

## **PREFACE**

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#### **Commission III**

For the ISPRS Congress 2016, Technical Commission III received 115 full paper submissions, of which 62 were accepted as peer-reviewed contributions for publication in the ISPRS Annals. Moreover, 182 abstracts were submitted; 140 papers (53 originally submitted as full papers to Annals) were accepted for publication in The ISPRS Archives.

True to the mission of Technical Commission III, the papers in this volume are dedicated mostly to methodological and computational aspects of photogrammetric modelling and analysis. The fundamentals – sensor models, orientation, adjustment and dense matching – are enjoying a sustained interest. Many papers have been submitted in these areas, ranging from low-level signal processing methods to improve image quality and correspondence, through new perspectives on bundle adjustment, all the way to improved sensor models, for example for moving cameras with rolling-shutter geometry. Another particularly popular topic this time was the processing of point cloud data. Contributions cover the whole spectrum from basic uncertainty modelling in terrestrial LiDAR to high-level object extraction, and they also span diverse application domains from large-scale topographic mapping to industrial inspection. A growing interest can be observed for the analysis of dynamic phenomena using image sequences, but also point clouds. Papers in this category again comprise the whole scale range from large-scale change detection with satellite images to close-range pedestrian tracking. Like at other recent TC III events we again see an increased focus on automatic object extraction and semantic interpretation of image and range data. Statistical data analysis and machine learning continue to be the dominant methodological approach to such high-level understanding, including new and exciting developments like methods based on formal grammars and the rise of deep learning, in particular convolutional neural networks. Overall, I believe this volume nicely summarises the state of the art and current trends in photogrammetric computer vision and image analysis.

On behalf of Technical Commission III, I would like to thank the local organisers in Prague, the members of the international program committee, and all working group officers and reviewers for the hard work that has gone into the review and publication process.