

Contents

Part I Vulnerability and Robustness

1	Structural Vulnerability and Robustness in Complex Networks: Different Approaches and Relationships Between them	3
	Regino Criado and Miguel Romance	
2	Optimizing Network Topology for Cascade Resilience	37
	Alexander Gutfraind	
3	Optimizing Synchronization, Flow, and Robustness in Weighted Complex Networks	61
	G. Korniss, R. Huang, S. Sreenivasan, and B.K. Szymanski	
4	Joint Optimization of Resources and Routes for Minimum Resistance: From Communication Networks to Power Grids	97
	Ali Tizghadam, Alireza Bigdeli, Alberto Leon-Garcia, and Hassan Naser	
5	Clique Relaxation Models in Social Network Analysis	143
	Jeffrey Pattillo, Nataly Youssef, and Sergiy Butenko	

Part II Complex Communication Networks

6	Application Traffic Activity Graph Analysis	165
	Yu Jin, Esam Sharafuddin, and Zhi-Li Zhang	
7	Localized Bridging Centrality	197
	Soumendra Nanda and David Kotz	
8	On Throughput Maximization Problem for UWB-Based Sensor Networks via Reformulation–Linearization Technique	219
	Yi Shi, Y. Thomas Hou, and Hanif D. Sherali	

9	A Parallel Routing Algorithm for Traffic Optimization	241
	M.L. Wang, K.H. Yeung, and F. Yan	
10	Internet Based Service Networks	263
	LiYing Cui, Soundar Kumara, and Réka Albert	
Part III Online Social Networks and Security		
11	On Detection of Community Structure in Dynamic Social Networks	307
	Nam P. Nguyen, Ying Xuan, and My T. Thai	
12	Path Formation in Human Contact Networks	349
	Nishanth Sastry and Pan Hui	
13	Social Forwarding in Mobile Opportunistic Networks: A Case of PeopleRank	387
	Abderrahmen Mtibaa, Martin May, and Mostafa Ammar	
14	Discount Targeting in Online Social Networks Using Backpressure-Based Learning	427
	Srinivas Shakkottai and Lei Ying	
15	Social-Aware Data Diffusion in Delay Tolerant MANETs	457
	Yang Zhang, Wei Gao, Guohong Cao, Tom La Porta, Bhaskar Krishnamachari, and Arun Iyengar	
16	Security and Privacy in Online Social Networks: Optimization Perspectives	483
	Ling Ding, Hongjie Du, and Weili Wu	
17	A Social Network Based Patching Scheme for Worm Containment in Cellular Networks	505
	Zhichao Zhu, Guohong Cao, Sencun Zhu, Supranamaya Ranjan, and Antonio Nucci	
	Index	535

Handbook of Optimization in Complex Networks

Communication and Social Networks

Thai, M.T.; Pardalos, P. (Eds.)

2012, XII, 544 p., Hardcover

ISBN: 978-1-4614-0856-7