

# Report of the 6<sup>th</sup> International Symposium on Mobile Mapping Technology

July 21-24, 2009 - Presidente Prudente, São Paulo, Brazil  
<http://www4.fct.unesp.br/simposios/mmt09/ingles>

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The 6<sup>th</sup> International Symposium on Mobile Mapping Technology (MMT'09), with an overarching focus on *Mobile Mapping Serving the Information Society*, was held at São Paulo State University (Unesp) in Presidente Prudente, São Paulo, Brazil, July 21-24, 2009.

Unesp - acronym for *Universidade Estadual Paulista* - is a multi campus public university of the State of São Paulo. Unesp is effectively present in 23 cities with a total of 32 university units. Presidente Prudente is the campus hosting the Faculty of Science and Technology (FCT), which offers twelve undergraduate programs, six graduate programs and eight departments. The Department of Cartography offers the cartographic engineering program and the graduate program in cartographic sciences.



The meeting was jointly organized by Unesp and The Ohio State University (OSU) under the auspices of ISPRS - International Society for Photogrammetry and Remote Sensing, IAG - International Association of Geodesy, ION - Institute of Navigation and FIG - *Fédération Internationale des Géomètres*. For the first time in the 14-year history of the MMT Symposia series the mobile mapping community met at the South Hemisphere.

The meeting started on July 21 with the **Tutorial Day** with six lectures given by Professor **Dorota A. Grejner-Brzezinska** (OSU, Columbus, OH, USA; *Mobile Mapping Technology: Paradigm Shift and Future Trends*), Professor **Naser El-Sheimy** (University of Calgary, Calgary, Canada; *Land-based MMT: Concept and Example Applications*), Doctor **Charles Toth** (OSU, Columbus, OH, USA; *The State-of-the-*

*Art in Airborne Remote Sensing*), Professor **Ayman Habib** (University of Calgary, Calgary, Canada; *QA and QC of Imaging and LiDAR Systems*), Professor **João Fernando Silva** (Unesp, Presidente Prudente, Brazil; *Brazilian Projects and Experience on MMT: an Overview of the Main Companies and Application of Aerial and Terrestrial Platforms*) and Doctor **Ismael Colomina** (Institute of Geomatics, Barcelona, Cataluña, Spain; *UAV Application in Remote Sensing and Photogrammetry*). Seventy seven Brazilian and overseas students and professionals attended the lectures.



The MMT'09 **Opening Ceremony** took place on the following day, July 22, with welcome addresses presented by Prof. **Ian James Dowman** (Emeritus Professor in Photogrammetry and Remote Sensing, University College London, and First Vice-President of ISPRS), Prof. **Dorota A. Grejner-Brzezinska**, Chair of the MMT'09 Science Committee, also representing the IAG and ION, and Mrs. **Regina Pennatti**, representing the City Mayor of Presidente Prudente. Prof. **João Fernando Custódio da Silva** (Director of the FCT and Chair of the Local Organizing Committee) welcomed all the participants and, on behalf of all Brazilians hosts, expressed their gratitude for the opportunity to be the head-office of the mobile mapping community during the 6<sup>th</sup> International Symposium. The ceremony was preceded by a musical performance of the *Camerata Strings* Group, conducted by Regent **Luiz Antonio Perez**, whose young musicians enchanted the audience.

**The keynote speeches** were given by Prof. **Ian Dowman**, Prof. **Dorota A. Grejner-Brzezinska** and Prof. **José B. Andrade**. Prof. Dowman addressed the *New Geomatics Technology for Mobile Mapping in the Service of Society*. Prof. Grejner-Brzezinska, on behalf of Prof. Chris Rizos (University of New South Wales, Australia, Vice President of IAG), presented *Geodesy as an Earth Observation Science* and Prof. Andrade offered a solution to *Mapping Pavements*.

**The Scientific Program** was formulated by Prof. **Dorota A. Grejner-Brzezinska** and Prof. **Antonio Tommaselli** (Unesp, Brazil), and covered fourteen state-of-the art research and applications topics, namely: 3D Mobile Mapping and GIS Integration; Alternative Sensor and Data Integration Algorithms; Automated and Semi-Automated Image Segmentation and Object Recognition; Direct Georeferencing; Estimation and Optimization Algorithms; Extraction/Recognition; Image Sequence Processing; Large Datasets: Management, Query and Transmission; LIDAR and SAR Mapping Systems; Mobile Mapping Applications; Mobile Mapping Technology (System Components, Platforms, etc.); Personal and Pedestrian Navigation; Sensor Calibration (Orientation, Integration, Reliability); and Wireless Positioning Techniques.

These themes were addressed by 16 papers in the Poster Session and in 42 oral presentations. The most commonly cited keywords in the Symposium manuscripts were: Mobile Mapping, Lidar, GPS/INS, GIS, Integration, Navigation, Accuracy and Calibration. Dr Ismael Colomina opened the Special Technology Session (organized for the first time in the MMT Symposia series) with a talk on *Industry and Academy*

*Cooperation in Geomatics: Lessons Learned in Ten Years*, followed by five presenters from Optech (Canada), Visimind (Sweden), Multispectral (Brazil), Leador (China) and IXSEA (France).

Fifty three full papers were published in the Symposium Proceedings (DVD), and a special issue of the *Bulletin of Geodetic Sciences* including the selected peer-reviewed papers will be published in December 2009. The guest editors are Prof. **Edson A. Mitshita** (UFPr) and Prof. **Antonio M. G. Tommaselli** (Unesp).



The symposium was very well attended: 144 attendants from 19 countries (Brazil, 91; China, 13; Canada and France, 7 each; Greece, 4; Italy and USA, 3 each; Australia, Chile, Portugal, and Spain, 2 each; Austria, Germany, Nigeria, Senegal, Sweden, Switzerland, Turkey, and UK, 1 each). Fifty three participants came from overseas. Twenty three different organizations supported the meeting, each one with its specific role, financial, scientific, social, production, recreational, infrastructural, travel and tour, etc.

Many scientific organizations officers attended the conference. Most of them were members of the MMT'09 Science Committee. They contributed to reviewing the abstracts and participated in the selection of the manuscripts submitted for peer-review; their work was coordinated by Professors **Dorota A. Grejner-Brzezinska** (Vice-President of IAG Commission 4 - *Positioning & Applications* and Chair of IAG SC 4.1: *Multi-Sensor Systems*) and **Antonio M. G. Tommaselli** (Co-chair of ISPRS IC WG V/1: *Land-Based Mobile Mapping Systems*).

**Ayman Habib** (Canada), Chair of ISPRS WG I/3: *Multi-Platform Multi-Sensor Inter-Calibration*;

**Charles Toth** (USA), Co-Chair of ISPRS WG I/2: *LIDAR, SAR and optical sensors for Airborne and Spaceborne Platforms*;

**Cheng Wang**, Co-Chair, ISPRS WG I/3: *Multi-Platform Multi-Sensor Inter-Calibration*;

**Guenther Retscher** (Austria), Chair of IAG SC 4.2: *Applications of Geodesy in Engineering*, and Chair of IAG WG 4.1.2: *Indoor Navigation Systems*;

**Ian Dowman** (UK), First Vice President of ISPRS;

**Ismael Colomina** (Spain), Co-chair of ISPRS WG I/5: *Integrated Systems for Sensor Georeferencing and Navigation*;  
**João Fernando Silva** (Brazil), Secretary of ISPRS IC WG V/1: *Land-Based Mobile Mapping Systems*;  
**Jonathan Li** (Canada) Chair of ISPRS IC WG V/1: *Land-Based Mobile Mapping Systems*;  
**Mike Chapman** (Canada), Co-chair of ISPRS WG V/5: *Image Sensor Technology*;  
**Naser El-Sheimy** (Canada), President of ISPRS TC I: *Image Data Acquisition Sensors and Platforms*;  
**Qinquan Li** (China), Co-chair of ISPRS IC WG V/1: *Land-Based Mobile Mapping Systems*;  
**Taher Hassan**, M.Sc. (Secretary) ISPRS WG I/3: *Multi-Platform Multi-Sensor Inter-Calibration*.

The **Technical Exhibition Session** had eight booths, where IXSEA (France), Wesbrasil (Brazil), Leica Geosystems (Brazil), Engemap (Brazil), Multispectral (Brazil), Sight GPS (Brazil), Medral (Brazil) and Engefoto (Brazil) presented their newest technology and services.

Very professional, but also cozy and comfortable atmosphere was a trademark of this Symposium. The sessions were very well attended and coffee breaks and the poster session provided the right environment for more scientific discussions, information exchange and sharing the technology update. The Icebreaker Party on Wednesday, Gala Dinner on Thursday and the Farewell Party with a Brazilian barbecue and a soccer game on Friday offered the hosts and the meeting attendees a delightful opportunity for relaxing and catching up with friends.

**The next symposium (MMT'11) will be held in Cracow, Poland, June 13-16, 2011.**