



# ISPRS&EARSel&DGPF Joint Istanbul Workshop

## Topographic Mapping from Space

Dedicated to Dr. Karsten Jacobsen's 80<sup>th</sup> Birthday

Yıldız Technical University, Davutpaşa Congress Centre

29-31 January 2025

### About

Earth imaging from air and space has undergone major changes over the last years. Examples of new and significant developments comprise a growing use of digital aerial cameras, an increasing number of high-resolution and also hyperspectral satellite sensors, of LiDAR/laser scanning, SAR/InSAR and unmanned aerial vehicle (UAV) technologies. Geometric/radiometric calibration including laboratory (including long-term stability) and in-flight calibration issues are important for every sensor. Direct sensor orientation and correct handling of optical satellite images with/without ground control points (GCPs) are also essential. Based on the determined sensor orientation, the optimal method for generating, analyzing and improving Digital Elevation or Surface Models (DEM/DSMs) can be achieved. Extensive use of global DEMs (ALOS AW3D30, TanDEM-X EDEM, ICESat-2, ASTER GDEM, SRTM, Satellite-Derived-Bathymetry (SDB), Radarsat DEM etc.) is given. In addition, evaluation of large format airborne digital and linear array cameras, LiDAR sensors, cube satellites and UAVs for 3D mapping and ortho-image generation will be in the scope of this event. In addition, evaluation of large format airborne digital and linear arrays cameras, LiDAR sensors, cube satellites and UAVs for 3D mapping and ortho-image generation will be in the scope of this event. Next generation techniques such as virtual and augmented reality, robotic and autonomous mapping will also be included. Last, but not least, we also focus on the new data processing techniques for information extraction, including machine learning and deep learning. These developments form the background for the ISPRS, EARSel & DGPF Joint Istanbul Workshop – Topographic Mapping from Space dedicated to Dr. Karsten Jacobsen for his 80th Birthday. As known, Dr. Jacobsen is one of the leading scientists in the field of mapping and a very valuable person known for his human characteristics. He has contributed to the development of researchers from many countries of the world.

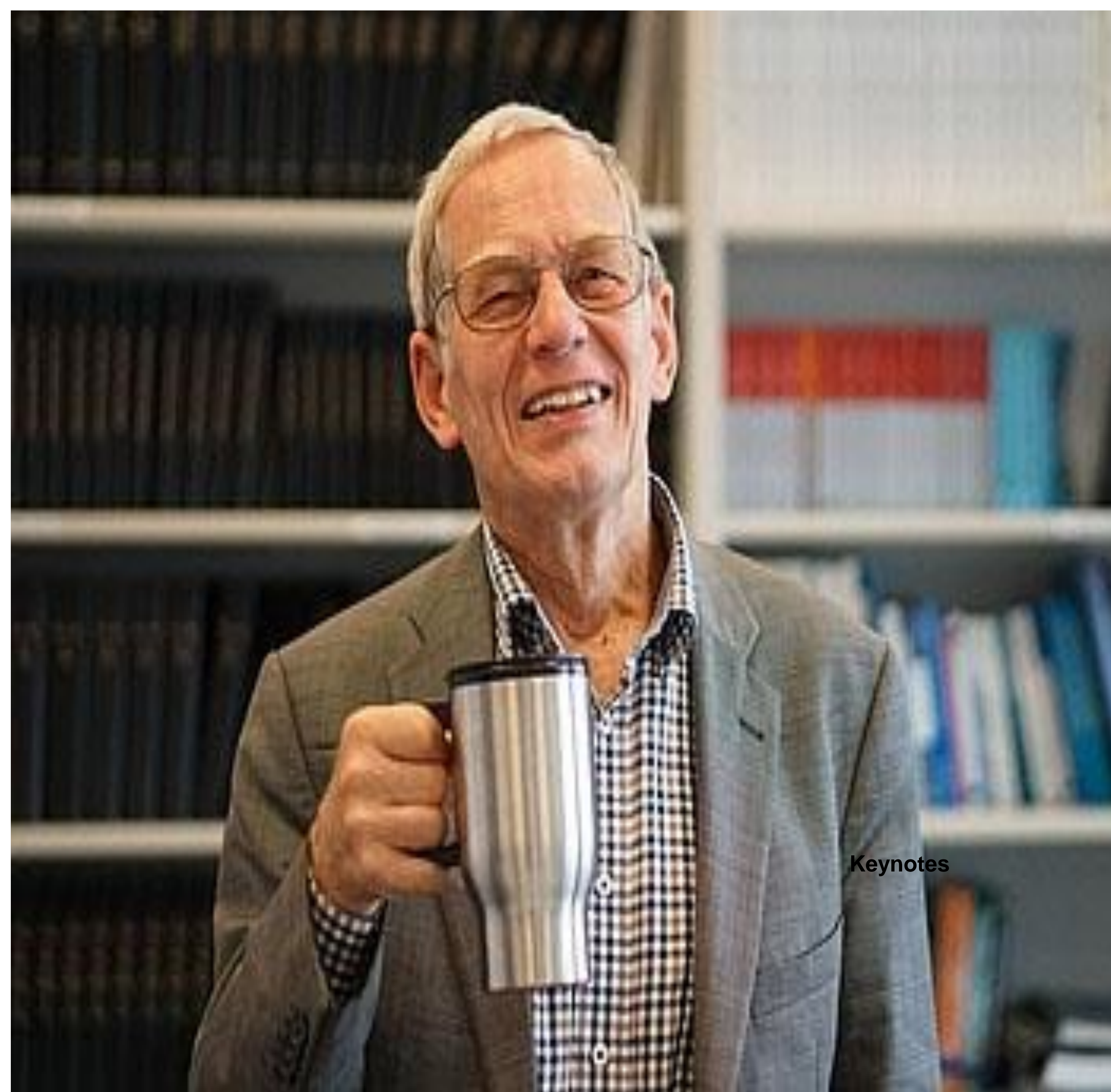
### Topics

2D and 3D mapping utilizing different space-borne missions and constellations  
Airborne and terrestrial LiDAR applications, LiDAR-Bathymetry and Simultaneous Localization and Mapping (SLAM)  
RGB, Multi-spectral, Hyperspectral, Thermal and LiDAR UAV applications  
Digital Photogrammetric cameras, sensors and stereo-modelling  
InSAR, DInSAR, MT-DInSAR and Radargrammetry applications  
Sensor benchmarking – concepts and examples  
Generation and validation of DEM/DSM/DTM/CHM  
Thematic Mapping by machine learning and deep learning  
Geometric and radiometric calibration of remote sensing data  
Data fusion (space-borne, airborne, and terrestrial)  
3D city modelling and geospatial databases  
Digital twin applications  
Virtual reality and augmented reality applications  
Utilization of remote sensing data in smart agriculture and forestry  
Cube satellite applications  
Mapping with robotic technologies and autonomous systems

### Author Guidelines

All abstracts will prepared based on the ISPRS abstract template and are limited to a length of two (2) single-spaced pages (A4 size), including figures, tables and references. After acceptance of the abstract, full-paper submissions must be formatted following the ISPRS format with min-max length of 6-8 pages, including references. Scientific papers will be published in ISPRS proceedings and a special issue in one of the ISPRS journals for the selected good papers is aimed.

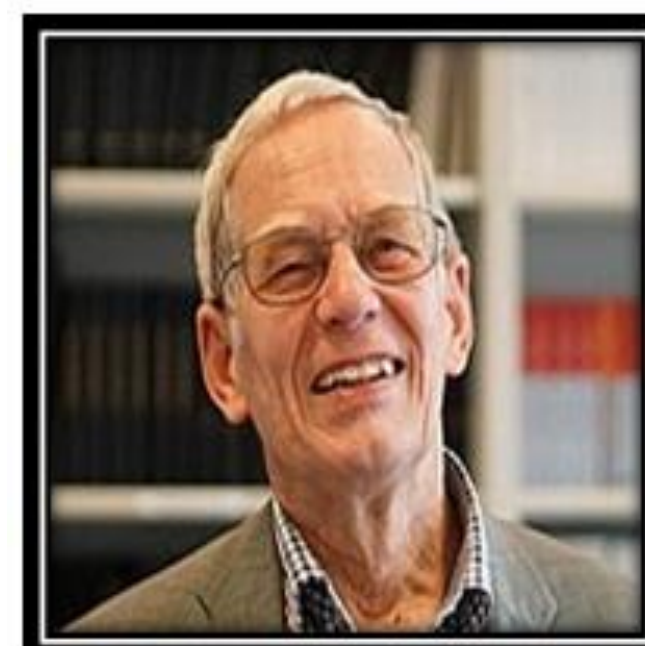
Main workshop website:  
<https://isprsisistanbul2025.org/>



### Local Organising Committee

Mehmet Alkan – Yıldız Technical University (Chair)  
Gürçan Büyüksalih – Istanbul University (Co-Chair)  
Umut Güneş Sefercik – Gebze Technical University (Co-Chair)  
Naci Yastıklı – Yıldız Technical University  
Mertcan Nazar – Gebze Technical University  
İlyas Aydın – Gebze Technical University  
Okan Yılmaz – Yıldız Technical University  
Atakan Bilgili – Yıldız Technical University  
Tümay Arda – Yıldız Technical University

### Keynote Speakers



Dr. Karsten Jacobsen



ISPRS Vice President  
Prof. Dr. Nicolas Paparoditis



EARSel Vice President  
Prof. Dr. Mattia Crespi



Prof. Dr.-Ing. habil.  
Christian Heipke



Dr. Stewart Walker



Prof. Dr.-Ing.  
Thomas Kersten

### Important Dates

15 September 2024

Abstract Submission Deadline

15th December

Full paper Submission Deadline