



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



AGILE



Surface models for geosciences

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

January 26 - 28, 2015

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
International Society for Photogrammetry and Remote Sensing
Czech Association for Geoinformation
Slovak Association for Geoinformatics
Ivo Vondrák, Rector of VSB – Technical University of Ostrava

Rationale

Surface models are central parts of many spatial applications in geosciences. Quality of any analytical or visual result generated by such applications is tightly interlinked with the quality of digital surface models. Each phase of model's development requires adequate methods and contains issues which may substantially decrease the value of the model and value of subsequent analysis. The associated uncertainty has to be under the experts control and the evaluation of uncertainty should be adequately utilized in any manipulation, analysis and visualization of surface models.

Traditional methods of DEM construction are still more substituted by semi-automated and fully automated methods of construction and change detection, incorporating new ways of imagery utilization, data collected by UAV or even data from crowdsourcing. Data is integrated from various data sources with different concepts (i.e. embedding 3D geometrical entities like buildings), with different spatial resolution (i.e. personal micro-world captured by prospective new mobile devices) and other qualitative parameters.

The progress pushes forward the frontiers of GI science & Technology and opens questions like how to merge, maintain and utilize such data, how to deal with spatially variable quality, and how to efficiently store, manipulate, share and portray the Big Data.

Well-known analytical methods are extended to cover uncertainty issues, temporal aspects (i.e. analysis and processing of time series of DEMs), multi-scale analysis and 3D analysis (i.e. in urban space). Also many new approaches for surface presentation, especially in 3D static and dynamic visualization, rendering and 3D printing, attract increased interest in both public and science.

The main objective of the conference is to present and discuss new methods, issues and challenges encountered in all steps of gradual development, maintenance and utilization of digital surface models and their integration with various spatial data and models.

Furthermore, the conference provides a platform to discuss requirements, features and research approaches for virtual reality, 3D modeling, continuous field modeling and other geosciences applications.

Scientific committee

Katerina Ruzickova (VSB - Technical University of Ostrava, CZE) - chairperson

Temenujka Bandrova (The University of Architecture, Civil Engineering and Geodesy, GBR)

Fares Belhadj (University of Paris 8, FRA)

Lena Halounova (Czech Technical University in Prague, CZE)

Tomas Hlasny (National Forest Centre Zvolen, SVK)

Jaroslav Hofierka (Pavol Josef Safarik University in Kosice, SVK)

Jiri Horák (VSB - Technical University of Ostrava, CZE)

Mikhail Kanevski (University of Lausanne, CHE)

Martin Klimanek (Mendel Univerzity in Brno, CZE)

Gotffried Konecny (Leibniz University Hannover, DEU)

Xiaoye Liu (University of Southern Queensland, AUS)

Saumitra Mukherjee (Jawaharlal Nehru University, IND)

Norbert Pfeifer (Vienna Technical University, AUT)

Petter Pilesjo (Lund University GIS Centre, SWE)

Petr Rapant (VSB - Technical University of Ostrava, CZE)

Jan Ruzicka (VSB - Technical University of Ostrava, CZE)

Jan Unucka (VSB - Technical University of Ostrava, CZE)

Tomas Vanicek (Czech Technical University in Prague, CZE)

Vit Vozenilek (Palacky University in Olomouc, CZE)

John P. Wilson (University of Southern California, USA)

Tian-Xiang Yue (Chinese Academy of Sciences, CHN)

Qiming Zhou (Hong Kong Baptist University, CHN)

Topics

- * Optical remote sensing and photogrammetry for elevation data
- * LIDAR for elevation data
- * Radar interferometry for elevation data
- * GNSS/GPS for elevation data
- * UAV for elevation data
- * Crowdsourcing for elevation data
- * Surveying for elevation data
- * Elevation data pre-processing
- * Surface model construction
- * Semi-automated and fully-automated methods of surface model construction
- * Elevation data integration (including multi-conceptual, multi-scale)
- * Surface model storage
- * Maintenance and update of surface models
- * Temporal changes of surface models
- * Fractal and chaos for surfaces
- * Feature extraction
- * Big Data processing (including data generalization, parallel computing)
- * Geomorphology
- * Analysis of surface models (including multi-scale analysis)
- * 3D analysis (namely in urban space)
- * Surface models for hydrology, meteorology, climatology
- * Surface models for agriculture and forestry
- * Surface models for broadcasting
- * Surface models for visibility studies
- * Surface models for geology and mining
- * Surface models for environmental science
- * Surface models for human geography
- * Surface models for urban geography
- * Surface models for archeology
- * Surface models for military services
- * Uncertainty of surface models and their uses
- * Static and dynamic visualization of surface models
- * Surface model visual enhancement and rendering
- * Surface model for 3D visualization and VRML
- * 3D printing
- * Spatial infrastructures for surface models, distribution and sharing
- * Licensing, price, policy

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 three 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 after the symposium. The publication in the Lecture Notes in Geoinformation and Cartography Series (Springer) is arranged (<http://www.springer.com/series/7418>).

Registration fees

Early registration (before 20. 12. 2014)	170 EUR
Late registration (after 20. 12. 2014)	190 EUR
Author (one/paper, before 20. 12. 2014)	150 EUR
Full-time students	50 EUR
Excursion	10 EUR
Workshop	will be specified later
Participation at sessions of conference	
"Současné výzvy geoinformatiky" **	FREE

Discount for members of
AGILE, CAGI, SAGI, ISPRS, 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 Surface models for geosciences

Keyspeakers

- * Sisi Zlatanova (Delft University of Technology, NLD)
- * Qiming Zhou (Hong Kong Baptist University, CHN)
- * Mikhail Kanevski (University of Lausanne, CHE)

Important days

September 1, 2014	deadline for workshop proposal submission
September 8, 2014	acceptance notification for workshop proposals
October 20, 2014	deadline for full papers submission due
December 1, 2014	notification of paper acceptance
December 20, 2014	camera ready full paper due
December 20, 2014	early registration (discounted fees)
January 26-28, 2015	GIS Ostrava 2015 conference

Language

English

Workshops

- will be specified later

(submission of workshops proposals are welcome - contact us at gisostrava@vsb.cz)

Excursions

- Terrain morphology and influence of mining
- Sightseeing tour Ostrava (i.e. industrial heritage and architecture, new city centre)
- and more will be specified later

Address

GIS Ostrava 2015
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