



THE 18TH AGILE INTERNATIONAL CONFERENCE ON GEOGRAPHIC INFORMATION SCIENCE

"GEOGRAPHIC INFORMATION SCIENCE AS AN ENABLER OF SMARTER CITIES AND COMMUNITIES"

9-12 June 2015 - Lisbon, Portugal

<http://www.agile-online.org/index.php/conference/conference-2015>

PROGRAMME

WEDNESDAY, JUNE 10

- 09:30 – 10:00 **OPENING SESSION**
10:00 – 11:00 **KEYNOTE SESSION: MIGUEL CASTRO NETO**
11:00 – 11:30 **COFFEE BREAK**
11:30 – 13:00 **PARALLEL SESSIONS**

SESSION 1

VOLUNTEERED GEOGRAPHIC INFORMATION I

CHAIR: MARTIN RAUBAL

Applications of Volunteered Geographic Information in Surveying Engineering: A First Approach
Ioannis Sofos, Vassilios Vescoukis and Maria Tsakiri

A Semantic Region Growing Algorithm: Extraction of Urban Settings
Heidi Hobel, Amin Abdalla, Paolo Fogliaroni and Andrew U. Frank

A Gamification Framework for Volunteered Geographic Information
Roberta Martella, Christian Kray and Eliseo Clementini

Open Geo-Data for Innovative Services and User Applications Towards Smart Cities. The GeoSmartCity Portuguese Pilot
Nelson Mileu and João Melo

SESSION 2

SPATIAL AND SPATIOTEMPORAL MODELING AND REASONING

CHAIR: FRED TOPPEN

Aggregating Spatio-temporal Phenomena at Multiple Levels of Detail
Ricardo Almeida Silva, João Moura Pires, Maribel Yasmina Santos and Rui Leal

An Aggregated Graph to Qualify Historical Spatial Networks using Temporal Patterns Detection
Benoit Costes, Julien Perret, Bénédicte Bucher and Maurizio Gribaudo

"Turn left" vs. "Walk towards the café": When Relative Directions Work Better than Landmarks
Jana Götze and Johan Boye

Self-learning Virtual Sensor Networks using Low-cost Electronics in Urban Geosensor Networks
Daniel Henzen, Pierre Karrasch and Lars Bernard

SESSION 3

SPATIAL DECISION SUPPORT SYSTEMS

CHAIR: JOAQUÍN HUERTA

Drawing with Geography

Takeshi Shirabe

Road Network Segmentation for Bus-based Evacuation

Md. Imran Hossain and Wolfgang Reinhardt

Automated Generation of Indoor Accessibility Information for Mobility-Impaired Individuals

Nemanja Kostic and Simon Scheider

Survey on Maturity Models for the Geospatial Domain

Athanasios Karalopoulos and Marinos Kavouras

13:00 – 14:30 **LUNCH**

14:30 – 16:00 **PARALLEL SESSIONS**

SESSION 4

SPATIAL AND SPATIOTEMPORAL DATA ANALYSIS I

CHAIR: WERNER KUHN

Detecting Mobility Patterns with Stationary Bluetooth Sensors: A Real-World Case Study

Marc Müller, Daniel Schulz, Michael Mock and Dirk Hecker

Real-time Anomaly Detection from Environmental Data Streams

Sergi Trilles, Sven Schade, Óscar Belmonte and Joaquín Huerta

Passive WiFi Monitoring of the Rhythm of the Campus

Eftychia Kalogianni, Rusnè Šilerytė, Marco Lam, Kaixuan Zhou, Martijn van der Ham, Stefan van der Spek and Edward Verbree

Towards Real-Time Processing of Massive Spatio-Temporally Distributed Sensor Data: A Sequential Strategy Based on Kriging

Peter Lorkowski and Thomas Brinkhoff

SESSION 5

SPATIAL DATA INFRASTRUCTURES

CHAIR: BÉNÉDICTE BUCHER

A SDI's in Archaeology in the Iberian Peninsula: Achieving interoperability of Cultural Heritage data in INSPIRE

Carlos Fernández Freire, Ernesto Salas Tovar, Rocío Gutiérrez González and Juan M. Vicent García

Geoprocessing Appstore

Christin Henzen, Johannes Brauner, Matthias Müller, Daniel Henzen and Lars Bernard

Performance investigation of selected SQL and NoSQL databases

Stephan Schmid, Eszter Galicz and Wolfgang Reinhardt

Feasibility of OGC's GeoSynchronization Service for delivering the incremental updates from a national topographic database

FEero Hietanen, Lassi Lehto and Pekka Latvala

SESSION 6

SPATIAL SEMANTICS, SEMANTIC WEB AND GIS

CHAIR: MARINOS KAVOURAS

Enabling Semantic Search and Knowledge Discovery for ArcGIS Online: A Linked-Data-driven Approach

Yingjie Hu, Krzysztof Janowicz, Sathya Prasad and Song Gao

From Snapshots to Processes Description – Spatiotemporal Modelling using RDF Datasets and Formal Ontologies

Jaromar Łukowicz and Adam Iwaniak

smart Emergency Response System (smartERS) – the Oil Spill Use Case

Gianluca Luraschi and Michele Vespe

16:00 – 16:30 **COFFEE BREAK**

16:30 – 18:00 **PARALLEL SESSIONS**

SESSION 7

SPATIAL AND SPATIOTEMPORAL DATA ANALYSIS II

CHAIR: WOLFGANG REINHARDT

Statistical Learning Approach for Wind Speed Distribution Mapping: UK as a Case Study

Fabio Veronesi, Stefano Grassi, Martin Raubal and Lorenz Hurni

Using Geolocated Tweets for Characterization of Portuguese Administrative Regions

Gaspar Brogueira, Fernando Batista and João Carvalho

Towards a Qualitative Assessment of Changes in Geographic Vector Datasets

Karl Rehr, Richard Brunauer and Simon Gröchenig

Analysing the Detection and Correction Parameters in the Homogenisation of Climate Data Series using gsimcli

Sara Ribeiro, Júlio Caineta, Ana Cristina Costa and Roberto Henriques

SESSION 8

SPATIAL DATA QUALITY AND SECURITY

CHAIR: MAREK BARANOWSKI

Privacy Preserving Centralized Counting of Moving Objects

Thomas Liebig

Spatial Data Quality: What do you mean?

Wies Vullings, J.D. Bulens, F.I. Rip, M. Boss, G. Hazeu, M. Meijer and M.H. Storm

Service-based Combination of Quality Assurance and Fusion Processes for the Validation of Crowdsourced Observations

Stefan Wiemann, Sam Meek, Colin Chapman, Didier Leibovici, Mike Jackson and Lars Bernard

SESSION 9

GEOSPATIAL APPLICATIONS

CHAIR: ARMANDA RODRIGUES

GIS Workflow for Continuous Soil Moisture Estimation based on Medium Resolution Satellite Data
Boudewijn van Leeuwen

Computing Solar Radiation on CityGML Building Data

Manfred Wieland, Alexandru Nichersu, Syed Monjur Murshed and Jochen Wendel

Are Real and Satisfaction-adjusted Distances to Health Services Related to Quality of Life? A Case Study in Lower-income Urban Neighborhoods in Quito, Ecuador

Pablo Cabrera Barona and Thomas Blaschke

Contextual Line Generalization – Extending ArcGIS Generalization

Titus Tienaah, Emmanuel Stefanakis and David Coleman

19:00 – 20:30 **CULTURAL WALK**

THURSDAY, JUNE 11

09:30 – 10:30 **KEYNOTE SESSION: ISABEL CRUZ**

10:30 – 11:00 **COFFEE BREAK**

11:00 – 12:30 **PARALLEL SESSIONS**

SESSION 10

VOLUNTEERED GEOGRAPHIC INFORMATION II

CHAIR: TIINA SARJAKOSKI

Assessing Positional Accuracy of Drainage Networks Extracted from ASTER, SRTM and OpenStreetMap

Elisabete Monteiro, Cidália Fonte and João Manuel de Lima

Toward a Collective Tagging Android Application for Gathering Accessibility-related Geospatial Data in European cities

Mohamed Bakillah, Amin Mobasher, Adam Rousell, Stefan Hahmann, Jamal Jokar Arsanjani, Steve H.L. Liang

Motivating Citizens to Take Action for Biodiversity Conservation using Geospatial Systems

Jens Ingensand, Sarah Composto, Marion Nappes, Stéphane Joost, Ivo Widmer, Olivier Ertz and Daniel Rappo

Using Ambient Geographic Information (AGI) in Order to Understand Emotion & Stress within Smart Cities

Tiago Oliveira and Marco Painho

SESSION 11

MOBILITY OF PERSONS, OBJECTS AND SYSTEMS

CHAIR: JORGE ROCHA

Testing a Route Probability Model with Floating Car Data

David Jonietz, Carolin von Groote-Bidlingmaier and Sabine Timpf

A Space in a Space: Connecting Indoor and Outdoor Geography

Stefan Schabus, Johannes Scholz and Thomas J. Lampoltshammer

Towards Regulation-aware Navigation: a Behavior-based Mapping Approach

Stefania Zourlidou and Monika Sester

Providing Directions in Indoor Spaces: Two Approaches for Public Displays Compared

Markus Konkol, Christian Kray and Thore Fechner

SESSION 12

REAL-TIME GIS AND GEOSENSORS NETWORKS

CHAIR: FILIPE MENESES

Labeling Streets Along a Route in Interactive 3D Maps Using Billboards

Nadine Schwartges, Benjamin Morgan, Jan-Henrik Haurert and Alexander Wolff

Hybrid Geo-Information Processing: Crowdsourced Supervision of Geographic Machine Learning Tasks

Frank Ostermann

A GEO Label for the Sensor Web

Daniel Nüst and Victoria Lush

12:30 - 14:00 **LUNCH**

14:00 – 15:30 **AGILE ANNUAL MEETING**

15:30 – 16:30 **POSTER SESSION**

COFFEE BREAK

16:30 – 18:00 **PARALLEL SESSIONS**

SESSION 13

MODELLING AND SPATIAL ANALYSIS OF URBAN DYNAMICS

CHAIR: TOSHIHIRO OSARAGI

Usage Differences Between Bikes and e-Bikes

Dominik Allemann and Martin Raubal

Understanding Taxi Driving Behaviors from Movement Data

Linfang Ding, Hongchao Fan and Liqiu Meng

Subjective Evaluations of Urban Parks and Objective Spatial Indices

Gyula Kothencz, Bernhard Brunner and Thomas Blaschke

Extracting Place Emotions from Travel Blogs

Andrea Ballatore and Benjamin Adams

SESSION 14

SPATIAL AND SPATIOTEMPORAL DATA ANALYSIS III

CHAIR: JOÃO MOURA PIRES

Performance Analysis of Some Machine Learning Algorithms for Regression Under Varying Spatial Autocorrelation

Sebastian Santibanez, Tobia Lakes and Marius Kloft

Central Places in Wikipedia

Carsten Keßler

Temporal Occurrence and Dependency of Georeferenced Emotions Extracted from User-generated Content

Eva Hauthal and Dirk Burghardt

Measuring Boundaries in the Dialect Continuum

Péter Jeszenszky and Robert Weibel

SESSION 15

PERCEPTION AND REPRESENTATION OF GEOGRAPHIC PHENOMENA AND SPATIAL COGNITION

CHAIR: HARDY PUNDT

Empirical Construction of a Landmark Ontology for Wayfinding in Varying Conditions of Nature

Pyry Kettunen and Tiina Sarjakoski

Navigating on Web Maps: Route Characteristics and Performance

Stefan Fuest, Rui Li and Angela Schwering

Eliciting Residents' Preferences for Urban Function Change Using Online Geo-questionnaires

Michał Czepkiewicz, Marek Młodkowski, Zbigniew Zwoliński and Piotr Jankowski

19:30 – 23:00 **GALA DINNER**

FRIDAY, JUNE 12

09:30 – 10:30 **KEYNOTE SESSION: PHIL ARCHER**

10:30 – 11:00 **COFFEE BREAK**

11:00 – 13:00 **SESSION 16**

BEST PAPER SESSION

CHAIR: LARS BERNARD

Best Full Paper & Short Paper

Designing a Language for Spatial Computing

Werner Kuhn and Andrea Ballatore

Exploring the potential of combining taxi GPS and Flickr data for discovering functional regions

Jean Damascene Mazimpaka and Sabine Timpf

Voluminator - Approximating the Volume of 3D Buildings to Overcome Topological Errors

Horst Steuer, Thomas Machl, Lukas Liebel and Thomas H. Kolbe

Implementing Naive Geography via Qualitative Spatial Relation Queries

Paolo Fogliaroni and Heidi Hobel

An Agent-Based Simulation Framework for Location-Based Games

Thomas Heinz and Christoph Schlieder

13:00 – 13:20 **CLOSING, AWARDS, PRESENTATION OF THE NEXT CONFERENCE**

13:30 - 15:00 **LUNCH**