## Contents – Part IV


<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAV-Borne Photogrammetric Survey as USAR Firefighter Teams Support</td>
<td>3</td>
</tr>
<tr>
<td>G. Caroti, A. Piemonte, and Y. Pieracci</td>
<td></td>
</tr>
<tr>
<td>Calibration of the CLAIR Model by Using Landsat 8 Surface Reflectance</td>
<td>16</td>
</tr>
<tr>
<td>Giuseppe Peschechera, Antonio Novelli, Grazia Caradonna, and Umberto Fratino</td>
<td></td>
</tr>
<tr>
<td>The Use of Geomorphological Descriptors and Landsat-8 Spectral Indices</td>
<td>30</td>
</tr>
<tr>
<td>Vincenzo Totaro, Andrea Gioia, Antonio Novelli, and Grazia Caradonna</td>
<td></td>
</tr>
<tr>
<td>C_AssesSeg Concurrent Computing Version of AssesSeg: A Benchmark</td>
<td>45</td>
</tr>
<tr>
<td>Antonio Novelli, Manuel A. Aguilar, Fernando J. Aguilar, Abderrahim Nemmaoui, and Eufemia Tarantino</td>
<td></td>
</tr>
<tr>
<td>An Optimized Fuzzy System for Coastal Water Quality Mapping</td>
<td>57</td>
</tr>
<tr>
<td>Using Remote Sensing Data</td>
<td></td>
</tr>
<tr>
<td>Bahia Lounis and Aichouche Belhadj-Aissa</td>
<td></td>
</tr>
<tr>
<td>MMS and GIS for Self-driving Car and Road Management</td>
<td>68</td>
</tr>
<tr>
<td>Vincenzo Barrile, Giuseppe Maria Meduri, Maira Critelli, and Giuliana Bilotta</td>
<td></td>
</tr>
<tr>
<td>Hyperspectral Data Classification to Support the Radiometric Correction</td>
<td>81</td>
</tr>
<tr>
<td>of Thermal Imagery</td>
<td></td>
</tr>
<tr>
<td>Gabriele Bitelli, Rita Blanos, Paolo Conte, Emanuele Mandanici,</td>
<td></td>
</tr>
<tr>
<td>Paolo Paganini, and Carla Pietrapertosa</td>
<td></td>
</tr>
<tr>
<td>Evaluation of the Laser Response of Leica Nova MultiStation MS60</td>
<td>93</td>
</tr>
<tr>
<td>for 3D Modelling and Structural Monitoring</td>
<td></td>
</tr>
<tr>
<td>Roberta Fagandini, Bianca Federici, Ilaria Ferrando, Sara Gagliolo,</td>
<td></td>
</tr>
<tr>
<td>Diana Pagliari, Daniele Passoni, Livio Pinto, Lorenzo Rossi,</td>
<td></td>
</tr>
<tr>
<td>and Domenico Sguerso</td>
<td></td>
</tr>
<tr>
<td>A Low-Cost Solution for the Monitoring of Air Pollution Parameters</td>
<td>105</td>
</tr>
<tr>
<td>Through Bicycles</td>
<td></td>
</tr>
<tr>
<td>Irene Aicardi, Filippo Gandino, Nives Grasso, Andrea Maria Lingua,</td>
<td></td>
</tr>
<tr>
<td>and Francesca Noardo</td>
<td></td>
</tr>
</tbody>
</table>
High Temperature Fire Experiment for TET-1 and Landsat 8 in Test Site DEMMIN (Germany) ......................................................... 121
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 Scherntanner

Ground-Based Real-Aperture Radar for Deformation Monitoring: Experimental Tests ............................................................. 137
Marco Scaioni, Fabio Roncoroni, Mario Ivan Alba, Alberto Giussani, and Mattia Manieri

Cultural Heritage Management Using Analysis of Satellite Images and Advanced GIS Techniques at East Luxor, Egypt and Kangavar,
Iran (A Comparison Case Study) .................................................. 152
Abdelaziz Elfadaly, Rosa Lasaponara, Beniamino Murgante, and Mohamad Molaei Qelichi

High Frequency GNSS Measurements for Structural Monitoring Applications ................................................................. 169
Raffaela Cefalo, Giorgio Manzoni, Salvatore Noè, and Tatiana Sluga

Extraction of Road Geometric Parameters from High Resolution Remote Sensing Images Validated by GNSS/INS Geodetic Techniques .............. 181
Raffaela Cefalo, Giulia Grandi, Roberto Roberti, and Tatiana Sluga


Using Tangible Contents Generated by CindyJS and Its Influence on Mathematical Cognition ............................................... 199
Masataka Kaneko

Analysis of the Use of Teaching Materials Generated by KeTCindy as an Aid to the Understanding of Mathematics ........................ 216
Koji Nishiura, Shunji Ouchi, and Kunihito Usui

Active Learning with Dynamic Geometry Software ....................... 228
Yoichi Maeda

Data Processing with KeTCindy .................................................. 240
Yasuyuki Kubo

Brachistochrone Problem as Teaching Material – Application of KeTCindy with Maxima .................................................... 251
Setsuo Takato
Producing Teaching Materials for Spatial Figures with KeTCindy and the Educational Benefits of Combining Materials .................................. 262
Naoki Hamaguchi and Setsuo Takato

Authoring Quizzes with Interactive Content on the Mathematics e-Learning System STACK ................................................................. 273
Yasuyuki Nakamura, Takahiro Nakahara, Masataka Kaneko, and Setsuo Takato

PDF Slide Teaching Materials Created Using KeTCindy. ....................... 285
Satoshi Yamashita, Shigeki Kobayashi, Hideyo Makishita, and Setsuo Takato

KETpic-Matlab Toolbox for LaTeX High-Quality Graphical Artwork in Educational Materials on Bézier Curve Algorithms at a Master Level . . . . . . . 301
Akemi Gálvez, Setsuo Takato, Masataka Kaneko, Javier Del Ser, and Andrés Iglesias

Identification of High-Risk Hotspots Along Railway Lines. ................. 317
Paolino Di Felice, Antonello Di Felice, Mauro Evangelista, Antonio Fraticelli, and Lorenzo Venturoni

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
Andreas Koch

Geostatistical Analysis of Settlements Induced by Groundwater Extraction ... 350
Rose Line Spacagna, Alessandro Rasulo, and Giuseppe Modoni

Decomposing and Recomposing Urban Fabric:
The City from the Pedestrian Point of View ........................................... 365
Alessandro Araldi and Giovanni Fusco

A GIS Tool to Estimate Flow at Ungaged Basins Using the Map Correlation Method ................................................................. 377
Duygu Ocal and Elcin Kentel

Multiple Bayesian Models for the Sustainable City:
The Case of Urban Sprawl ................................................................. 392
Giovanni Fusco and Andrea Tettamanzi

Developing Spatial Indicators Using a Uniform Tessellation to Measure Urban Transformation ......................................................... 408
Johan Maritz, Alize le Roux, and Gerbrand Mans
The Impact of Land-Use Changes on Accessibility to Forests and Potential for Leisure Time Physical Activity: A Scenario Based Approach

Henning Sten Hansen

Spatial Methods to Measure Natura 2000 Sites Insularization in Italy

Alessandro Marucci, Francesco Zullo, Elisa Morri, Lorena Fiorini, Serena Ciabò, Riccardo Santolini, and Bernardino Romano

Spatial Multicriteria Analysis Approach for Evaluation of Mobility Demand in Urban Areas

Mauro Mazzei and Armando Luigi Palma

Analyzing Effective Factors on Urban Growth Management Focusing on Remote Sensing Indices in Karaj, Iran

Mohamad Molaei Qelichi, Beniamino Murgante, Rahmatollah Farhoudi, Saeed Zanganeh Shahraki, Keramatollah Ziari, and Ahmad Pourahmad

A Comparative Study Employing CIA Methods in Knowledge-Based Urban Development with Emphasis on Affordable Housing in Iranian Cities (Case: Tabriz)

Behzad Ranjbar nia, Beniamino Murgante, Mohamad Molaei Qelichi, and Shahrivar Rustaei

Dynamic Guidance of an Autonomous Vehicle with Spatio-Temporal GIS

Alireza Vafaeinejad

Automated Web-Based Geoprocessing of Rental Prices

Harald Schernthanner, Sebastian Steppan, Christian Kuntzsch, Erik Borg, and Hartmut Asche

A GIS-Based Methodology to Estimate the Potential Demand of an Integrated Transport System

Gabriele D’Orso and Marco Migliore

Geospatial Database for Seamless Pedestrian Navigation in Germany: Status and Acquisition Technologies

Hartmut Asche

A Proposal for the Spatial Planning Monitoring System in Serbia

Ljiljana Živković

Clustering Algorithms for Spatial Big Data

Gabriella Schoier and Caterina Gregorio

Interoperable Sharing and Visualization of Geological Data and Instruments: A Proof of Concept

Simone Lanucara, Alessandro Oggioni, Giuseppe Modica, and Paola Carrara
A GIS-Based Model for the Analysis of Ecological Connectivity . . . . . . . . . . 600
Andrea Fiduccia, Francesca Pagliaro, Luca Gugliermetti, and Leonardo Filesi

Simulation of Hydrograph Response to Land Use Scenarios
for a Southern Chile Watershed . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 613
Vladimir J. Alarcon, Jose P. Hernandez A., and Hernan Alcayaga

Geospatial Visualization of Automotive Sensor Data: A Conceptual
and Implementational Framework for Environment
and Traffic-Related Applications . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 626
Patrick Voland and Hartmut Asche

Making Sense of Spatial Relationships Through Local Knowledge
Discovery in Social Media . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 638
Pasquale Balena, Alessandro Bonifazi, Dino Borri, and Caterina De Lucia

Spatial Function of Influence on Center Optimal Location Based
on Lp-Norms . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 652
Didier Josselin, Julio Rojas-Mora, and Marc Ciligot-Travain

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
Mario Bentivenga, Salvatore Ivo Giano, Lucia Saganeiti, Gabriele Nolè,
Giuseppe Palladino, Giacomo Prosser, and Beniamino Murgante

Integrating Supervised Classification in Social Participation Systems
for Disaster Response. A Pilot Study . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 675
Pasquale Balena, Nicola Amoroso, and Caterina De Lucia

Knowledge of Places: An Ontological Analysis of the Social Level
in the City . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 687
Rossella Stufano, Dino Borri, Domenico Camarda, and Stefano Borgo

Computer-Aided Drafting of Urban Designs for Walkability . . . . . . . . . . . . . 695
Ivan Blecic, Arnaldo Cecchini, and Giuseppe A. Trunfio

City Dashboards: The Case of Trieste: Trieste Overview . . . . . . . . . . . . . . . 710
Oscar Brunetto

Change Detection and Classification of Seismic Damage with LiDAR
and RADAR Surveys in Supporting Emergency Planning.
The Case of Amatrice . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 722
Lucia Saganeiti, Federico Amato, Michele Potleca, Gabriele Nolè,
Marco Vona, and Beniamino Murgante
Storm Model Application at Indonesian Tropical Ocean. 732
Fredhi Agung Prasetyo, Mohammad Arif Kurniawan, Siti Komariyah,
Rudiyanto, and Tutut Herawan

Author Index 747