

GeoInformatica

~Call for Papers~

Special Issue on Spatial Computing for Urbanization Research

About this Issue

In 2016, 54.5 percent of the world's population lived in cities. However, the U.N. predicts (The World's Cities 2016) that this number grows to 60% in 2030 and a third of the human population on earth will live in large cities with more than a half a million inhabitants. A better understanding of the inner workings of these cities and concepts to use information technology in order to increase the efficiency of these cities is crucial for developing strategies towards sustainability. Given this increasing importance of urban areas, the increase in spatial data acquisition possibilities including sensor networks, satellite imagery, crowd-sourcing, and social networks opens a novel perspective for a data-driven science of urbanization. The main question of urban computing is how digital information and computational approaches can help to remedy problems arising for urban planning, social cohesion, urban design, urban life, urban mobility, urban emission reduction, and urban economy due to the increasing speed of urbanization. This special section shall collect research devoted to the development of new methods in the field of spatial computing with impact on urbanization research and smart cities.

Topics of Interest

This special section addresses the development and application of geospatial computing technology for new findings in urban geography. This includes techniques with a limited spatial extent covering single cities as well as more global perspectives on urbanization. The list of topics includes, but is not limited to

- Big Data Infrastructures for Urban Analytics
- Mining and Visual Analytics of Urban Data
- Transferrable Models for Large Scale Urban Analysis
- Parallel Scalable Algorithms for Urban Analytics (Hadoop, Spark, OpenMP, MPI, etc.)
- Urban Sensor Network Data Acquisition, Processing, and Analytics
- Multimodal data fusion in Urban Regions
- Location-based Services and Interactive Applications for Urban Regions
- Understanding Urban Transportation Systems
- Semantic Technologies and Smart Cities
- Ontologies for Unified Urban Studies
- Trajectory and Movement Analysis
- Crowd-Sourcing
- Social Network Analysis
- Classification of Urban Regions (e.g., Local Climate Zones, Building Functions)
- Semantic Segmentation of Remote Sensing Imagery for Urban Mapping
- Acquisition, Management, and Classification of 3D/4D data (e.g., point clouds, city models, change detection, etc.)
- Urban Applications from Data (Urban Planning and Design, Urban Life, Mobility and Public Transport, Environmental Aspects)

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Submissions and Reviews Procedures

Special Issues are handled in the normal way via the online Editorial Manager system found at <https://gein.edmgr.com>. Please choose the article type "**SI: Spatial Computing for Urbanization Research.**" Special Issue articles should fulfill all the standard requirements of any *GeoInformatica* (GEIN) article. Authors should note that the same criteria apply to articles in Special Issues as to regular articles. *Special Issue articles must not consist of overviews of the authors' previously published work, e.g. peer-reviewed articles, book chapters, official reports, etc.*

All papers will undergo the same rigorous GEIN review process. Please refer to the GEIN website for detailed instructions on paper submission: <http://www.springer.com/10707>

Important Dates

- **Deadline for submissions:** December 15th, 2018
- **Decision / First round of reviews:** March 15th, 2019
- **Minor Revisions Due:** April 15th, 2019
- **Camera Ready:** May 15th, 2019