

Contents

Part I Societal and Ecological Systems	
ProtestLab: A Computational Laboratory for Studying Street Protests ..	3
Carlos M. Lemos, Helder Coelho, and Rui J. Lopes	
A Generic Agent-Based Model of Historical Social Behaviors Change	31
Ahmed M’hamdi, Mohamed Nemiche, Rafael Pla Lopez, Fatima Ezzahra SFA, Khabid Sidati, and Omar Baz	
Understanding Social Systems Research	51
Louis Klein	
ForestSim: An Agent-Based Simulation for Bioenergy Sustainability Assessment	69
Mark Rouleau	
Toward a Complex Concept of Sustainability	89
Humberto Mariotti	
Effects of Policy Decision-Making on Riparian Corridors in a Semi-arid Desert: A Modeling Approach	125
Aloah Pope and Randy Gimblett	
Part II Approaches for Understanding, Modeling, Forecasting and Mastering Complex Systems	
Dialectical Systems Theory as a Way to Handle Complex Systems	145
Matjaz Mulej, Zdenka Ženko, and Nastja Mulej	
Reducing Complexity of Nonlinear Dynamical Systems	159
Anca Maria Nagy-Kiss, Georges Schutz, Benoît Marx, Gilles Mourot, and José Ragot	

A Few Reflections on the Quality of Emergence in Complex Collective Systems	189
Vincenzo De Florio	
Link Structure Analysis of Urban Street Networks for Delineating Traffic Impact Areas	203
Tzai-Hung Wen, Wei-Chien-Benny Chin, and Pei-Chun Lai	
Logic, Mathematics and Consistency in Literature: Searching for Don Quixote's Place	221
Javier Montero, Gracia Rodríguez-Caderot, and Pilar Romero	
Energy-Efficient Buildings as Complex Socio-technical Systems: Approaches and Challenges	247
F. Lachhab, M. Bakhouya, R. Ouladsine, and M. Essaaidi	
 Part III Real-Life Examples	
Modelling Space-Time-Action Modularity and Evolution of Living Systems	269
Pierre Bricage	

Advances in Complex Societal, Environmental and
Engineered Systems

Nemiche, M.; Essaaidi, M. (Eds.)

2017, XVI, 297 p. 74 illus., 47 illus. in color., Hardcover

ISBN: 978-3-319-46163-2