

## Contents – Part II

### **Workshop on Agricultural and Environmental Big Data Analytics (AEDBA 2017)**

Lack of Data: Is It Enough Estimating the Coffee Rust with Meteorological Time Series? . . . . .	3
<i>David Camilo Corrales, German Gutierrez, Jhonn Pablo Rodriguez, Agapito Ledezma, and Juan Carlos Corrales</i>	
Urban Sprawl, Labor Incomes and Real Estate Values . . . . .	17
<i>Massimiliano Bencardino and Antonio Nesticò</i>	
OLAP Analysis of Integrated Pest Management's Defense Rules: Application to Olive Crop in Apulia Region. . . . .	31
<i>Claudio Zaza, Sandro Bimonte, Crescenzo Gallo, Nicola Faccilongo, Piernichele La Sala, and Francesco Contò</i>	
Adaptive Prediction of Water Quality Using Computational Intelligence Techniques . . . . .	45
<i>Iván Darío López, Apolinar Figueroa, and Juan Carlos Corrales</i>	
A Tool for Classification of Cacao Production in Colombia Based on Multiple Classifier Systems . . . . .	60
<i>Julián Eduardo Plazas, Iván Darío López, and Juan Carlos Corrales</i>	
Decision Support System for Coffee Rust Control Based on Expert Knowledge and Value-Added Services. . . . .	70
<i>Emmanuel Lasso, Óscar Valencia, and Juan Carlos Corrales</i>	
Impact of Temporal Features of Cattle Exchanges on the Size and Speed of Epidemic Outbreaks . . . . .	84
<i>Aurore Payen, Lionel Tabourier, and Matthieu Latapy</i>	
Creating Territorial Intelligence Through a Digital Knowledge Ecosystem: A Way to Actualize Farmer Empowerment . . . . .	98
<i>Monica Sebillio, Giuliana Vitiello, and Athula Ginige</i>	

### **Workshop on Advanced Methods in Data Mining for Applications (AMDMA 2017)**

The Classification of Turkish Economic Growth by Artificial Neural Network Algorithms . . . . .	115
<i>Yeliz Karaca, Şengül Bayrak, and Emrullah Fatih Yetkin</i>	

Standardized Precipitation Index Analyses with Wavelet Techniques at Watershed Basin . . . . .	127
<i>Funda Dökmen, Zafer Aslan, and Ahmet Tokgözlü</i>	
Comparison of Deep Learning and Support Vector Machine Learning for Subgroups of Multiple Sclerosis. . . . .	142
<i>Yeliz Karaca, Carlo Cattani, and Majaz Moonis</i>	
<b>Workshop on Advanced Smart Mobility and Transportation (ASMAT 2017)</b>	
Preliminary Investigation on a Numerical Approach for the Evaluation of Road Macrotecture . . . . .	157
<i>Mauro D'Apuzzo, Azzurra Evangelisti, and Vittorio Nicolosi</i>	
Novelty Detection for Location Prediction Problems Using Boosting Trees. . . .	173
<i>Khaled Yasser and Elsayed Hemayed</i>	
Estimation of an Urban OD Matrix Using Different Information Sources . . . .	183
<i>Asma Sbaï, Henk J. van Zuylen, Jie Li, Fangfang Zheng, and Fattehallah Ghadi</i>	
<b>Workshop on Advances in Information Systems and Technologies for Emergency Preparedness, Risk Assessment and Mitigation (ASTER 2017)</b>	
Flood Hazard Assessment of the Fortore River Downstream the Occhito Dam, in Southern Italy . . . . .	201
<i>Ciro Apollonio, Gabriella Balacco, Andrea Gioia, Vito Iacobellis, and Alberto Ferruccio Piccinni</i>	
Hierarchical Spatial Distribution of Seismic Risk of Italian RC Buildings Stock. . . . .	217
<i>Marco Vona, Monica Mastroberti, and Federico Amato</i>	
Resilience Modification and Dynamic Risk Assessment in Hybrid Systems: Study Cases in Underground Settlements of Murgia Edge (Apulia, Southern Italy) . . . . .	230
<i>Roberta Pellicani, Ilenia Argentiero, Alessandro Parisi, Maria Dolores Fidelibus, and Giuseppe Spilotro</i>	
Preventive Approach to Reduce Risk Caused by Failure of a Rainwater Drainage System: The Case Study of Corato (Southern Italy) . . . . .	246
<i>Ciro Apollonio, Roberto Ferrante, and Alberto Ferruccio Piccinni</i>	

Earthquake's Rubble Heaps Volume Evaluation: Expeditious Approach Through Earth Observation and Geomatics Techniques . . . . .	261
<i>Sergio Cappucci, Luigi De Cecco, Fabio Gemerei, Ludovica Giordano, Lorenzo Moretti, Alessandro Peloso, Maurizio Pollino, and Riccardo Scipinotti</i>	
A Geospatial Decision Support Tool for Seismic Risk Management: Florence (Italy) Case Study . . . . .	278
<i>Luca Matassoni, Sonia Giovinnazzi, Maurizio Pollino, Andrea Fiaschi, Luigi La Porta, and Vittorio Rosato</i>	
Enhancing Creativity in Risk Assessment of Complex Sociotechnical Systems . . . . .	294
<i>Alex Coletti, Antonio De Nicola, and Maria Luisa Villani</i>	
Spatial Analysis and Ranking for Retrofitting of the School Network in Lima, Peru . . . . .	310
<i>Angelo Anelli, Sandra Santa-Cruz, Marco Vona, and Michelangelo Laterza</i>	
<b>Workshop on Bio-inspired Computing and Applications (BIONCA 2017)</b>	
Crowd Anomaly Detection Based on Optical Flow, Artificial Bacteria Colony and Kohonen's Neural Network. . . . .	329
<i>Joelmir Ramos, Nadia Nedjah, and Luiza M. Mourelle</i>	
<b>Workshop on Computational and Applied Mathematics (CAM 2017)</b>	
An Uncoupling Strategy in the Newmark Method for Dynamic Problems. . . .	347
<i>Jonathan Esteban Arroyo Silva, Michelli Marlane Silva Loureiro, Webe Joao Mansur, and Felipe dos Santos Loureiro</i>	
Continuous Extensions for Structural Runge–Kutta Methods. . . . .	363
<i>Alexey S. Eremin and Nikolai A. Kovrizhnykh</i>	
Polynomials over Quaternions and Coquaternions: A Unified Approach. . . . .	379
<i>Maria Irene Falcão, Fernando Miranda, Ricardo Severino, and Maria Joana Soares</i>	
Mathematica Tools for Quaternionic Polynomials . . . . .	394
<i>M. Irene Falcão, Fernando Miranda, Ricardo Severino, and M. Joana Soares</i>	
Shifted Generalized Pascal Matrices in the Context of Clifford Algebra-Valued Polynomial Sequences . . . . .	409
<i>Isabel Cação, Helmuth R. Malonek, and Graça Tomaz</i>	

A Trade-off Analysis of the Parallel Hybrid SPIKE Preconditioner in a Unique Multi-core Computer . . . . .	422
<i>Leonardo Muniz de Lima, Lucia Catabriga, Maria Cristina Rangel, and Maria Claudia Silva Boeres</i>	

**Workshop on Computer Aided Modeling, Simulation, and Analysis  
(CAMSA 2017)**

Solution of the Inverse Bioheat Transfer Problem for the Detection of Tumors by Genetic Algorithms . . . . .	441
<i>Antonio Marcio Gonalo Filho, Lucas Lagoa Nogueira, Joao Victor Caetano Silveira, Michelli Marlane Silva Loureiro, and Felipe dos Santos Loureiro</i>	

**Workshop on Computational Geometry and Security Applications  
(CGSA 2017)**

Nearest Neighbour Graph and Locally Minimal Triangulation. . . . .	455
<i>Ivana Kolingerov, Andrej Ferko, Toms Vomocka, and Martin Maak</i>	
A Clustering Approach to Path Planning for Groups . . . . .	465
<i>Jakub Szkandera, Ondrej Kaas, and Ivana Kolingerov</i>	
The Refutation of Amdahl’s Law and Its Variants. . . . .	480
<i>Ferenc Devai</i>	
A Distance Matrix Completion Approach to 1-Round Algorithms for Point Placement in the Plane . . . . .	494
<i>Md. Zamilur Rahman, Asish Mukhopadhyay, Yash Pal Aneja, and Cory Jean</i>	

Computing the Triangle Maximizing the Length of Its Smallest Side Inside a Convex Polygon. . . . .	509
<i>Sanjib Sadhu, Sasanka Roy, Soumen Nandi, Subhas C. Nandy, and Suchismita Roy</i>	

**Workshop on Central Italy 2016 Earthquake: Computational Tools  
and Data Analysis for the Emergency Response, the Community Support  
and the Reconstruction Planning (CIEQ 17)**

Collecting and Managing Building Data to Perform Seismic Risk Assessment – Palestine Case Study . . . . .	527
<i>Antonella Di Meo, Marta Faravelli, Diego Polli, Marco Denari, Alessio Cantoni, and Barbara Borzi</i>	

**Workshop on Computational and Applied Statistics (CAS 2017)**

Receiver Operating Characteristic (ROC) Packages Comparison in R . . . . .	545
<i>Daniela Ferreira da Cunha and Ana Cristina Braga</i>	
A Neural Network Model for Team Viability . . . . .	560
<i>Isabel Dórdio Dimas, Humberto Rocha, Teresa Rebelo, and Paulo Renato Lourenço</i>	
Arrow Plot for Selecting Genes in a Microarray Experiment: An Explorative Study . . . . .	574
<i>Catarina Lemos, Gustavo Soutinho, and Ana Cristina Braga</i>	
Applying Spatial Copula Additive Regression to Breast Cancer Screening Data . . . . .	586
<i>Elisa Duarte, Bruno de Sousa, Carmen Cadarso-Suárez, Jenifer Espasandín-Domínguez, Oscar Lado-Baleato, Giampiero Marra, Rosalba Radice, and Vítor Rodrigues</i>	
A Simple Graphical Way of Evaluating Coverage and Directional Non-coverages . . . . .	600
<i>Adelaide Freitas, Sara Escudeiro, and Vera Afreixo</i>	
Household Packaging Waste Management . . . . .	611
<i>João A. Ferreira, Manuel C. Figueiredo, and José A. Oliveira</i>	
Assessing the Predictive Performance of Survival Models with Longitudinal Data . . . . .	621
<i>Ipek Guler, Christel Faes, Francisco Gude, and Carmen Cadarso-Suárez</i>	

**Workshop on Computational Methods for Business Analytics (CMBA 2017)**

Sub-hour Unit Commitment MILP Model with Benchmark Problem Instances . . . . .	635
<i>Paula Carroll, Damian Flynn, Bernard Fortz, and Alex Melhorn</i>	
A Hybrid Evolutionary Approach for Solving the Traveling Thief Problem . . .	652
<i>Mahdi Moeini, Daniel Schermer, and Oliver Wendt</i>	
A Feasibility Pump and a Local Branching Heuristics for the Weight-Constrained Minimum Spanning Tree Problem . . . . .	669
<i>Cristina Requejo and Eulália Santos</i>	
A Decomposition Algorithm for Robust Lot Sizing Problem with Remanufacturing Option . . . . .	684
<i>Öykü Naz Attila, Agostinho Agra, Kerem Akartunalı, and Ashwin Arulsevan</i>	

Dual-RAMP for the Capacitated Single Allocation Hub Location Problem . . .	696
<i>Telmo Matos and Dorabela Gamboa</i>	
Variable Neighborhood Search for Integrated Planning and Scheduling . . . . .	709
<i>Mário Leite, Cláudio Alves, and Telmo Pinto</i>	
<b>Author Index</b> . . . . .	725

Computational Science and Its Applications – ICCSA  
2017

17th International Conference, Trieste, Italy, July 3-6,  
2017, Proceedings, Part II

Gervasi, O.; Murgante, B.; Misra, S.; Borruso, G.; Torre,  
C.M.; Rocha, A.M.A.C.; Tanir, D.; Apduhan, B.O.;  
Stankova, E.; Cuzzocrea, A. (Eds.)

2017, XXXVI, 726 p. 291 illus., Softcover

ISBN: 978-3-319-62394-8