

Contents

1	Complex Networks: An Invitation	1
	Ernesto Estrada, Maria Fox, Desmond J. Higham, and Gian-Luca Oppo	
2	Resistance Distance, Information Centrality, Node Vulnerability and Vibrations in Complex Networks	13
	Ernesto Estrada and Naomichi Hatano	
3	From Topology to Phenotype in Protein–Protein Interaction Networks	31
	Nataša Pržulj	
4	Networks and Models with Heterogeneous Population Structure in Epidemiology	51
	R.R. Kao	
5	NESSIE: Network Example Source Supporting Innovative Experimentation	85
	Alan Taylor and Desmond J. Higham	
6	Networks in Urban Design. Six Years of Research in Multiple Centrality Assessment	107
	Sergio Porta, Vito Latora, and Emanuele Strano	
7	The Structure of Financial Networks	131
	Stefano Battiston, James B. Glattfelder, Diego Garlaschelli, Fabrizio Lillo, and Guido Caldarelli	
8	A Hierarchy of Networks Spanning from Individual Organisms to Ecological Landscapes	165
	Ferenc Jordán, Gabriella Baranyi, and Federica Ciocchetta	

9 Revealing Structure of Complex Biological Systems Using Bayesian Networks 185
V. Anne Smith

10 Dynamics and Statistics of Extreme Events 205
Holger Kantz

11 Dynamics of Networks of Leaky-Integrate-and-Fire Neurons 217
Antonio Politi and Stefano Luccioli

Index 243



<http://www.springer.com/978-1-84996-395-4>

Network Science

Complexity in Nature and Technology

Estrada, E.; Fox, M.; Higham, D.J.; Oppo, G.-L. (Eds.)

2010, XI, 245 p., Hardcover

ISBN: 978-1-84996-395-4