VSB – Technical University of Ostrava
Faculty of Mining and Geology
Institute of Geoinformatics

Geoinformatics for City Transformations

New Hall of VSB – TUO, 17. listopadu 15, Ostrava-Poruba, Czech Republic, EU

January 21 - 23, 2013

GeoInformatika
spravodajský portál slovenskej a českej geokomunity
www.geoinformatika.sk

gis portal .cz

GeoCommunity
together we create a geoinformation network
www.geocommunity.eu

First circular and call for papers

under auspices of

Association of Geographic Information Laboratories for Europe
International Society for Photogrammetry and Remote Sensing
European Spatial Data Research Organisation
Czech Association for Geoinformation
Slovak Association for Geoinformatics
Ing. Jaroslav Palas, President of the Moravian-Silesian Region
Ing. Petr Kajnar, Mayor of the City of Ostrava
Prof. Ivo Vondrák, Rector of VSB – TU Ostrava
Prof. Vladimír Slivka, dr.h.c., Dean of FMG VSB – TU Ostrava

Rationale

Current cities face many challanges. Cities are significantly influenced by various global, national and regional forces including changes of the society from industrial to post-industrial, massive migration waves, environmental pressures, changes of political system, high unemployment, economical and technological changes, changes of threats, expanding internal horizontal and vertical divergences, crime, radicalisms and other social problems which are often intensifying. Some of these challenges were exposed as Europe's structural weaknesses based on the strategy Europe 2020. Cities must act to adapt to these movements and to maintain their position. Various transformations of cities require efficient methods and tools. Geoinformatics play a substantial role in monitoring, querying, annotating, modelling, simulations, visualizations and decision making. Progress of geoinformatics allows us to study problems and issues of cities which were impossible to deal with only a few years or decades ago. It helps to regulate developing strategies of cities towards smart, sustainable and inclusive growth. To fulfil this strategy, the perception of reality must change from macro or mezzo to micro spatial level, from broad zonal schema of cities to more detail street-level situation. This spatial shift is connected mainly with exploitation of new data sources providing high resolution data describing socioeconomic objects or processes (which needs to be properly georeferenced by buildings, address points or directly by geographical coordinates and stored often in large spatial databases). Traditional nadir imagery are substituted by oblique imagery, coupled with radar and laser scanning. Other challenges are connected with urban data consistency and conflation issues, ontology and urban data models or spatial aggregation and ecological fallacy. A new visualisation utilizes 3D urban artefacts generated automatically from imagery or point clouds, integrates capabilities of 3D portraying and creates a complex virtual reality of the city environment. The variety of data sources (including almost real-time data streams) enable monitoring and modelling of city dynamics with a full range of focuses including large scale transport movements, everyday tracking of community groups or monitor individual anonymous activities. The increased focus to the street-level mapping motivates changes in perception of a physical space of cities leading to higher preferences of road and pedestrian distances than the Euclidean ones. The geoinformatics support an inclusivity of growth by new possibilities how to measure, classify and interpret mutual influences of social and physical environments in the city. It also offers more complex and detail quantitative evaluation of the urban development. The use of micro-data and proper methods allows to find and monitor areas in cities which can be problematic from various aspects (unemployment, poverty, crime, education etc.) and subsequently target precautions to increase their competitiveness and inclusivity. Last but not least all of these technological and methodical movements have to be applied in conjunction with the full respect to privacy and other ethical or legal issues.

The aim of the conference is to present and discuss new methods, issues and challenges of the geoinformatics encountered in various parts of the cities transformations and how can urban geographers and city planners exploit all achievements in geoinformatics to face the current and future needs of cities.

Topics

Conference topics are organised into seven dimensions (6D+S). Each of them contributes to create a complex image of the city. Following key words help to explain orientation of particular topics.

Data for the city - remote sensing for urban applications, high resolution satellite imagery, camera systems, laser scanning, sensors networks, GNSS and GPS, RFID systems, statistical data, surveys

Database for the city - ontology, urban data models, spatial databases, data standardization, urban data, consistency, conflation issues, 3D cadastre

Spatial processing for the city - geocoding, geoparsing, spatial aggregations, clustering, modelling, spatial interpolations, spatial simulations, cellular automata

Divergence in the city - geodemography, communities inside the city, housing, privilege residence, divergence of public spaces, residential segregation, ghettoisation, crime and fear, migration, poverty, social exclusion, internal migration, gentrification, extremism

Distances in the city - accessibility, spatial aspects of urban transportation systems, routing, pedestrian distances, influence of barriers and corridors, physical exclusion, spatiotemporal movement

Development of the city - city planning, suburbanisation, reurbanisation, regeneration, brownfields, industrial heritage, deindustrialisation, movement of industrial into post-industrial society, shrinking cities, aspects of relationships between human and physical environments

Design of the city - urban 3D modelling and applications, automatic reconstruction, visualisation, virtual reality

Call for papers

Researchers are encouraged to present results of their work in the specified topics. For the paper submission complete the Registration Form at http://gis.vsb.cz/gisostrava/. All reviewed and accepted papers will be available in electronic proceedings.
The printed proceedings will be issued 2-3 months after the symposium. The proceedings will be sent for registration in **Web of Science – Conference Proceedings Citation Index**, Thomson Reuters.
It is under negotiation to publish selected papers in **reputable journals** (i.e. Annals of GIS, GeoInformatica An International Journal (GIIJ), Transactions in GIS) indexed in Scopus or Web of Science.

Registration fees

Early registration (before 16. 12. 2012)	**140 EUR**
Late registration (after 16. 12. 2012)	**160 EUR**
Authors (before 16. 12. 2012)*	**100 EUR**
Full-time students	**50 EUR**
Workshop	**50 EUR**
Printed proceedings (including shipping)	**25 EUR**
Excursion	**10 EUR**
Participation at sessions of conference "Geoinformatika pro společnost" **	**0 EUR**

Discount for members of
AGILE, CAGI, SAGI, ISPRS, EuroSDR
-10 EUR/person

The registration fee covers conference attendance, electronic proceedings, coffee breaks, lunch and banquet.

** The author rate applies to only one author per accepted paper*
*** Valid with registration to the conference Geoinformatics for City Transformations*

Important days

October 12, 2012	full paper submission due
December 1, 2012	notification of paper acceptance
December 16, 2012	camera ready full paper due
December 16, 2012	early registration (discounted fees)
January 21-23, 2013	GIS Ostrava 2013 conference

Keynote speakers

- **Prof. Paul Longley** (University College London, GB) - Twelve years of Geographic Information Systems and Science
- **Prof. Dieter Fritsch** (Universität Stuttgart, DE) - 3D City Transformations
- **Dr. Kiril Stanilov** (Cambridge University, GB) - will be specified

Preliminary programme

January 21, 2013 - morning - workshops, excursions
January 21, 2013 - afternoon - opening ceremony, sessions
January 21, 2013 - evening - welcome drinks
January 22, 2013 - all day sessions
January 22, 2013 - evening - conference dinner
January 23, 2013 - morning - sessions, workshops, excursions

Language

English

Workshops

- **The international spatial distribution of surnames** (Prof. Paul Longley, University College London)
- **Analyses of crime using CrimeStat** (Dr. Igor Ivan, Technical University of Ostrava)
- and more (submission of workshops proposals are welcome - contact us at gisostrava@vsb.cz

Excursions

- Sightseeing tour Ostrava (i.e. industrial heritage and architecture, new city centre)
- Integrated Emergency Centre
- National Transport Information and Control Centre

Programme committee

Igor Ivan (VSB-Technical University of Ostrava, CZ) - chairman
Jonathan Bannister (University of Glasgow, GB)
Spencer Chainey (University College London, GB)
James Cheshire (University College London, GB)
Martin Dijst (Utrecht University, NL)
Stewart Fotheringham (School of Geography and Geosciences, GB)
Dieter Fritsch (Universität Stuttgart, DE)
Jaroslav Hofierka (University of Presov in Presov, SK)
Jiří Horák (VSB-Technical University of Ostrava, CZ)
Jaromír Kolejka (Masaryk University, CZ)
Gotffried Konecny (University of Hannover, DE)
Dagmar Kusendová (Comenius Univesity in Bratislava, SK)
Paul Longley (University College London, GB)
David O'Sullivan (University of Auckland, NZ)
Petr Rumpel (University of Ostrava, CZ)
Andrii A. Sholomytskyi (Donetsk National Technical University, UKR)
Alex Singleton (Liverpool University, GB)
Kiril Stanilov (Cambridge University, GB)
Luděk Sýkora (Charles University in Prague, CZ)
Grant Thrall (President, American Real Estate Society; University of Florida, USA)
Vít Voženílek (Palacky University in Olomouc, CZ)
David W. Wong (George Mason University, USA)
Sisi Zlatanova (TU Delft, NL)

Address

GIS Ostrava 2013
Institute of Geoinformatics
VSB – Technical University of Ostrava
17. listopadu 15
708 33 Ostrava-Poruba
Czech Republic
http://gis.vsb.cz/gisostrava
gisostrava@vsb.cz

Secretariat

Tomáš Inspektor
Email: gisostrava@vsb.cz
Tel.: +420 597 32 35 43
+420 597 32 35 50
Fax: +420 596 91 85 89

http://gis.vsb.cz/gisostrava/

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Latitude: 49.830775° N Longitude: 18.162951° E