



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



Geoinformatics for Intelligent Transportation

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

January 27 - 29, 2014

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
European Spatial Data Research Organisation
Intelligent Transport Systems & Services
Czech Association for Geoinformation
Slovak Association for Geoinformatics
Miroslav Novák, President of the Moravian-Silesian Region
Petr Kajnar, Mayor of the City of Ostrava
Ivo Vondrák, Rector of VSB – Technical University of Ostrava

Rationale

Shorter or longer movements inevitably accompany everyday people's activities including commuting to work and school, shopping, leisure time, etc. Transportation developments have a significant impact on the evolution of human society. The demand for the fastest, cheapest, safest and ecologically friendly means of transport attracts professionals from various disciplines with one mutual goal, to increase the efficiency and effectiveness of transportation, and increase its intelligence.

The impact of geoinformatics in the attainment of this goal is clearly evident. Advanced models of transport systems, integrated, accurate spatial representation of reality and the spatial relationships of agents are all supported by geospatial expertise. Computational performance, clouds, parallel processing and new algorithms provide the possibility to change our focus from units to individuals, analysing not just settlement-to-settlement but rather stop-to-stop and even door-to-door conditions, which enable a better understanding of the mobility attitudes and patterns. They improve our control and management of transportations in space. Also individuals still increasingly, and usually unknowingly, utilize geoinformation technologies to better plan their movements. Intelligent navigation systems have become common in all new cars and cell phones. The track logs from these sources provide an interesting volunteer data source for further studies of spatial behaviour, parameters such as average speed, transport densities, etc.

New web applications provide extended possibility to search for the best route based on initial conditions, e.g. trying to avoid main roads to increase the safety of cyclists or pedestrians. Land use planning requires an improved design of transport routes and facilities to minimise negative impacts on the environment and society. The increasing number of cars on roads stimulates the development of intelligent transport systems dealing with real-time traffic data for efficient organisation of transport. The intelligent transport systems allows creation of realistic models for further detail simulation with large transport data sets often stored in spatial databases. Denser traffic increases the probability of congestion or accidents, and spatial analysis and simulations help to discover the most problematic locations, and to minimise risks.

Geoinformatics also provides methods and tools to make public transport more attractive and more competitive thanks to the planning of fast, inexpensive, seamless, and safe public transport links even where there is the necessity to reduce financial support and to rationalise a system. Cartographers also meet new challenges to deal with enlarged volumes of traffic data towards more effective real-time or static visualisations.

The aim of the conference is to present and discuss new methods, issues and challenges of the geoinformatics contributing to make transportation more intelligent, efficient and human friendly. It is a chance for GI experts, geographers, transportations planners, developers, public sector as well as industry transportation specialists, and other professionals who are interested in using geoinformation technologies for transportation purposes to get together and share experiences, innovations and inspirations. The Symposium annually attracts over 200 participants from dozens of countries.

Topics

Intelligent transport systems - real-time traffic data, floating car data, floating cellular data, intelligent transport applications, city logistics, traffic simulations

Sensor data and services - sensor data and services for transportation, data flows, collection and storing, processing issues

GNSS, GPS and navigation systems - GNSS, signal availability, improvements for spatial location and orientation, GPS tracking logs

Transport modelling - optimization, gravity modelling, artificial intelligence and bio-inspired methods for modelling and simulation, sustainability of transport systems, agent-based modelling, dynamic transport modelling, optimization of transport network, GIS integration

Accessibility and serviceability - accessibility measurement and evaluation, territorial coverage and serviceability, factors influencing transport serviceability, door-to-door accessibility, spatial barriers, good and services deserts, social aspects of accessibility

Transport safety and security - resilience of transport system, searching critical sites, road accident data, transport density, congestions, crime in transport, cycling and pedestrian issues

Transport planning and spatial organization - service planning, allocation, routing of commuting, routing of refuse disposal and capacity planning, reducing the travel demand, sustainability of transport systems, multimodal transport, seamless transport, park and ride, parking, spatial distribution of demand

Land use planning and transport integration - optimisation of new road routes, land occupation, spatial aspects of construction works

Spatial movement - storing and portraying spatial movement (related to transport), storage of movement data into databases, new forms of visualization, individual/group travel behaviour

Transport services - public transport, logistic transport systems, ridesharing, carsharing, spatial aspects fo bicycle renting

Spatial standards, legislation, interoperability for transport data and services - INSPIRE, OGC standards, web services, legislative requirements, organisational issues

Future transport systems - spatial aspects of new propulsion methods, vision of new transport systems and their requirements

Call for papers

Researchers are encouraged to present results of their work in the specified topics. For the paper submission, please, complete the **Registration Form** at <http://gis.vsb.cz/gisostrava/>.

All submissions will be **double blind peer reviewed** by two members of the scientific committee or by external experts. All reviewed and accepted papers will be available in electronic proceedings. The printed proceedings will be issued 2-3 months after the symposium and will be sent for registration in **Web of Science - Conference Proceedings Citation Index** (Thomson Reuters) and **SCOPUS**.

Registration fees

Early registration (before 20. 12. 2013)	140 EUR
Late registration (after 20. 12. 2013)	160 EUR
Author (one/paper, before 20. 12. 2013)	100 EUR
Full-time students	FREE
Excursion	10 EUR
Participation at sessions of conference "Geoinformatika v pohybu" **	FREE

Discount for members of
AGILE, CAGI, SAGI, ITS&S, EuroSDR
-10 EUR/person.

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

*** Valid only with registration to the conference
Geoinformatics for Intelligent Transportation*

Important days

October 11, 2013	full paper submission due
December 1, 2013	notification of paper acceptance
December 20, 2013	camera ready full paper due
December 20, 2013	early registration (discounted fees)
January 27-29, 2014	GIS Ostrava 2014 conference

Keyspeakers

- **Prof. Bin Jiang** (University of Gävle, SW)
- **Prof. Tao Cheng** (University College London, GB)
- **doc. Ing. Pavel Hrubes, Ph.D.** (Czech Technical University in Prague, ITS&S, CZ)
- and others

Language

English

Workshops

- **Prof. Bin Jiang** (University of Gävle, SW) - Axwoman: automatical generating of axial lines
- **Prof. Tao Cheng** (University College London, GB)
- 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)
- Ostrava-Mošnov Airport (Training Centre, Boeing Repair Centre)
- National Transport Information and Control Centre

Scientific committee

Igor Ivan - VŠB-Technical University of Ostrava, CZ (chairman)
Tao Cheng - University College London, GB
Hrvoje Gold - University of Zagreb, HR
Jiří Horák - VŠB-Technical University of Ostrava, CZ
Marcel Horňák - Comenius University in Bratislava, SK
Pavel Hrubeš - Czech Technical University of Prague, Intelligent Transport Systems & Services, CZ
Ľudmila Jánošíková - University of Žilina, SK
Bin Jiang - University of Gävle, SW
Dagmar Kusendová - Comenius University in Bratislava, SK
Miroslav Marada - Charles University in Prague, CZ
Harvey J. Miller - University of Utah (Ohio State University since the the July), USA
Peter Nijkamp - VU University Amsterdam, NL
Soora Rasouli - Technische Universiteit Eindhoven, NL
Martin Raubal - ETH Zurich, CH
Marcin Stepieniak - Polish Academy of Sciences, PL
Zbigniew Taylor - Polish Academy of Sciences, PL
Harry J.P. Timmermans - Technische Universiteit Eindhoven, NL
Bert Van Wee - Delft University of Technology, NL
Stephan Winter - University of Melbourne, AUS
Frank Witlox - Ghent University, BG
and others

Address

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