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# Preface

The international workshop Laser Scanning 2013 is a scientific event jointly organized by two working groups of the International Society of Photogrammetry and Remote Sensing (ISPRS): WG III/2 “Point Cloud Processing” and WG V/3 “Terrestrial 3D Imaging and Sensors”. It follows a long and consolidated series of seven successful meetings which started in La Jolla (1999) and then in Annapolis (2001), Dresden (2003), Enschede (2005), Espoo (2007), Paris (2009), and Calgary (2011). The 2013 session take place in Antalya (Turkey) as a part of a broader ISPRS conference involving five technical commissions and three related events: the Joint-Commission Technical Meeting entitled “Serving Society with Geomatics (SSG 2013)”, and two workshops that are organized along with a two-tracks parallel sessions with Laser Scanning 2013, i.e., “Image Sequence Analysis for Object and Change Detection (ISA13)” and “Object Extraction for 3D City Models, Road Databases and Traffic Monitoring - Concepts, Algorithms, and Evaluation (CMRT13)”. In addition, the International Association for Pattern Recognition (IAPR) has endorsed Laser Scanning 2013 for the first time. This cooperation is important to foster networking with sister societies dealing with point cloud processing, but representing different scientific communities. Complementary background and knowledge are expected to promote the quality of future research and applications to real world.

After a history of about twenty years, laser scanning technology has reached today its maturity and has been applied to a broad range of fields. Several platforms are involved: ground-based, manned and unmanned (UAV) airborne, spaceborne, and terrestrial mobile mapping vehicles. These domains still require work for sensor modeling, calibration and integration. Moreover, new active 3D imaging sensors (ToF cameras, gaming devices) have become quite popular in recent years, requiring much effort for their effective exploitation in metric applications. The common trait of the different technologies is that they provide point clouds that need to be processed for extracting useful information. It is also important to mention that today dense point clouds are also derived by image-based methods, offering characteristics which are very similar to the output of laser scanning techniques.

The focus of the workshop is on new methodologies, approaches and solutions for point cloud registration, processing and model extraction, for sensor modeling, calibration and integration, as well as on change detection and deformation analysis. Meanwhile, various application-oriented issues are covered, including the ones in the field of building and environmental engineering, cultural heritage, geosciences, forestry, and natural sciences. The effort to enlarge the range of topics involved in the workshop is witnessed by the presence of several cooperating ISPRS working groups:

- WG I/2 - LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms
- WG I/3 - Multi-Platform Multi-Sensor Inter-Calibration
- Inter-Commission WG I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping
- WG V/2 Cultural Heritage
- WG VII/7 – Synergy in Radar and LiDAR

A total number of 75 papers by authors from 19 countries were submitted. All papers have been reviewed by at least two members of the Scientific Committee. The reviewing process was fully blind.

61 papers were accepted on the exclusive basis of scores assigned by reviewers. In eight thematic oral sessions (‘Point Cloud Processing,’ ‘Model Extraction,’ ‘Sensor Calibration and Modeling,’ ‘Registration,’ ‘Forestry,’ ‘Change Detection,’ ‘Forestry and Natural Sciences,’ ‘Mobile Laser Scanning’), 32 papers are presented while 29 papers are covered by the poster session.

The editors would like to thank all authors who submitted papers, people who are going to attend the workshop in Antalya, and the members of the Scientific Committee for their valuable support during the reviewing process. In addition, we would like to express our gratitude to the Local Organizing Committee of the Joint SSG 2013 conference led by Filiz Sunar, who takes care of the overall organization of the workshop. Last but not least, special acknowledgement goes to Katrin Krüger from Copernicus Meetings, who helped us with the management of the reviewing process, the preparation of the volume of proceedings and the final programme of the workshop Laser Scanning 2013.

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