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Computational Science and Its Applications – ICCSA 2017


17th International Conference
Trieste, Italy, July 3–6, 2017
Proceedings, Part IV

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ISSN 0302-9743

ISSN 1611-3349 (electronic)

Lecture Notes in Computer Science

ISBN 978-3-319-62400-6

ISBN 978-3-319-62401-3 (eBook)

DOI 10.1007/978-3-319-62401-3

Library of Congress Control Number: 2017945283

LNCS Sublibrary: SL1 – Theoretical Computer Science and General Issues

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Printed on acid-free paper

This Springer imprint is published by Springer Nature

The registered company is Springer International Publishing AG

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

These multiple volumes (LNCS volumes 10404, 10405, 10406, 10407, 10408, and 10409) consist of the peer-reviewed papers from the 2017 International Conference on Computational Science and Its Applications (ICCSA 2017) held in Trieste, Italy, during July 3–6, 2017.

ICCSA 2017 was a successful event in the ICCSA conference series, previously held in Beijing, China (2016), Banff, Canada (2015), Guimarães, Portugal (2014), Ho Chi Minh City, Vietnam (2013), Salvador, Brazil (2012), Santander, Spain (2011), Fukuoka, Japan (2010), Suwon, South Korea (2009), Perugia, Italy (2008), Kuala Lumpur, Malaysia (2007), Glasgow, UK (2006), Singapore (2005), Assisi, Italy (2004), Montreal, Canada (2003), (as ICCS) Amsterdam, The Netherlands (2002), and San Francisco, USA (2001).

Computational science is a main pillar of most present research as well as industrial and commercial activities and plays a unique role in exploiting ICT innovative technologies. The ICCSA conference series have been providing a venue to researchers and industry practitioners to discuss new ideas, to share complex problems and their solutions, and to shape new trends in computational science.

Apart from the general tracks, ICCSA 2017 also include 43 international workshops, in various areas of computational sciences, ranging from computational science technologies to specific areas of computational sciences, such as computer graphics and virtual reality. Furthermore, this year ICCSA 2017 hosted the XIV International Workshop on Quantum Reactive Scattering. The program also features three keynote speeches and four tutorials.

The success of the ICCSA conference series in general, and ICCSA 2017 in particular, is due to the support of many people: authors, presenters, participants, keynote speakers, session chairs, Organizing Committee members, student volunteers, Program Committee members, international Advisory Committee members, international liaison chairs, and various people in other roles. We would like to thank them all.

We would also like to thank Springer for their continuous support in publishing the ICCSA conference proceedings.

July 2017

Giuseppe Borruso
Osvaldo Gervasi
Bernady O. Aduhan

Welcome to Trieste

We were honored and happy to have organized this extraordinary edition of the conference, with so many interesting contributions and participants coming from more than 46 countries around the world!

Trieste is a medium-size Italian city lying on the north-eastern border between Italy and Slovenia. It has a population of nearly 200,000 inhabitants and faces the Adriatic Sea, surrounded by the Karst plateau.

It is quite an atypical Italian city, with its history being very much influenced by belonging for several centuries to the Austro-Hungarian empire and having been through several foreign occupations in history: by French, Venetians, and the Allied Forces after the Second World War. Such events left several footprints on the structure of the city, on its buildings, as well as on culture and society!

During its history, Trieste hosted people coming from different countries and regions, making it a cosmopolitan and open city. This was also helped by the presence of a commercial port that made it an important trade center from the 18th century on. Trieste is known today as a 'City of Science' or, more proudly, presenting itself as the 'City of Knowledge', thanks to the presence of several universities and research centers, all of them working at an international level, as well as of cultural institutions and traditions. The city has a high presence of researchers, more than 35 per 1,000 employed people, much higher than the European average of 6 employed researchers per 1,000 people.

The University of Trieste, the origin of such a system of scientific institutions, dates back to 1924, although its roots go back to the end of the 19th century under the Austro-Hungarian Empire. The university today employs nearly 1,500 teaching, research, technical, and administrative staff with a population of more than 16,000 students.

The university currently has 10 departments: Economics, Business, Mathematical, and Statistical Sciences; Engineering and Architecture; Humanities; Legal, Language, Interpreting, and Translation Studies; Mathematics and Geosciences; Medicine, Surgery, and Health Sciences; Life Sciences; Pharmaceutical and Chemical Sciences; Physics; Political and Social Sciences.

We trust the participants enjoyed the cultural and scientific offerings of Trieste and will keep a special memory of the event.

Giuseppe Borruso

Organization

ICCSA 2017 was organized by the University of Trieste (Italy), University of Perugia (Italy), Monash University (Australia), Kyushu Sangyo University (Japan), University of Basilicata (Italy), and University of Minho, (Portugal).

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Contents – Part IV

Workshop on Geomatics and Remote Sensing Techniques for Resource Monitoring and Control (GRS-RMC 2017)

UAV-Borne Photogrammetric Survey as USAR Firefighter Teams Support . . .	3
<i>G. Caroti, A. Piemonte, and Y. Pieracci</i>	
Calibration of the CLAIR Model by Using Landsat 8 Surface Reflectance Higher-Level Data and MODIS Leaf Area Index Products	16
<i>Giuseppe Peschechera, Antonio Novelli, Grazia Caradonna, and Umberto Fratino</i>	
The Use of Geomorphological Descriptors and Landsat-8 Spectral Indices Data for Flood Areas Evaluation: A Case Study of Lato River Basin.	30
<i>Vincenzo Totaro, Andrea Gioia, Antonio Novelli, and Grazia Caradonna</i>	
C_AssesSeg Concurrent Computing Version of AssesSeg: A Benchmark Between the New and Previous Version.	45
<i>Antonio Novelli, Manuel A. Aguilar, Fernando J. Aguilar, Abderrahim Nemmaoui, and Eufemia Tarantino</i>	
An Optimized Fuzzy System for Coastal Water Quality Mapping Using Remote Sensing Data	57
<i>Bahia Lounis and Aichouche Belhadj-Aissa</i>	
MMS and GIS for Self-driving Car and Road Management	68
<i>Vincenzo Barrile, Giuseppe Maria Meduri, Maira Critelli, and Giuliana Bilotta</i>	
Hyperspectral Data Classification to Support the Radiometric Correction of Thermal Imagery.	81
<i>Gabriele Bitelli, Rita Blanos, Paolo Conte, Emanuele Mandanici, Paolo Paganini, and Carla Pietrapertosa</i>	
Evaluation of the Laser Response of Leica Nova MultiStation MS60 for 3D Modelling and Structural Monitoring.	93
<i>Roberta Fagandini, Bianca Federici, Ilaria Ferrando, Sara Gagliolo, Diana Pagliari, Daniele Passoni, Livio Pinto, Lorenzo Rossi, and Domenico Sguerso</i>	
A Low-Cost Solution for the Monitoring of Air Pollution Parameters Through Bicycles	105
<i>Irene Aicardi, Filippo Gandino, Nives Grasso, Andrea Maria Lingua, and Francesca Noardo</i>	

High Temperature Fire Experiment for TET-1 and Landsat 8 in Test Site DEMMIN (Germany)	121
<i>Erik Borg, Olaf Frauenberger, Bernd Fichtelmann, Christian Fischer, Winfried Halle, Carsten Paproth, Holger Daedelow, Frank Renke, Hans-Hermann Vajen, Jens Richter, Gregoire Kerr, Eckehardt Lorenz, Doris Klein, Jan Bumberger, Peter Dietrich, and Harald Schermtanner</i>	
Ground-Based Real-Aperture Radar for Deformation Monitoring: Experimental Tests	137
<i>Marco Scaioni, Fabio Roncoroni, Mario Ivan Alba, Alberto Giussani, and Mattia Manieri</i>	
Cultural Heritage Management Using Analysis of Satellite Images and Advanced GIS Techniques at East Luxor, Egypt and Kangavar, Iran (A Comparison Case Study).	152
<i>Abdelaziz Elfadaly, Rosa Lasaponara, Beniamino Murgante, and Mohamad Molaei Qelichi</i>	
High Frequency GNSS Measurements for Structural Monitoring Applications	169
<i>Raffaella Cefalo, Giorgio Manzoni, Salvatore Noè, and Tatiana Sluga</i>	
Extraction of Road Geometric Parameters from High Resolution Remote Sensing Images Validated by GNSS/INS Geodetic Techniques	181
<i>Raffaella Cefalo, Giulia Grandi, Roberto Roberti, and Tatiana Sluga</i>	
Workshop on Interactively Presenting High-Quality Graphics in Cooperation with Various Computing Tools (IPHQC 2017)	
Using Tangible Contents Generated by CindyJS and Its Influence on Mathematical Cognition	199
<i>Masataka Kaneko</i>	
Analysis of the Use of Teaching Materials Generated by KeTCindy as an Aid to the Understanding of Mathematics	216
<i>Koji Nishiura, Shunji Ouchi, and Kunihito Usui</i>	
Active Learning with Dynamic Geometry Software	228
<i>Yoichi Maeda</i>	
Data Processing with KeTCindy	240
<i>Yasuyuki Kubo</i>	
Brachistochrone Problem as Teaching Material – Application of KeTCindy with Maxima	251
<i>Setsuo Takato</i>	

Producing Teaching Materials for Spatial Figures with KeTCindy and the Educational Benefits of Combining Materials	262
<i>Naoki Hamaguchi and Setsuo Takato</i>	
Authoring Quizzes with Interactive Content on the Mathematics e-Learning System STACK	273
<i>Yasuyuki Nakamura, Takahiro Nakahara, Masataka Kaneko, and Setsuo Takato</i>	
PDF Slide Teaching Materials Created Using KeTCindy.	285
<i>Satoshi Yamashita, Shigeki Kobayashi, Hideyo Makishita, and Setsuo Takato</i>	
KETpic-Matlab Toolbox for LaTeX High-Quality Graphical Artwork in Educational Materials on Bézier Curve Algorithms at a Master Level	301
<i>Akemi Gálvez, Setsuo Takato, Masataka Kaneko, Javier Del Ser, and Andrés Iglesias</i>	
Identification of High-Risk Hotspots Along Railway Lines.	317
<i>Paolino Di Felice, Antonello Di Felice, Mauro Evangelista, Antonio Fraticelli, and Lorenzo Venturoni</i>	
Workshop on Geographical Analysis, Urban Modeling, Spatial statistics (Geo-An-Mod 2017) 32	
Investigation of Social Networking Mechanisms and Their Geospatial Allocation Effects – An Agent-Based Simulation Approach	335
<i>Andreas Koch</i>	
Geostatistical Analysis of Settlements Induced by Groundwater Extraction . . .	350
<i>Rose Line Spacagna, Alessandro Rasulo, and Giuseppe Modoni</i>	
Decomposing and Recomposing Urban Fabric: The City from the Pedestrian Point of View	365
<i>Alessandro Araldi and Giovanni Fusco</i>	
A GIS Tool to Estimate Flow at Ungaged Basins Using the Map Correlation Method	377
<i>Duygu Ocal and Elcin Kentel</i>	
Multiple Bayesian Models for the Sustainable City: The Case of Urban Sprawl.	392
<i>Giovanni Fusco and Andrea Tettamanzi</i>	
Developing Spatial Indicators Using a Uniform Tessellation to Measure Urban Transformation	408
<i>Johan Maritz, Alize le Roux, and Gerbrand Mans</i>	

The Impact of Land-Use Changes on Accessibility to Forests and Potential for Leisure Time Physical Activity: A Scenario Based Approach	422
<i>Henning Sten Hansen</i>	
Spatial Methods to Measure Natura 2000 Sites Insularization in Italy	437
<i>Alessandro Marucci, Francesco Zullo, Elisa Morri, Lorena Fiorini, Serena Ciabò, Riccardo Santolini, and Bernardino Romano</i>	
Spatial Multicriteria Analysis Approach for Evaluation of Mobility Demand in Urban Areas	451
<i>Mauro Mazzei and Armando Luigi Palma</i>	
Analyzing Effective Factors on Urban Growth Management Focusing on Remote Sensing Indices in Karaj, Iran.	469
<i>Mohamad Molaei Qelichi, Beniamino Murgante, Rahmatollah Farhoudi, Saeed Zanganeh Shahraki, Keramatollah Ziari, and Ahmad Pourahmad</i>	
A Comparative Study Employing CIA Methods in Knowledge-Based Urban Development with Emphasis on Affordable Housing in Iranian Cities (Case: Tabriz)	485
<i>Behzad Ranjbar nia, Beniamino Murgante, Mohamad Molaei Qelichi, and Shahrivar Rustaei</i>	
Dynamic Guidance of an Autonomous Vehicle with Spatio-Temporal GIS . . .	502
<i>Alireza Vafaeinejad</i>	
Automated Web-Based Geoprocessing of Rental Prices	512
<i>Harald Scherthanner, Sebastian Steppan, Christian Kuntzsch, Erik Borg, and Hartmut Asche</i>	
A GIS-Based Methodology to Estimate the Potential Demand of an Integrated Transport System.	525
<i>Gabriele D’Orso and Marco Migliore</i>	
Geospatial Database for Seamless Pedestrian Navigation in Germany: Status and Acquisition Technologies	541
<i>Hartmut Asche</i>	
A Proposal for the Spatial Planning Monitoring System in Serbia	555
<i>Ljiljana Živković</i>	
Clustering Algorithms for Spatial Big Data	571
<i>Gabriella Schoier and Caterina Gregorio</i>	
Interoperable Sharing and Visualization of Geological Data and Instruments: A Proof of Concept.	584
<i>Simone Lanucara, Alessandro Oggioni, Giuseppe Modica, and Paola Carrara</i>	

A GIS-Based Model for the Analysis of Ecological Connectivity	600
<i>Andrea Fiduccia, Francesca Pagliaro, Luca Gugliermetti, and Leonardo Filesi</i>	
Simulation of Hydrograph Response to Land Use Scenarios for a Southern Chile Watershed	613
<i>Vladimir J. Alarcon, Jose P. Hernandez A., and Hernan Alcayaga</i>	
Geospatial Visualization of Automotive Sensor Data: A Conceptual and Implementational Framework for Environment and Traffic-Related Applications	626
<i>Patrick Voland and Hartmut Asche</i>	
Making Sense of Spatial Relationships Through Local Knowledge Discovery in Social Media	638
<i>Pasquale Balena, Alessandro Bonifazi, Dino Borri, and Caterina De Lucia</i>	
Spatial Function of Influence on Center Optimal Location Based on L_p -Norms	652
<i>Didier Josselin, Julio Rojas-Mora, and Marc Ciligot-Travain</i>	
Deep-Seated Gravitational Slope Deformation in Urban Areas Matching Field and in-SAR Interferometry Surveys: The Case Study of the Episcopia Village, Southern Italy	662
<i>Mario Bentivenga, Salvatore Ivo Giano, Lucia Saganeiti, Gabriele Nolè, Giuseppe Palladino, Giacomo Prosser, and Beniamino Murgante</i>	
Integrating Supervised Classification in Social Participation Systems for Disaster Response. A Pilot Study	675
<i>Pasquale Balena, Nicola Amoroso, and Caterina De Lucia</i>	
Knowledge of Places: An Ontological Analysis of the Social Level in the City	687
<i>Rossella Stufano, Dino Borri, Domenico Camarda, and Stefano Borgo</i>	
Computer-Aided Drafting of Urban Designs for Walkability	695
<i>Ivan Blečić, Arnaldo Cecchini, and Giuseppe A. Trunfio</i>	
City Dashboards: The Case of Trieste: Trieste Overview	710
<i>Oscar Brunetto</i>	
Change Detection and Classification of Seismic Damage with LiDAR and RADAR Surveys in Supporting Emergency Planning. The Case of Amatrice	722
<i>Lucia Saganeiti, Federico Amato, Michele Potleca, Gabriele Nolè, Marco Vona, and Beniamino Murgante</i>	

Storm Model Application at Indonesian Tropical Ocean. 732
*Fredhi Agung Prasetyo, Mohammad Arif Kurniawan, Siti Komariyah,
Rudiyanto, and Tutut Herawan*

Author Index 747