



ISPRS, EARSeL & DGPF JOINT ISTANBUL WORKSHOP

TOPOGRAPHIC MAPPING FROM SPACE

DEDICATED TO DR. KARSTEN JACOBSEN'S 80TH BIRTHDAY

29-31 JANUARY 2025

YILDIZ TECHNICAL UNIVERSITY

DAVUTPAŞA CONGRESS CENTRE

PROGRAM



Organized by



Wednesday, 29 January 2025 (Day 1)

09.00	Registration	
09.45-11.00	Opening Session (Conference Hall)	
	Welcome Address: Prof. Dr. Mehmet Alkan, Chair of WS Local Organizing Committee	
	Prof. Dr. Kamil Eren, MipMap	
	Dr. Karsten Jacobsen, IPI Leibniz University Hannover	
	Prof. Dr. Nicolas Paparoditis, ISPRS Vice President	
	Prof. Dr. Mattia Crespi, EARSeL Vice President	
	Prof. Dr. Derya Maktav, Turkish Liason for EARSeL	
	Prof. Dr. -Ing. Thomas Kersten, Official Representative of DGPF	
	Mehmet Tevfik Göksu, Mayor of Esenler	
	Prof. Dr. Eyüp Debik, Rector of Yıldız Technical University	
11.00	Coffee Break	
11.30-13.00	Keynote Session I (Conference Hall)	
	Chair: Prof. Dr. Mehmet Alkan	
	My Close Fellow Karsten Jacobsen	
	Christian Heipke	
	Karsten Jacobsen, an Envoy for Orient to Occident and Vice Versa	
	Orhan Altan	
	Digital Elevation Models – From Satellite Images to Free Available DEMs	
	Karsten Jacobsen	
13.00	Lunch	
14.00-15.30	Session 1: 3D Remote Sensing (Green Hall)	Session 2: Digital Photogrammetry (Red Hall)
	Chair: Thomas Krauß	Chair: Dr. Karsten Jacobsen – Dr. Roland Perko
	3D Building Modeling From Airborne Point Clouds: A Data- Vs Model-Driven Perspective	Guiding Field Measurement of Pine Tree Crowns: a Geometric Shape Comparison Using Drone Imagery
	Jarżabek-Rychard, Małgorzata; Rigon, Simone; Bogusławski, Paweł; Remondino, Fabio	Hosnigholizade, Ali; Erfanifard, Yousef; Alavipanah, Seyed kazem; Garcia Millan, Virginia; Pirasteh, Saied
	Modeling of 3D Geospatial Data with respect to LADM and BIM/IFC	An Open Platform for RGB Composite Analysis and Validation: RGB_DIGI
	Abdul Rahman, Alias; Zamzuri, Ainn; Marta, Wahyu; Rashidan, Hanis; Buyuksalih, Gurcan; Alkan, Mehmet	Arslan, Ali Nadir; Tanis, Cemal Melih
15.30	A Review on Geo3o1 for 3D Georeferencing Accuracy Assessment of State-of-the-Art Sensor Dependent Orientation Model	Insights Into The PhaseOne PAS Pana Stitching Algorithm
	Topan, Hüseyin	Ladstädter, Richard; Gutjahr, Karlheinz; Riegler, Erich; Perko, Roland
	Investigating The New Ultracam Dragon Hybrid Aerial System	Geometric Accuracy of PhaseOne PAS Pana
	Farella, Elisa Mariarosaria; Morelli, Luca; Remondino, Fabio; Qin, Rogjun; Schachinger, Bernhard; Legat, Klaus	Jacobsen, Karsten; Ladstaedter, Richard; Robert, Bosch
15.30	Coffee Break	
16.00-17.30	Session 3: Thematic Mapping (Green Hall)	Session 4: SAR (Red Hall)
	Chair: Dr. Fabio Remondino	Chair: Prof. Dr. Umut Güneş Sefercik
	Building Segmentation and Modelling from Space-borne and Aerial Imagery	Investigation of InSAR Coherence Data for Analyzing Forest Fires: A Case Study of Yamanlar, Izmir
	Krauß, Thomas; Bittner, Ksenia; d'Angelo, Pablo; Schuegraf, Philipp; Reinartz, Peter; Müller, Rupert	Cukurlu, Goktug yasar; Demir, Nusret; Kolokoussis, Pol; Aydin-Kandemir, Fulya; Erat, Ecmel
	Comparative Analysis of Multi-Resolution Remote Sensing Data for Accurate Road Segmentation in Urban Environments	Analysis of Atmospheric Phase Screen removal on the PSInSAR based Line of Sight (LOS) Surface
	Cevikalp, Muhammed Rasit; Mutlu, Bilal; Yanalak, Mustafa; Musaoğlu, Nebiye	Displacement estimation for Varanasi city, India
18.30	Comparative Analysis of Vision Foundation Models for Building Segmentation in Aerial Imagery	Analysis of Coherence Between Linear and Cubic SBAS Displacement Models in Deformation Monitoring
	Akbulut, Zeynep; Ozdemir, Samed; Karsli, Fevzi	Sefercik, Umut Gunes; Gorken, Mahmut; Nazar, Mertcan
	An In-depth Investigation of OBIA Classification with High-Resolution Imagery: Unravelling the Explanations Behind Deep Learning and Machine Learning	DInSAR Analysis of Ground Deformation Induced by the 2023 El Haouz Earthquake, Morocco
	Yilmaz, Elif Ozlem; Kavzoglu, Taskin	Habib, Adnane; Berrada, Ilyasse; El Adnani, Ayoub; Laaziz, Youness Ahmed; Fadili, Ahmed; Lagnaoui, Abdelouahed; Amine, Najih; Arrad, Taha Younes
18.30	Tiny Object Detection in Super-Resolved Sentinel-2 Imagery	From BLUH to SARvey: New Software Developed at IPI
	Ayala, Christian; Amieva, Juan Francisco; Vega, Pablo; Perko, Roland; Aleksandrowicz, Sebastian	Piter, Andreas; Haghsheenas Haghighi, Mahmud; Motagh, Mahdi
18.30	Icebreaker	

Thursday, 30 January 2025 (Day 2)

09.30-11.00	Keynote Session II (Green Hall) Chair: Prof. Dr. -Ing. habil. Christian Heipke	
	Trends in PRS Science and Technologies From the Perspective of a Mapping Agency Prof. Dr. Nicolas Paparoditis	
	3D RS: From Terrain to Water Prof. Dr. Mattia Crespi	
11.00	Coffee Break	
11.30-13.00	Session 5: LiDAR (Green Hall) Chair: Prof. Dr. Naci Yastikli	Session 6: Artificial Intelligence I (Red Hall) Chair: Prof. Dr. Gürcan Büyüksalih
	Comparison of Filtering Techniques for Water Level Determination with GEDI Satellite Based Lidar Altimeter Data <u>Narin, Omer Gokberk</u>	Efficient Detection of Floating Algal Blooms Using Sentinel-2 Imagery: The Introduction of the SFABI Index <u>Saygi, Mustafacan</u> ; Çelen, Meltem; Colkesen, Ismail
	On the Perspectives of Camera-to-Lidar Constraints in Dynamic Network Optimisation <u>Mouzakidou, Kyriaki</u> ; Stoltz, Thibaut; Jospin, Laurent V.; Cucci, Davide A.; Skaloud, Jan	Data Augmentation for Deep Learning-based Segmentation Algorithms by Projecting Labels into Overlapping Aerial Image Datasets <u>Kurz, Franz</u> ; Merkle, Nina; Henry, Corentin; Rauch, Felix; Hellekes, Jens; Azimi, Seyedmajid; Gstaiger, Veronika; Bahmanyar, Reza; Rosenbaum, Dominik; Jangir, Sandeep; Muehlhaus Manuel, Reinartz Peter
	Automatic Detection of Urban Trees from LiDAR Data Using DBSCAN and Mean Shift Clustering Methods in Fatih, Istanbul <u>Cetin, Zehra</u> ; <u>Yastikli, Naci</u>	Long-Term Monitoring of Coastal Water Quality using Sentinel-2 Satellite Images and Google Earth Engine: The Case Study İzmir and Erdek Bays <u>Altuntas, Osman Yavuz</u> ; Saygi, Mustafacan; Colkesen, Ismail
	Adaptive Rendering Strategy for Improving Multi-View Classification Performance On Real-World Point Cloud Objects Bayrak, Onur Can; Farella, Elisa Mariarosaria; Uzar, Melis; Remondino, Fabio	Post-Earthquake Transformation Analysis Using AI and Remote Sensing: A Case Study from Kahramanmaraş <u>Bulmus, Timucin</u> ; Yaman, Mustafa; Erkek, Bilal; Ayyıldız, Ekrem
13.00	Lunch	
14.00-15.30	Session 7: DEM (Green Hall) Chair: Dr. Jason Laura	Session 8: Land Management & GIS (Red Hall) Chair: Prof. Dr. Alias Abdul Rahman
	Quality Comparison of Free-of-Charge Global DSMs: ALOS AW3D30, TanDEM-X 12 m, TanDEM-X EDEM, TanDEM-X 90 m, and SENTINEL-1 Sefercik, Umut Gunes; <u>Jacobsen, Karsten</u>	4D Marine Cadastre Data Models – Turkey & Malaysia Gürsoy Sürmeneli, Hicret; <u>Abdul Rahman, Alias</u> ; Alkan, Mehmet; Zamzuri, Ainn; Hassan, M. Imzan
	Medium Resolution Lunar Topography: An Updated View of the Lunar Surface from Stereophotogrammetrically Derived DTMs <u>Laura, Jason R.</u> ; Alexandrov, Oleg; Adoram-Kershner, Lauren; Bauck, Kirsten; Wheeler, Benjamin; Hare, Trent M.	Assessing the Impact of Land Use on Dew Yield Using Remote Sensing Data in Taiwan Lin, Jung Jun; <u>Arslan, Ali Nadir</u>
	Evaluate the Impact of Class Granularity in Point Cloud Semantic Segmentation on DTM Accuracy <u>Sadeq, Haval AbdulJabbar</u>	Web-Based Presentation of 3D City Models: The Case of Kütahya, Türkiye <u>Bicer, Yusuf</u> ; Yaman, Mustafa; Erkek, Bilal; Ayyıldız, Ekrem
	DEM Generation from Multi-view Satellite Images in sub-Sahel Region <u>Abraiz, Muhammad</u> ; Belcore, Elena; Piras, Marco	3D Point Cloud Model of Süleymaniye Mosque Obtained by Terrestrial Laser Scanning <u>Kucak, Ramazan Alper</u> ; Mete, Muhammed Oğuzhan; Dervişoğlu, Adalet; Alkan, Reha Metin; Yanalak, Mustafa
15.30	Coffee Break	

16.30-17.30	Session 9: Artificial Intelligence II (Green Hall) Chair: Assoc. Prof. Dr. İsmail Çölkesen	Session 10: RS of Environment (Red Hall) Chair: Dr. Elisa Mariarosaria Farella	Session 11: Institutional Talks (Conference Hall) Chair: Prof. Dr. Mehmet Alkan
	Transformer-Based Sunflower (<i>Helianthus annuus</i> L.) Recognition from Multi-Temporal UAV Orthomosaics Yildirim, Esra; Colkesen, Ismail; Sefercik, Umut Gunes	Evaluating The Accuracy Of Different Local Climate Zone Maps Akbulut, Ahmed Samed; Sertel, Elif	Republic of Türkiye, Ministry of National Defence, Directorate General for Mapping
	Machine Learning-Based Supervised Classification of Sentinel 2 MSI and Landsat 8 OLI Imagery in Marguerite Bay of Antarctic Peninsula Arkali, Mehmet; Atik, Muhammed Enes; Atik, Şaziye Özge	Vertical Crustal Movement along the Coast of South Africa Ghomsi, Franck Eitel Kemgang; Erkoç, Muharrem Hilmi; Raj, Roshin P.; Pirti, Atinç; Bonaduce, Antonio; Abiodun, Babatunde; Stroeve, Julianne	
	Explainable Artificial Intelligence to Unveil Intrinsic Characteristics of Conditioning Factors Governing Forest Fire Susceptibility Kavzoglu, Taskin; Teke, Alihan	Investigation Of Impact To Climate Change Of Metan Emission Of Underground Mines And Thermal Power Plants Using Sentinel-5p TROPOMI Satellite Data from GEE Platform Uyar, Nehir; Akçın, Hakan	Republic of Türkiye, Ministry of Environment, Urbanization and Climate Change, General Directorate of Land Registry and Cadastre
	A Machine Learning-Driven Approach for Automated Landfill Site Selection: An Experimental Study on Marmara Region, Türkiye Bilgili, Atakan; Arda, Tümay; Kilic, Batuhan; Uzar, Melis	Assessment of Multifunctionality and Sustainability of Cold-Region Urban Wetlands Based on Multi-Scenario Simulations: A Case Study of Changchun, China Han, Jiagi; Wang, Dongyan; Rienow, Andreas	
	A Comparative Analysis of Black-Box and Glass-Box Models for Poplar Plantation Mapping with Remote Sensing Data Ozturk, Muhammed Yusuf; Colkesen, Ismail	Enriching Urban Digital Twins with Energy-related Information from Aerial and Street View Imagery for Precise Urban Climate Modeling Büyükdemircioğlu, Mehmet; Oude Elberink, Sander	Republic of Türkiye, Ministry of Environment, Urbanization and Climate Change, Directorate General of Geographic Information Systems
18.30	Karsten Jacobsen's 80 th Birthday Party		

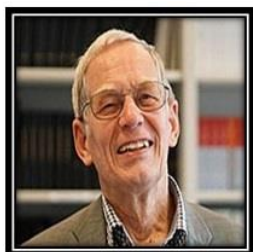


Friday, 31 January 2025 (Day 3)

09.30-10.30	Keynote Session III (Green Hall) Chair: Prof. Dr. Mattia Crespi	
	The story of bundle adjustment: Karsten Jacobsen's chapter Dr. Stewart Walker, Prof. Dr. -Ing. habil. Christian Heipke	
	Virtual Reality – The new Technology for Immersive Visualisation of Geodata Prof. Dr. -Ing. Thomas Kersten	
10.00-11.00	Session 12: Brief Poster Invitations (max. 2 min per each poster orally) (Red Hall)	
	Poster Presentations (Poster Hall)	
	Gis And Ai Based Test Study to Improve Cadastre Data Quality Case Study: Adiyaman Ebrahimi, Sumeyye	
	Performance Evaluation of the New Control Center and Receiver Hardware for the CORS-TR System Aydin, Meryem; Soylu, Metin; Ayyildiz, Ekrem	
	Integrating Photogrammetric 3D City Models into Virtual Reality: A Methodological Approach Using Unreal Engine, Gencturk, Ismail Cagri; Erkek, Bilal; Ayyildiz, Ekrem	
	Integrating Photogrammetric 3D City Models and CityGML Data into Augmented Reality for Enhanced Urban Planning and Cadastre Management Yalçın, Salih; Erkek, Bilal; Ayyildiz, Ekrem	
	Metadata GeoPortal: Advancing Map Data Management and Collaboration Across Sectors Yalçın, Salih; Sert, Mehmet Tunç; Erkek, Bilal; Ayyildiz, Ekrem	
	Comparative Accuracy Analysis of Positioning Techniques for UAV-Based Photogrammetric Mapping Arkalı, Mehmet; Atik, Muhammed Enes	
	Two Men and Nine Years: Contribution of Karsten Jacobsen and Gürcan Büyüksalih to Photogrammetry and Remote Sensing Activities of Department of Geomatics Engineering at Zonguldak Bülent Ecevit University Topan, Hüseyin; Akçın, Hakan; Oruç, Murat; Marangoz, Aycan Murat; Atalay, Can; Bayık, Çağlar	
	An Assessment of the Use of Visual SLAM in Localization Yakar, İrem; Kuçak, Ramazan Alper; Bilgi, Serdar	
	Application of High-Resolution Mobile Mapping in Smart Cities: Gaziosmanpasa Case Study Kuçak, Ramazan Alper; Büyüksalih, İsmail; Yakar, İrem	
	BIM Modelling From Point Clouds For Smart Cities Ozturk, İlhan Arda; Kelesoglu, Ege Alperen; Kucak, Ramazan Alper; Yomralioglu, Tahsin	
	Assessment of Blind-Spots and Multi-Path Effects at Indoor Positioning by Multilateration Doğan, Nezir; Bettemir, Önder Halis	
	Development of a Formwork Deflection Measurement System for Construction Site Safety and Quality Assurance Doğan, Nezir; Uzunkaya, Ali; Bettemir, Önder Halis	
11.00	Coffee Break	
11.30-13.00	Session 13: UAV (Green Hall) Chair: Prof. Dr. -Ing. Thomas Kersten	Session 14: Space-borne Imaging (Red Hall) Chair: Prof. Dr. Iulia Dana Negula
	UAV/UAS Photogrammetry for Use in Cadastral Surveying Kersten, Thomas P.; Preuß, Frederik; Teten, Dagmar; Lindstaedt, Maren	Current Status and Trends in Hyperspectral Satellite Remote Sensing – A Systematic Review Dana Negula, Iulia; Tapete, Deodato; Cerra, Daniele; Radutu, Alina; Dediu, Florina; Vlad Sandru, Ioana; Crunteanu, Daniel Eugeniu
	NDVI Prediction with RGB UAV Imagery Utilizing Advanced Machine Learning Regression Models Aydin, Ilyas; Sefercik, Umut Gunes	Using of Sentinel 2 Images for Tropical Economic Crops Growth Modeling Rattanakaew, Totsanat
	Detection of Distress in Urban Pavements: An Analysis of UAV Altitude Variations Inzerillo, Laura; Acuto, Francesco; Pisciotta, Alessandro; Mantolovas, Konstantinos; Di Mino, Gaetano	Geometric Evaluation of GeoTIFF Worldview-2 Image Data Acquired Over Sea of Marmara Buyuksalih, Gurcan; Gazioglu, Cem; Jacobsen, Karsten
	High-Resolution Object-Oriented Classification of Pomegranate and Grapes Using UAV RGB and Multispectral Data Thulasiraman, Dharanya; Malhotra, Vipul; Rajasekaran, Eswar	Mapping Contents Analysis of Worldview-2 VHR Satellite Imagery Using Cadastral Information Alkan, Mehmet; Yilmaz, Okan; Buyuksalih, Gurcan; Gazioglu, Cem; Jacobsen, Karsten
	3D Geoinformation – then and now Abdul Rahman, Alias; Zamzuri, Ainn; Rashidan, Hanis	Estimation of Ground-Level NO2 Concentrations over Megacities using Sentinel-5P and Machine Learning Models: A Case Study of Istanbul Yagmur Aydin, Nur; Aydin, Ilyas
13.00	Lunch	

14.00-15.30	Session 15: Sponsor Talks (Conference Hall) Current RS Instruments and Upcoming Space-borne Missions Chair: Okan Yılmaz
	Platinum Sponsor Talk (25 min and questions)
	Gold Sponsor Talk (20 min and questions)
	Silver Sponsor Talk (15 min and questions)
	Bronze Sponsor Talk (10 min and questions)
15.30	Coffee Break
16.00-17.30	Special Session: Disaster Monitoring with Remote Sensing Technologies (Conference Hall) Chair: Prof. Dr. Gürcan Büyüksalih – Prof. Dr. Mattia Crespi
	Investigating the Damages After February 6, 2023, Kahramanmaraş Earthquakes and Disaster Risk Reduction System Project Prof. Dr. Haluk Özener – Boğaziçi University / Ministry of Interior, Disaster and Emergency Management Presidency (AFAD) Istanbul Provincial Director
	Spatiotemporal Variations of Surface Deformation, Slip Partitioning, and Coulomb Stress Changes on the East Anatolian Fault Prof. Yosuke Aoki – The University of Tokyo
	Remote Sensing for Assessment of Earthquake-induced Cascading Hazards: Lessons learned from the 06 February 2023 Kahramanmaraş Earthquakes Prof. Dr. Tolga Görüm – İstanbul Technical University
17.30	Closing Ceremony

KEYNOTES



Dr. Karsten Jacobsen



ISPRS Vice President
Prof. Dr. Nicolas Paparoditis



EARSel Vice President
Prof. Dr. Mattia Crespi



Prof. Dr.-Ing. habil.
Christian Heipke



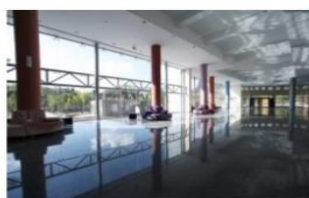
Dr. Stewart Walker



Prof. Dr.-Ing.
Thomas Kersten



Prof. Dr.
Orhan Altan



ISPRS, EARSel & DGPF Joint Istanbul Workshop

"Topographic Mapping from Space dedicated to Dr. Karsten Jacobsen's 80th birthday"

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