

# 7<sup>th</sup> INTERNATIONAL SYMPOSIUM ON MOBILE MAPPING TECHNOLOGY

13 - 16 June 2011 - Sheraton Hotel Cracow

## Final Program

### 13 June 2011 - Monday - 7<sup>th</sup> ISMMT'11

7.30 – 9.00                **Registration for Tutorials**  
7.30 – 16.00              **Pre-registration for Symposium**

#### **Tutorials** (venue Wisła)

8.30 – 10.30              Two sessions  
10.30 – 11.00             Coffee break  
11.00 – 13.00             Two sessions  
13.00 – 14.00             Lunch  
14.00 – 16.00             Two sessions  
16.00 – 20.00            Presentation of Gispro Airborne Photogrammetry Platform at the  
Pobiednik Wielki Airport in Cracow (for all Symposium Participants)

### 14 June 2011 – Tuesday – 7<sup>th</sup> ISMMT'11

7.30-16.00                **Registration Desk Open for On-site Registration**  
9.30 – 10.30              **Opening Ceremony** (venue Wisła II+III)  
Guests' Addresses  
10.30 – 11.00             Coffee break  
11.00 – 12.00             Keynote Speaker I  
Naser El-Sheimy, University of Calgary (Canada)  
Next Generation MEMS Sensors for Mobile Mapping Systems  
  
Keynote Speaker II  
Norbert Pfeifer, Vienna University of Technology (Austria)  
Lidar: Geometry and Beyond  
12.00 – 13.00             **Opening of Firms' presentations** (venue Wisła II+III)  
Exhibition will be open up to Wednesday 15 June - 18.00 h

- Presentation of Main Sponsors (Esri) (0,5 h)  
Mobile Mapping with Esri: Collect, Manage, Produce, Share
- Invitations from the representatives of exhibitors stands (0,5 h)

13.00 - 14.00 Lunch

14.00 - 16.00 **Imaging techniques for mobile mapping systems**  
6 oral presentations (venue Wisła II+III)

1. B. Beers, J. Broere, A. Swart, P. Joosten – Generation and use of 3D depth panoramic images in large scale mobile mapping
2. S. Verlaar, R. Lindenbergh, B. Gorte, M. Menenti – Evaluation of photogrammetric support for Pavescan
3. Yung-Chiang Chen, Yi-Hsing Tseng, Cheng-Kai Wang, Chia-Yu Hsieh – Multi-image Matching of MMS Image Sequences
4. K. Frangos, V. Gikas, A. Karamanou, A. Mpimis, D. Paradissis – Trajectory Point Classification for Automatic Feature Extraction in Mobile Mapping Applications
5. D. Iwaszczuk, L. Hoegner, U. Stilla – Detection of windows in building textures from airborne and terrestrial infrared image sequences
6. W. Liu, J. Wang, J. J. Wang, W. Ding, A. Almagbile – Measurable Realistic Image-based 3D Mapping

16.00 – 16.30 Coffee break

16.30 – 18.00 **Applications of mobile mapping technology**  
5 oral presentations (venue Wisła II)

1. G. Zach, N. Studnicka, P. Amon, M. Pfennigbauer – Extraction of Facade Maps Using a RIEGL VMX-250 Mobile Scanning System Mounted on a Boat
2. K. Gajdamowicz – Mapping of transmission power lines and electromagnetic field based on VISIMIND mobile mapping system
3. A. Habib, A. P. Kersting, K. Bang, J. Rau – A Novel Single-Step Procedure for the Calibration of the Mounting Parameters of a Multi-Camera Terrestrial Mobile Mapping System
4. H. Boulaassal, T. Landes, P. Grussenmeyer - Segmentation and Reconstruction of facade elements on large sites using laser mobile mapping data
5. G. Graefe – High precision kinematic 3D Engineering Surveying Applications using multiple scanners and cameras

16.30 – 18.00 **Algorithms and methods I**  
5 oral presentations (venue Wisła III)

1. Y. Zhao, M. Horemuz, L. Sjöberg – Stochastic modeling and analysis on IMU sensor errors

2. M. Efatmaneshnik, A. Kealy, N. Alam, A. Dempster – A Cooperative Positioning Algorithm for DSRC Enabled Vehicular Networks
3. W. Ding, J. Wang, A. Almagbile – Integrating Optic Flow, INS and GPS Time Differenced Carrier Phase Measurements for UAV Surveying and Mapping
4. J. Ki Lee, D. A. Grejner-Brzezinska, Ch. K. Toth – Adaptive Zero Velocity Update Algorithm for Integrated Quadruple Geolocation System in GPS-denied Environments
5. S. Kolyaie, M. Yaghooti, G. Majidi – Analysis and Simulation of Wireless Signal Propagation Utilizing Geostatistical Interpolation Techniques

19.00 Ice-Breaker Reception Party

**15 June 2011 - Wednesday - 7<sup>th</sup> ISMMT'11**

7.30-16.00 **Registration Desk Open for On-site Registration**

8.30 – 10.00 **Indoor navigation and engineering applications**  
5 oral presentations (venue Wisła II+III)

1. S. Takeuchi, M. Shikada – Approach of the Indoor and Outdoor Seamless Positioning by using RFID and GNSS
2. N. Haala, D. Fritsch, M. Peter, A.M. Khosravani – Pedestrian navigation and modeling for indoor environments
3. Ch. Lukianto, H. Sternberg – Stepping-Smartphone-Based Portable Pedestrian Indoor Navigation
4. M. A. Chapman, N. Muth – The Development of a Geo-Referenced System for Machine Controlled Construction Equipment
5. T. Owerko, P.Kuras, R. Kocierz, R. Soja – Integration of surveying measurement techniques for bathymetric measurements in a river gorge

10.00 – 10.30 Coffee break

10.30 – 12.00 **Algorithms and methods II**  
5 oral presentations (venue Wisła II+III)

1. B. Schaffrin - Errors-in-variables for mobile mapping algorithms in the presence of outliers
2. B. Hejmanowska, S. Kay - A new approach to DTM error estimation basing on Laplacian probability distribution function
3. M. Zhu, G. Retscher, K. Zhang – Integrated Algorithms for RFID-based Multi-sensor Indoor/Outdoor Positioning Solutions
4. M. Attia, A. Moussa, X. Zhao, N. El-Sheimy – Assisting Personal Positioning in Indoor Environments Using Map Matching
5. A.F. Habib, E. Kwak, M. Al-Durgham – Model-Based Automatic 3D Building Model Generation by Integrating LiDAR and Aerial Images

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|---------------|---|
| 12.00 – 12.30 | <b>Introduction of Mobile Mapping Systems by Exhibitors</b><br>(venue Wisla II+III)       |
| 12.30 – 13.30 | Lunch   |
| 13.30 – 15.30 | <b>Exhibition of mobile mapping systems</b> (outside - square in front of Sheraton Hotel) |
| 15.30 – 15.45 | Coffee break  |
| 15.45 – 18.00 | <b>Poster Session</b> (venue Wisła II+III)  |
1. K. K. Mishra, M. Punia – Adaptive approach to mobile cartography
  2. M. Leslar, K. McNease, G. Perry – Using Mobile Lidar to Railway Line for Asset Inventories
  3. P. Popielski, Z. Wróbel – An Attempt to Optimize the Process of Automatic Point Matching for Homogeneous Surface Objects
  4. K. Pyka, N. Borowiec, T. Kundzierewicz, M. Poręba, M. Słota – Airborne laser scanning data for railway lines survey
  5. A. Doskocz, A. Łyszkowicz – The possibilities of acquisition of large-scale map data in a smart station technology
  6. W. Dominik – Improvement of LIDAR data vertical accuracy using automatic image matching
  7. A. Guarnieri, N. Milan, F. Pirotti, A. Vettore – Motion estimation by integrated low cost system (vision and mems) for positioning of a scooter “Vespa”
  8. J. Bittencourt de Andrade, R. Bittencourt Souto – Calibration of a digital Trimble aerial camera X-4
  9. E. Jurewicz, W. Ozimkowski, K. Czarnecka, A. Tarnowska, D. Grejner-Brzezinska, Ch. K. Toth – The use of Mobile Lidar System in monitoring landslides in the Polish Carpathians
  10. Lei Fang, Sha Wu, Wei Luo, Qingwu Hu, Zhiyong Chen – Augmented Reality of Panorama-LIDAR Mapping System
  11. Bin Li, Wenying Su, Jun Ma, Lei Fang – Automated highway traffic facilities detection and analysis based on land-based Mobile Mapping System
  12. K. Korzeniowska, M. Łącka – Generating DEM from LiDAR data – comparison of available softwares tools
  13. A. Almagbile, J. Wang, W. Ding, N. Knight – Sensitivity Analysis of Multiple Fault Test and Reliability Measures in Integrated GPS/INS Systems
  14. M. Badurska – Object-oriented classification of TerraSAR-X images for mapping in urban areas
  15. A. Bujakiewicz, P. Podlasiak, D. Zawieska – Georeferencing of Close Range Photogrammetric Data
  16. D. Zawieska – Analysis of Operators for Detection of Corners Set in Automatic Image Matching
  17. S. Królewicz, P. Dzieszko – Evaluation of quality of DEMs based on variety kinds of digital images

18. M. Strach, G. Lenda – Concept of measuring and calculation system, based on electronic clinometers to determine the geometry of railway track in the vertical plane
19. M. Kowalczyk – Evaluation of Sequential Images for Photogrammetrically Point Determination
20. Kevin M. Sahr – Potential Mobile Mapping Applications of Hexagonal Discrete Global Grid Systems
21. U. Marmol – Use of Gabor filters for texture classification of airborne images and LIDAR data
22. K. Bakula – Reduction of DTM obtained from LIDAR data for flood modeling
23. Kiweon Ahn, Byunguk Park, Hyoseong Lee – Color Stereo Matching of Aerial Images for DEM Generation
24. A. Warchoł, B. Hejmanowska – Example of the assessment of data integration accuracy on the base of airborne and terrestrial laser scanning
25. B. Ciepluch, P. Mooney, R. Jacob , J. Zheng, A. C. Winstanely – Assessing the quality of open spatial data for mobile Location-based Services research and applications
26. A. Barsi, A. Berenyi, I. Kertesz, T. Lovas – Modular MEMS-based Indoor Positioning
27. Hyen Cheol Park, Yun-Jae Choung, Myung-Hee Jo - Constructing 3D river topographical information system and its efficiency using LiDAR data

18.00                    **End of Firms' presentation**

20.00                    **Gala dinner**

**16 June 2011 – Thursday - 7<sup>th</sup> ISMMT'11**

8.30 – 10.30            **Testing and calibration of mobile mapping systems**  
6 oral presentations (venue Wisła II+III)

1. A. S. Ali , S. Siddharth, Z. Syed, N. El-Sheimy – Particle Swarm Optimization Algorithm Based Low Cost Magnetometer Calibration
2. A.Mpimis, V. Gikas – Monitoring and Evaluation of Rowing Performance Using Mobile Mapping Data
3. M. Barbarella, S. Gandolfi, A. Meffe, A. Burchi – A test field for Mobile Mapping System: design, set up and first test results
4. J. Kolecki, P. Kuras – Low-cost attitude and heading sensors in terrestrial photogrammetry – calibration and testing
5. M. Poręba, F Goulette – Assessing the Accuracy of Terrestrial Mobile Laser Surveys
6. P. Falkowski, Z. Parzyński, J. Uchański, Ł. Uchański – An attempt of the metadata standard creation for the technology of Mobile Laser Scanning in Poland

- 10.30 – 11.00 Coffee break
- 11.00 – 12.30 **Airborne and terrestrial laser scanning**  
5 oral presentations (venue Wisła II)
1. Pankaj Kumar, C. P. McElhinney, T. McCarthy – Utilizing the terrestrial laser scanning data attributes for road edge extraction by implementing the GVF snake model
  2. C. Cahalane, C. P. McElhinney, T. McCarthy – Calculating the effect of dual-axis scanner rotations and surface orientation on scan profiles
  3. C. McElhinney, P. Lewis, T. McCarthy – Mobile terrestrial Lidar datasets in a Spatial Database Framework
  4. M. Jarzabek-Rychard, A. Borkowski – Building outline reconstruction from ALS data set with a priori information
  5. Ch. K. Toth, P. Zaletnyik, S. Laky, D. Grejner-Brzezinska – The Potential of Full-Waveform LiDAR in Mobile Mapping Applications
- 11.00 – 12.30 **Modern navigation technologies in mobile mapping**  
4 oral presentations (venue Wisla III)
1. Meng-Lun Tsai, Kai-Wei Chiang, Yun-Wen Huang, Cheng-Fang Lo, Yi-Shiang Lin - The Development of a UAV based MMS platform and its applications
  2. L. K. Bonenberg, G. W. Roberts, C. M. Hancock – Using Locata to augment GNSS in a kinematic Urban environment
  3. Chien-Hsun Chu, Yun-Wen Huang, Kai-Wei Chiang, Jiann-Yeou Rau, Yi-Hsin Tseng – The Comparative DG Accuracy Analysis of a Land Based MMS Using LC and TC INS/GNSS Integration Schemes
  4. A.Kealy, G. Retscher, D. Grejner-Brzezinska, V. Gikas, G. Roberts – Evaluating the performance of MEMS based inertial navigation sensors for land mobile applications
- 12.30 – 13.00 **Closing Ceremony**
- 13.00 Coffee break