer Science, Chemistry and Earth Sciences Graph Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Anindya S. Chakrabarti, Topology of the international trade network: size, asymmetry and volatility -- Attilio Stella, Optimal growth in the network of global economy -- Bikas K. Chakrabarti, Inequality in Societies, Academic Institutions & Science Journals: Gini & k-indices -- Damien Challet, Market nanostructure insight into market stylized facts -- Deepak Dhar, Dynamical networks of agents with degree preference -- Diego Garlaschelli, Network reconstruction, systemic risk, and early- warning signals -- Dipankar Gupta, Boundaries, Transgressions and Disciplinary Dynamics -- Emanuele Pugliese, New Metrics for Economic Complexity -- Fabrizio Lillo, Complex network methods for systemic risk assessment -- Frédéric Abergel, Imperfections of financial markets: a limit order book perspective -- Harbir Lamba, Modelling momentum traders in a financial market using Prandtl-Ishlinskii operators -- Hideaki Aoyama, Deflation and Money -- Irena Vodenska, Bi-partite network approach to predictability of financial markets and

news sentiments -- János Kertész, Kinetics of Social Contagion -- Joshin Murai, A model of order signs under multiple order splitting and public information -- Karmeshu, Stochastic Modelling of High Frequency Intra-day Stock Returns: Emergence of Cubic Power-Law -- Kimmo Kaski, Social Physics: Studies of in vivo / in situ human sociality -- Kousik Guhathakurta, Comparing the complexity of emerging and developed stock markets using recurrence network analysis -- M.S. Santhanam, Records statistics and financial time series -- Marco Patriarca, The microscopic origin of the Pareto law and other power-law distributions -- Matteo Marsili, Complexity driven collapse of economic equilibria -- Michele Caraglio, Bridging intraday and interday market behavior through scaling -- Parongama Sen, Segregation dynamics with continuously varying utility factor -- Sandeep Juneja, Nearest neighbor based and other popular methods for pricing Bermudan options -- Sitabhra Sinha, Loss of structural balance in the network of cross-correlations characterizing a financial market signals the onset of major economic crisis -- Stanislao Gualdi, A dynamic model of input-output production networks: general equilibrium stability and emergence of scale-free structures -- Taisei Kaizoji, Why does the power law for share price hold? -- Takaaki Ohnishi, Real estate valuation using k-nearest neighbor regression -- Takayuki Mizuno, Statistically detecting stock bubbles before they burst -- Victor Yakovenko, Economic inequality from statistical physics point of view -- Yoshi Fujiwara, Quantifying Financial Distress in a Nation-wide Production Network -- Yoshiyuki Arata, Macroeconomic Consequences of Lumpy Investment under Uncertainty -- Youngna Choi, Tracking Financial Instability Contagion: modeling and data calibration -- Yuichi Ikeda, Community and Controllability of Global Production Network: Focusing on the Economic Crisis of 2008.

Sommario/riassunto

This book presents the proceedings from ECONOPHYS-2015, an international workshop held in New Delhi, India, on the interrelated fields of “econophysics” and “sociophysics”, which have emerged from the application of statistical physics to economics and sociology. Leading researchers from varied communities, including economists, sociologists, financial analysts, mathematicians, physicists, statisticians, and others, report on their recent work, discuss topical issues, and review the relevant contemporary literature. A society can be described as a group of people who inhabit the same geographical or social territory and are mutually involved through their shared participation in different aspects of life. It is possible to observe and characterize average behaviors of members of a society, an example being voting behavior. Moreover, the dynamic nature of interaction within any economic sector comprising numerous cooperatively interacting agents has many features in common with the interacting systems of statistical physics. It is on these bases that interest has grown in the application within sociology and economics of the tools of statistical mechanics. This book will be of value for all with an interest in this flourishing field.
