

TABLE OF CONTENTS

1.	Challenges of Big Data for Economic Modeling and Management: an introduction to the workshop	5
2.	Program of the workshop	15
PART I	<i>Introduction and Tools</i>	17
3.	Productivity and Efficiency, Physics of Complex Systems, Sensitivity Analysis and Sensitivity Auditing, Data: what is the guiding thread?	19
	<i>Cinzia Daraio</i>	
4.	Efficiency Analysis, from Parametric to Nonparametric Frontier Models: The State of the Art	33
	<i>Léopold Simar</i>	
5.	Sensitivity Analysis: An introduction	71
	<i>Andrea Saltelli</i>	
6.	Sensitivity Analysis of Model Output. Introduction	131
	<i>Stefano Tarantola</i>	
7.	Sensitivity Analysis of Model Output. Regression methods	157
	<i>Stefano Tarantola</i>	
8.	Sensitivity Analysis of Model Output. Spatially distributed input	167
	<i>Stefano Tarantola</i>	
9.	Sensitivity Analysis of Model Output. Screening and given-data methods	179
	<i>Stefano Tarantola</i>	
10.	Sensitivity Analysis of Model Output. Variance-based methods	199
	<i>Stefano Tarantola</i>	

11.	Sensitivity Auditing	215
	<i>Andrea Saltelli</i>	
12.	Sensitivity Auditing... backstage	243
	<i>Andrea Saltelli</i>	
13.	Statistical Tools from the Physics of Complex Systems	301
	<i>Luca Leuzzi</i>	
PART II	<i>Panel “Big Data Era: challenges, tools and experiences in an interdisciplinary and dynamic world”</i>	377
14.	Big Data Healthcare and enhanced consent: the case of MD-Paedigree	379
	<i>Edwin Morley Fletcher and Ludovica Durst</i>	
15.	Clinical Gait Analysis: do we need a Big Data approach?	391
	<i>Paolo Cappa and Andrea Ancillao</i>	
16.	Challenges of Big data for Visual Analytics	401
	<i>Marco Angelini and Giuseppe Santucci</i>	
17.	Big Crisis Data. Hybrid Methods for Real-Time Web Mining	413
	<i>Carlos Castillo</i>	
18.	New and effective techniques for classification	427
	<i>Renato Bruni and Gianpiero Bianchi</i>	
19.	Something new about reading and readers with Big Data	443
	<i>Chiara Faggiolani and Giovanni Solimine</i>	
20.	Organization and Competences: challenges for Management Engineering	453
	<i>Gian Carlo Cainarca</i>	
21.	Microdata analysis of the Italian Households' broadband connection	471
	<i>Cosimo Dolente and Claudio Leporelli</i>	

PART III	<i>Knowledge representation, data integration and closure</i>	491
22.	Challenges for knowledge representation and data integration: Ontology-Based Data Management and the case of Sapienia <i>Maurizio Lenzerini</i>	493
23.	Challenges of Big Data for Economic Modeling and Management <i>Giorgio Allewa</i>	523
APPENDIX	<i>Recent initiatives on Big Data of the ISTAT</i>	527
24.	Web scraping for Labour Statistics <i>Emanuele Baldacci</i>	529
25.	Big Data Analysis: Experiences and Best Practices in Official Statistics <i>Monica Scannapieco, Giulio Barcaroli and Stefano De Francisci</i>	537