

# **GEOProcessing 2018**

The Tenth International Conference on Advanced Geographic Information Systems, Applications, and Services

March 25 – 29, 2018

Rome, Italy

# **GEOProcessing 2018 Editors**

Claus-Peter Rückemann, Leibniz Universität Hannover / Westfälische Wilhelms-Universität Münster /North-German Supercomputing Alliance (HLRN), Germany Yerach Doytsher, Technion - Israel Institute of Technology, Haifa, Israel

#### Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (423: ) by International Academy, Research, and Industry Association (IARIA) Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (423: )

International Academy, Research, and Industry Association (IARIA) 412 Derby Way Wilmington, DE 19810

Phone: (408) 893-6407 Fax: (408) 527-6351

petre@iaria.org

## Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

## **Table of Contents**

Geographic Decision Making in Urban Management - A SOLAP Tool for the Analysis and the Management of Public Lighting in the City of Oran	1
Ahmed Saidi, Mohamed Faycal Khelfi, Abdellah Mebrek, and Abdelhak Trache	
Cultural Metro at Rome A Sustainable Transportation Example Extending Public Transportation System in Rome Michele Angelaccio and Lucia Zappitelli	8
Analyzing Spatio-Temporal Effects of Social-Economic Factors on Crime Sebastian Baumbach, Nikita Sharma, Sheraz Ahmed, and Andreas Dengel	11
GeoCubes Finland - A Unified Approach for Managing Multi-resolution Raster Geodata in a National Geospatial Research Infrastructure  Lassi Lehto, Jaakko Kahkonen, Juha Oksanen, and Tapani Sarjakoski	18
Coupling an Unstructured NoSQL Database with a Geographic Information System Amandine Holemans, Jean-Paul Kasprzyk, and Jean-Paul Donnay	23
ClusterWIS - A Decentralized Forest Information and Management System for the Cluster Forestry and Wood Jurgen Rossmann, Michael Schluse, Martin Hoppen, Gregor Nagele, Tobias Marquardt, Christoph Averdung, Werner Poschenrieder, and Fabian Schwaiger	29
Assessing and Evaluating Standard Compliance with a State and Local Government GIS Metadata Profile in Large Geospatial Databases  Timothy Mulrooney	36
Methodology of Knowledge Mapping for Arbitrary Objects and Entities: Knowledge Mining Knowledge Mining and Spatial Representations - Objects in Multi-dimensional Context Claus-Peter Ruckemann	40
Using Smart A* Algorithm to Solve TSP Navigation Problem  Hatem Halaoui	46
A Spatial Decision Support System for Waste Management in Municipal Society of Lahore City Muhammad Haris and Beenish Fatima	52
National Geoinformation System Development in the Republic of Uzbekistan Muzaffar Djalalov	56
Motion Planning in 3D Environments Using Visibility Velocity Obstacles  Oren Gal and Yerach Doytsher	60

A Case Study for a Multitemporal Segmentation Approach in Optical Remote Sensing Images Wanderson Costa, Leila Fonseca, Thales Korting, Margareth Simoes, and Patrick Kuchler	66
An Approach for Assessing Array DBMSs for Geospatial Raster Data Janne Kovanen, Ville Makinen, and Tapani Sarjakoski	71
Towards Modelling Privacy Risks in Geo-Social Networks  Alia Abdelmoty	77