

PREFACE: TECHNICAL COMMISSION II

Alper Yilmaz¹, Jan Dirk Wegner^{2,3}, Rongjun Qin¹, Fabio Remondino⁴, Takashi Fuse⁵, and Isabella Toschi⁴

¹ Dept. of Civil, Environmental and Geodetic Engineering, The Ohio State University, Columbus, Ohio, USA

² EcoVision Lab, Photogrammetry and Remote Sensing, ETH Zurich, 8093 Zurich, Switzerland

³ Institute for Computational Science, University of Zurich, 8057 Zurich, Switzerland

⁴ 3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy

⁵ Dept. of Civil Engineering, University of Tokyo, Hongo 7-3-1, Bunkyo-ku, Tokyo, 113-8656, Japan

Abstract. ISPRS Technical Commission II focuses on geometric, radiometric and multitemporal aspects of image- and range-based 3D surveying and modeling. Specifically, Commission II focuses on research and developments on image orientation, point cloud generation and processing, 3D feature extraction, dynamic and static scene analysis, sensor fusion, data integration, and machine learning for geospatial data analysis. TC II considers the applications of these focus areas in the fields of mapping, infrastructure monitoring, heritage studies, space exploration, underwater photogrammetry and environmental engineering.

For 2022 ISPRS Congress, TCII has received a total of 265 paper submissions, of which 103 were full papers and 162 were abstracts. After a double blind review process, 60 of the submissions were accepted for publication in the ISPRS Annals (acceptance rate of 58% among full paper submissions) and 164 papers (including full and abstract papers) were accepted for publication in the ISPRS Archives (acceptance rate of 62% among all submitted papers).

The topics of interest falling under TCII have received the following number of submissions: image orientation 30 submissions; 3D acquisition, reconstruction, and processing 88; static and temporal pattern analysis 39; applications in cultural heritage, underwater imagery, and infrastructure monitoring 42. It can be observed from this distribution that the 3D data acquisition, processing, and recovery focus area has received twice as many submissions compared to the other areas of research. However, it should be noted that 3D data processing papers collectively use machine learning techniques, which can also fall under the pattern analysis focus area, suggesting a second area of research under TCII that has seen an increased interest. We believe this distribution presents the current research thrusts in the field and provides future research directions.

During the evaluation of the submissions, we observed that the achieved quality in the double blind review process would not have been possible if it were not the effort of Working Group officers and the reviewers, who made themselves available in a short period of time for such undertaking. We would like to extend our thanks to the team of reviewers, and specially to our top reviewers (ordered by last name): Costas Armenakis, Filiberto Chiabrando, Wolfgang Förstner, Clive Fraser, Max Hoedel, Thomas Kersten, Loic Landrieu, Thomas Luhmann, Hans-Gerd Maas, Eleonora Maset, Stuart Robson, Mark Shortis, Michael Yang. The cognizant Working Group officers selected these top reviewers in recognition of their outstanding service.

Last but not least, on behalf of the technical commission officers, we would like to thank the French society, international program committee members and Working Group officers and the reviewers for their hard work for making this technical volume possible.