



12 - 19 JULY 2016

XXIII ISPRS CONGRESS



FROM HUMAN HISTORY TO THE FUTURE WITH SPATIAL INFORMATION

PRAGUE 2016

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1 ACKNOWLEDGEMENT



Acknowledgement

The XXIII ISPRS Congress is being held under the auspices of **the Minister of Agriculture**
and **the Minister of Transport**



MINISTERSTVO ZEMĚDĚLSTVÍ



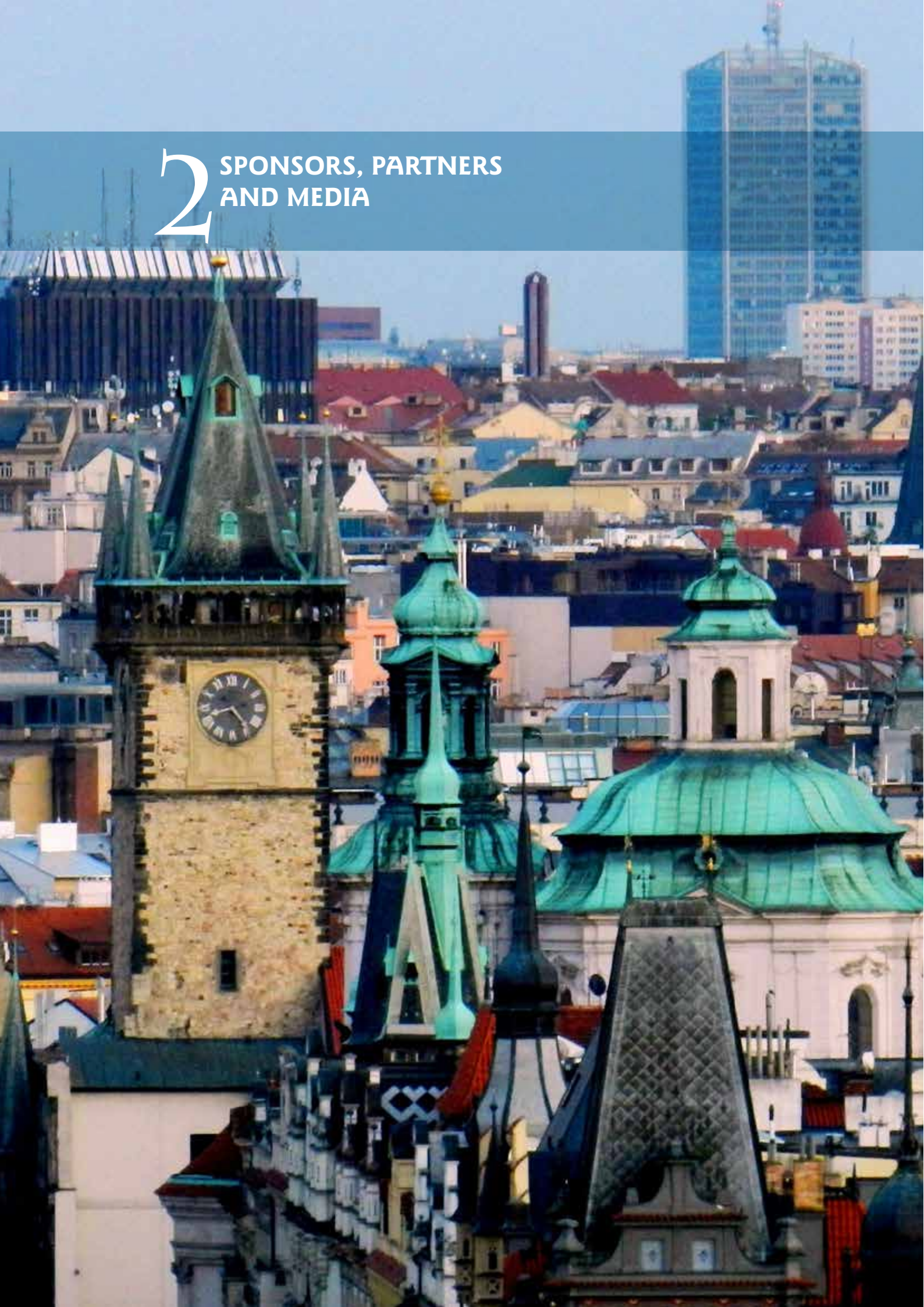
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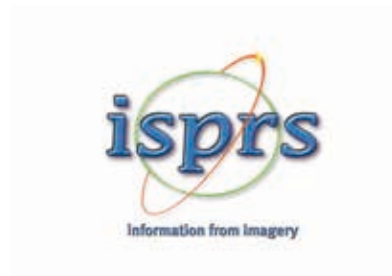
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invaluable commitment and support of the 2016 ISPRS General Assembly



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3 WELCOME LETTERS



Welcome

Welcome to the XXIII ISPRS Congress in Prague, Czech Republic, from 12-19 July 2016. This eight day Congress offers us a unique occasion to evaluate the significant progress achieved in our disciplines since the end of the last Congress in Melbourne, and to discuss future research and development directions.

After four years of hard work, Lena Halounova and her team have prepared an exciting programme reflecting both the scientific work of ISPRS and other activities in the field of geospatial information relevant to ISPRS. Under the theme 'From human history to the future with spatial information', the programme consists of meetings of the ISPRS General Assembly, plenary speakers, technical sessions, industry exhibition and social events. For the first time you will find a joint forum for National Mapping Agencies and Space Agencies. There is also a strong programme for early career researchers and for commercial companies. With this colourful programme, you will be able to catch up with developments in photogrammetry, remote sensing and spatial information science, and to identify new ways for supporting global sustainability and Future Earth with geo-information.

Prague is located in the heart of Europe and is a well-known venue for international conferences. Professor Eduard Doležal, the founder of ISPRS, was also born in the southern part of the Czech Republic. This Congress will also provide you with the opportunity to discover the many architectural and cultural treasures of Prague, and to experience the marvelous landscape of the Czech Republic.

On behalf of ISPRS Council, I would like to thank Lena Halounova and her team, as well as all the supporters, for the preparation of this vibrant Congress programme. I encourage all of you to fully participate in this quadrennial ISPRS Congress, and to share your experiences with others. By doing so, I am sure you will find the XXIII ISPRS Congress to be a very successful and rewarding one.

Jun Chen
ISPRS President

A Few Words from the Congress Director



It is my pleasure to write these words one month before the first day of the Prague XXIII ISPRS Congress. Authors from all over the world submitted nearly two thousand contributions. Submissions for the reviewing were twofold – abstracts and full papers.

Abstracts were peer-reviewed and after acceptance, authors were asked to submit a Final Paper to be published in the ISPRS Archives. Full papers were double-blind reviewed and the authors of accepted papers submitted their Final Papers to be published in the ISPRS Annals.

771 experts worked as reviewers and processed 3550 reviews in the period between 13 December and 1 February 2016.

Their reviews were constructive and encouraging. A considerable number of reviewers elaborated substantially more than 10 reviews. I would like to express my admiration to the work they did in their leisure time during quite a difficult period – end of 2015 and beginning of 2016 without any reward. Since the review process was blind, authors cannot thank their reviewers for recommendations, new ideas and useful advice.

It is not possible to count the hours that all researches, authors, Working Group Chairs, Technical Commission Presidents and members of the Local and International Program Committees spent in the preparation of the Congress, but I am sure that all their effort and energy is equivalent to those spent in the construction of the Charles Bridge in Prague. We do not know the names of people who worked on its construction, however, we still use the bridge today. Nevertheless, we do know the names of all authors of submissions, which were accepted to the Congress. We will be able to find them from 1 July 2016 in the XXIII ISPRS Congress publications at the ISPRS webpage.

I believe your “stones” to the development of photogrammetry, remote sensing and spatial sciences will forward our knowledge to allow us or everyone who might need it to continue in our work –work which helps people and benefits the Earth if it is used in the right way. It is not a trifle.

So, please, do not give up when you do not trust yourselves. Try to find a solution. We will appreciate it – maybe already during this Congress, maybe in the future.


Lena Halounová

Dear ISPRS Congress Delegates,

I would like to express my support on behalf of Czech Office for Surveying, Mapping and Cadastre to the XXIII International Society for Photogrammetry and Remote Sensing Congress in Prague.

Photogrammetry and remote sensing play an important role in nature science in many spheres of the present life. They help us to understand and better analyze and control many various phenomena of the Earth and its actual state of the environment.

Aerial photographs were systematically collected in Czechoslovakia already before the Second World War, a predecessor of the Czech Republic. The Czech Society for Photogrammetry was founded in 1930 and has been taking part in many international activities since the ISP III in Zurich in 1930 and therefore has a long history of photogrammetry applications and international contacts. Czech Institute for Survey, Mapping and Cadastre has been using aerial photogrammetry for mapping since 1950s.

I am very pleased that ISPRS enhances its interest to close cooperate with National Mapping and Cadastre Agencies by organizing the National Mapping and Cadastre Agencies Forum.

The Czech Republic has been supporting organization of many scientific congresses and conferences to show scientific interest of our specialist to belong to the world highest level of knowledge and present their advances.

Dear Delegates, it is my honor to present my personal support to the XXIII. International Society for Photogrammetry and Remote Sensing Congress in Prague.

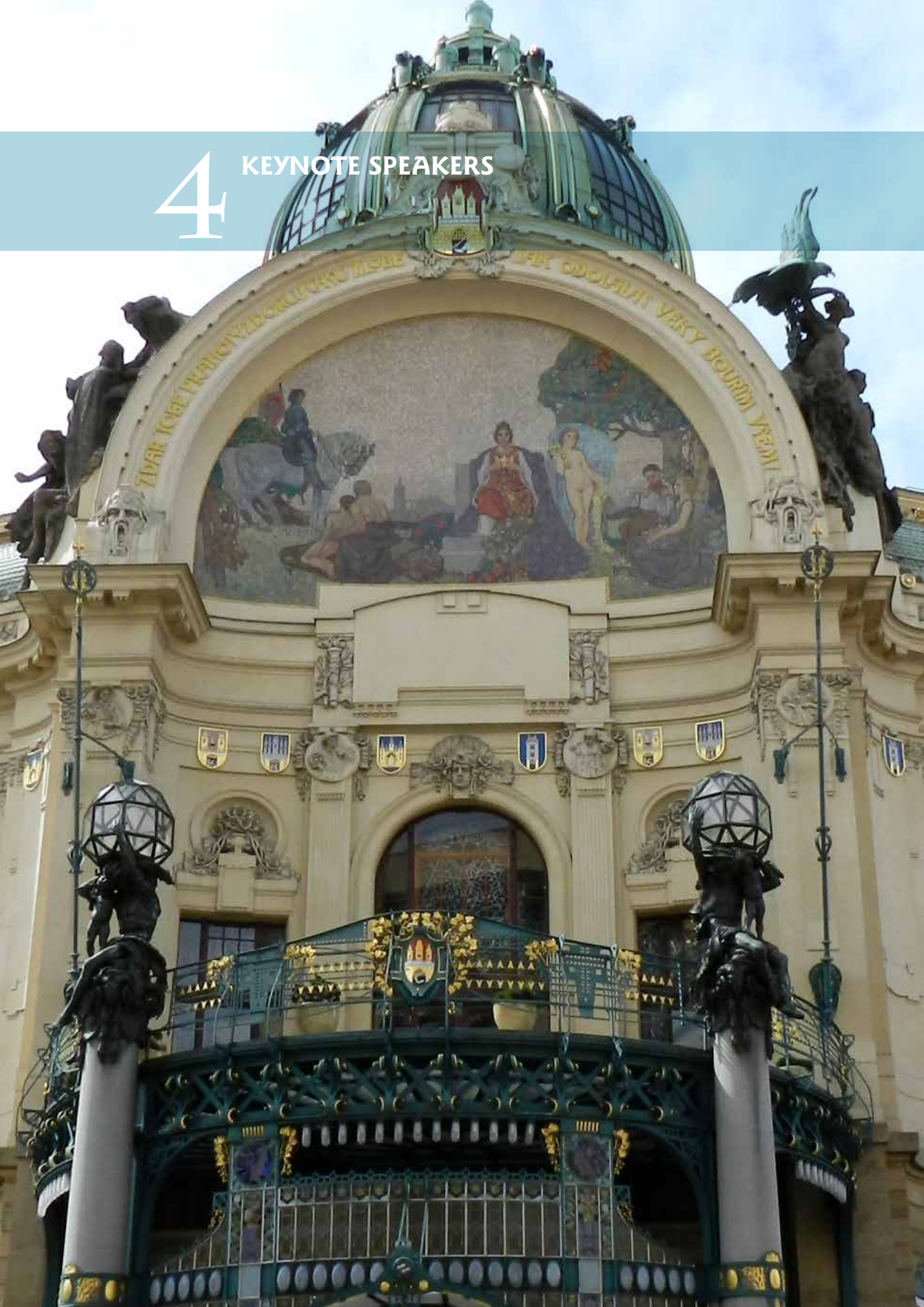
Yours truly

Ing. Karel Večeře

Chairman of the Czech Office for Surveying,
Mapping and Cadastre

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KEYNOTE SPEAKERS



Open Ceremony Speakers

JÜRGEN DOLD

Leica Hexagon, Switzerland

NADIA MAGNENAT THALMANN

MIRALab, Switzerland

PAUL ARTHUR BERKMAN

Tufts University, Massachusetts, USA

DEREN LI

Wuhan University, China

SHAILESH NAYAK

Earth System Science Organisation, India

ALBERTO MOREIRA

Institute at the German Aerospace Center (DLR), Germany

MLADEN STOJIC

Hexagon, Switzerland

TOMÁŠ PAJDLA

Czech Technical University in Prague, Czech Republic

CYRILL STACHNISS

University of Bonn, Germany

Ming-Hsiang Tsou

San Diego State University, California, USA

HEIDE HACKMANN

The International Council for Science (ICSU), France

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PROGRAM XXIII ISPRS
WEDNESDAY 13 JULY



Wednesday, 13 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Congress Hall	Plenary 1
10:30 - 11:30	North Hall	Commercial session I
	Club H	I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 1
	Club A	II/1 - Spatio-temporal Modelling 1
	Club B	III/1 - Orientation and Surface Reconstruction 1
	Club C	IV/2 - Global Status of Mapping and Geospatial Database Updating
	Club D	IV/SpS 12 - EuroSDR: Innovative technologies and methodologies for NMCAs“ 1
	Meeting Hall I A	V/2 - Cultural Heritage Data Acquisition and Processing: 3D modeling strategies
	Meeting Hall I B	VII/5 - Methods for Change Detection and Process Modelling 1
	Club E	VIII/ThS 2 - Operational Remote Sensing Application Services 1
13:30 - 14:30	North Hall	Commercial session II
13:30 - 15:00	Club B	I/SpS 9 - GALILEO and COPERNICUS: geospatial and land applications and services
	Small HallII	I/Vb - Unmanned Vehicle System (UVS): Sensors and Applications 1
	Club A	II/1 - Spatio-temporal Modelling 2
	Club H	IV/1 - Methods for the Update and Verification of Geospatial Databases 1
	Club E	V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 1
	Club C	VI/1 - Web-based Resource Sharing for Education and Collaborative Research
	Meeting Hall I A	VII/4 - Methods for Image Classification 1
	Club D	VIII/ThS 2 - Operational Remote Sensing Application Services 2
15:00 - 16:00	North Hall	Commercial session III
15:00 - 16:30	Foyer 3rd Floor	Interactive session (I/2, I/Vb, II/1, III/1, III/3, IV/2, V/3, VII/5, ThS16)
16:30 - 17:30	North Hall	Commercial session IV: Blue Marble Geographics

16:30 - 18:00	Small Hall I	I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 2
	Club B	II/ThS 16 - Perceptual and cognitive experiments with imagery and 3D models
	Club A	III/3 - Image Sequence Analysis 1
	Club C	IV/SpS 12 - EuroSDR: Innovative technologies and methodologies for NMCAs“ 2
	Club H	V/3 - Terrestrial 3D Imaging and Sensors 1
	Meeting Hall I A	VII/4 - Methods for Image Classification 2
	Meeting Hall I B	VIII/1 - Disaster and Risk Reduction 1
	Club D	VIII/Ths 2 - Operational Remote Sensing Application Services 3

Wednesday 13 July 2016

13/7 08:30 - 10:00 Plenary 1

Session Chair: Jun Chen, ISPRS/National Geomatics Center of China

Session Co-Chair: Orhan Altan, ISPRS 1st Vice President

08:30 Towards a Transformative Science for a Sustainable and Just World

Heide Hackmann, ICSU, France

09:00 Knowledge Discovery for Global Sustainability

Paul Arthur Berkman, Fletcher School of Law and Diplomacy, Tufts University, MA, USA

09:30 Earth Observations to Services: A Perspective

Shailesh Nayak, Earth System Science Organisation, India

13/7 10:30 - 11:30 Commercial session I

10:30 Bentley Systems

Jan Blaauboer

13/7 10:30 - 12:00 I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 1

Session Chair: Boris Jutzi, KIT

Session Co-Chair: Dorota Iwaszczuk, Technische Universität München

10:30 Analysis of the effect of wave patterns on refraction in airborne LiDAR bathymetry

Patrick Westfeld, TU Dresden, Institute of Photogrammetry and Remote Sensing, Germany

10:48 On-line wavelength calibration of pulsed laser for CO₂ differential absorption lidar

Chengzhi Xiang, State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China

11:06 A universal de-noising algorithm for ground-based lidar signal

Xin Ma, Wuhan University, China

11:24 Cmos imaging sensor technology for aerial mapping cameras

Klaus Neumann, Leica Geosystems, Germany

11:42 Single Photon LiDAR. An Efficient Technique for High Speed Topographic and Bathymetric Mapping

Marcos Sirota, Sigma Space / Hexagon, USA

13/7 10:30 - 12:00 II/1 - Spatio-temporal Modelling 1

Session Chair: Xiaohua Tong, Tongji University

Session Co-Chair: Jiangping Chen, Wuhan University

10:30 Historical GIS Data and Change in Morphological Parameters for the Analysis of Urban Heat Island Effect in the Past 50 Years

Fen Peng, The Hong Kong Polytechnic University, Hong Kong S.A.R., China

10:48 Tracking the spatial evolution of urban heat islands

Rui Zhu, The Hong Kong Polytechnic University, China

11:06 A probability-based statistical method to extract water body of TM images with missing information

Jiangping Chen, School of Remote Sensing and Information Engineering, Wuhan University, China

11:24 Spatial-Temporal Dynamics of Urban Fire Incidents: A Case Study Of Nanjing, China

Jing Yao, University of Glasgow, United Kingdom

11:42 Spatial-temporal detection of changes on the southern coast of the Baltic sea based on multitemporal aerial photographs

Krystyna Michalowska, The University of Agriculture in Krakow, Poland

13/7 10:30 - 12:00 III/1 - Orientation and Surface Reconstruction 1

Session Chair: Christoph Strecha, Pix4D

Session Co-Chair: Olaf Hellwich, Technical University Berlin

10:30 Reconstructing white walls: multi-view, multi-shot 3D reconstruction of textureless surfaces

Andreas Ley, Technische Universität Berlin, Germany

10:48 Efficient wide baseline structure from motion

Mario Michelini, Bundeswehr University Munich, Germany

11:06 Photogrammetric accuracy and modeling of rolling shutter cameras

Jonas Vautherin, Pix4D, Switzerland

11:24 Modern Methods of Bundle Adjustment on the GPU

Ronny Haensch, Technische Universität Berlin, Germany

11:42 Texture-aware dense image matching using ternary census transform

Han Hu, Hong Kong Polytechnic University, China

13/7 10:30 - 12:00 IV/2 - Global Status of Mapping and Geospatial Database Updating

Session Chair: Gottfried Konecny, Leibniz University Hannover

Session Co-Chair: Vladimir A. Seredovich

10:30 The current status of mapping in the world - spotlight on Oceania

John Charles Trinder, University of NSW, Australia

10:48 Database design and construction of massive digital orthophoto maps in China

Mei Yang, National Geomatics Center of China, China

11:06 Information Extraction and Dependency on Open Government Data (OGD) for Environmental Monitoring

Hussein M Abdulmuttalib, Dubai Municipality, United Arab Emirates

11:24 An automatic uav mapping system for supporting un (united nations) field operations

Kyoungah Choi, University of Seoul, Korea

11:42 eServices linked with the Czech

Cadastre of Real Estate

Jiří Poláček, Czech Office for Surveying, Mapping and Cadastre, Czech Republic

13/7 10:30 - 12:00 IV/SpS 12 - EuroSDR: Innovative technologies and methodologies for NMCAs“ 1

Session Chair: André Streilein, Swiss Federal Office of Topography

10:30 Automated generalisation within NMAs

Jantien Stoter, TU Delft, The Netherlands

10:48 High Density Aerial Image Matching: State-of-the-art and future prospects

Norbert Haala, University of Stuttgart, Germany

11:06 Changing the Production Pipeline - Use of Oblique Aerial Cameras for Mapping Purposes

Kjersti Moe, Terra Messflug, Austria

11:24 Oblique Aerial Imagery for NMA – Some Best Practices

Fabio Remondino, FBK Trento, Italy

13/7 10:30 - 12:00 V/2 - Cultural Heritage Data Acquisition and Processing: 3D modeling strategies

Session Chair: Dimitrios P. Skarlatos, Cyprus University of Technology

Session Co-Chair: Javier Cardenal, University of Jaen

10:30 Analysis, thematic maps and data mining from point cloud to ontology for software development

Romina Nespeca, DICEA, Polytechnic University of Marche, Ancona, Italy

10:48 Inspection of a medieval wood sculpture using computer tomography

Kristof Kapitany, BME, Dept. of Photogrammetry and Geoinformatics, Hungary

11:06 Complementarity of historic building information modelling and geographic information systems

Xiucheng Yang, University of Strasbourg, France

11:24 Automated voxel model from point clouds for structural analysis of cultural heritage

Ilenia Selvaggi, University of Bologna, Italy

11:42 A Semi-Automated Point Cloud Processing Methodology For 3D Cultural Heritage Documentation

Cemal Özgür Kivilcim, Istanbul Metropolitan Municipality, Turkey

13/7 10:30 - 12:00 VII/5 - Methods for Change Detection and Process Modelling 1

Session Chair: Georg Bareth, University of Cologne

Session Co-Chair: Guido Waldhoff, University of Cologne

10:30 Monitoring vegetation phenology of grassland and herbaceous vegetation with UAV imagery

Wimla van Iersel, Utrecht University, The Netherlands

10:48 Monitoring tree population dynamics in arid zone through multiple temporal scales: integration of spatial analysis, change detection and field long term monitoring
Sivan Isaacson, Ben-Gurion University of the Negev, Israel

11:06 Using remote sensing and GIS techniques to detect changes to the Prince Alfred Hamlet conservation area in the Western Cape, South Africa

Patricia Duncan, Dept Rural Development and Land Reform, South Africa

11:24 Analysis of landslides based on displacements of lines

Antonio Mozas-Calvache, University of Jaén, Spain

11:42 A new IDL implementation of the Jupp method for bathymetry extraction in shallow waters

Antonio Pala, University of Cagliari, Italy

13/7 10:30 - 12:00 VIII/ThS 2 - Operational Remote Sensing Application Services 1

Session Chair: Shailesh Nayak, Earth System Science Organisation

Session Co-Chair: MVR Sai

10:30 Using Multi-Dimensional Microwave Remote Sensing Information for The Retrieval of Soil Surface Roughness Across Scales

Philip Marzahn, Ludwig-Maximilians-University, Germany

10:48 Study of Automatic Image Rectification and Registration of Scanned Historical Aerial Photographs

Hou-Ren Chen, National Cheng Kung University, Taiwan

11:06 Forecasting and monitoring agricultural drought in the Philippines

Gay Jane Perez, University of the Philippines Diliman, Philippines

11:24 Whirl Wind Detection and Identification in Indonesia Utilizing Single Polarization Doppler Weather Radar Volumetric Data

Abdullah Ali, Indonesian Agency for Meteorology Climatology and Geophysics / Indonesian State College of Meteorology Climatology and Geophysics, Indonesia

11:42 RSGCPs - Remotely Sensed Ground Control Points

Philipp Hummel, CompassData, USA

13/7 13:30 - 14:30 Commercial session II

13:30 Hexagon, Leica

John Welter, President GSD Nils Thoss, UAV/Aibotix

Alessandro Nuzzo, Mobile Mapping/Pegasus

13/7 13:30 - 15:00 I/SpS 9 - GALILEO and COPERNICUS: geospatial and land applications and services

Session Chair: Stratos Stylianidis, Geolmaging Ltd

Session Co-Chair: Hans Dufourmont, European Environment Agency

Session Co-chair: Reinhard Blasi

13:30 Copernicus – practice of daily life of a national mapping agency?

Michael Hovenbitzer, Federal Agency for Cartography and Geodesy, Germany

13:48 Synthetic Aperture Radar (SAR) based classifier for land applications in Germany
Gopika Suresh, Federal Agency for Cartography and Geodesy, Germany

14:06 Sensors for location-based Augmented Reality - the example of Galileo and EGNOS

Alain Pagani, German Research Center for Artificial Intelligence DFKI, Germany

14:24 Europe's Copernicus and Galileo satellite-based systems: applications for photogrammetry and remote sensing
European GNSS Agency, Czech Republic

14:42 LBS Augmented Reality Assistive System for Utilities Infrastructure Management Through Galileo and EGNOS
Efstratios Stylianidis, Geolmaging Ltd, Cyprus

13/7 13:30 - 15:00 I/Vb - Unmanned Vehicle System (UVS): Sensors and Applications 1

Session Chair: Jan Skaloud, EPFL
Session Co-Chair: Dorota A. Grejner-Brzezinska, The Ohio State University

13:30 Integration of image-derived and POS-derived features for image blur detection
Tee-Ann Teo, National Chiao Tung University, Taiwan

13:48 Integration of a building model into the image based orientation of UAV flights
Jakob Unger, Leibniz Universität Hannover, Germany

14:06 Cooperative UAS localization using low cost sensors
Salil Goel, The University of Melbourne, Australia; Indian Institute of Technology Kanpur, India

14:24 mapKITE: a new paradigm for simultaneous aerial and terrestrial geodata acquisition and mapping
Ismael Colomina, GeoNumerics, Spain

14:42 Augmenting ViSP's 3d model-

based tracker with RGB-D SLAM for pose estimation in indoor environments
Julien Li-Chee-Ming, York University, Canada

13/7 13:30 - 15:00 II/1 - Spatio-temporal Modelling 2

Session Chair: Wenzhong John Shi, The Hong Kong Polytechnic University
Session Co-Chair: Bo Wu, The Hong Kong Polytechnic University

13:30 Compression and Progressive Retrieval of Multi-Dimensional Sensor Data
Peter Lorkowski, Jade University Wilhelmshaven/Oldenburg/Elsfleth, Germany

13:48 Airborne light detection and ranging (lidar) derived deformation from the mw 6.0 24 august, 2014 south napa earthquake estimated by two and three dimensional point cloud change detection techniques
Craig, University of Houston, USA

14:06 Determining Spatio-Temporal Cadastral Data Requirement for Infrastructure of LADM for Turkey
Mehmet Alkan, Yildiz Technical University, Turkey

14:24 Evaluation of multi-temporal percent tree cover data for detection of forest degradation
Yan Gao, UNAM, Mexico

14:42 Causal analysis of forest vegetation response to environmental variables during pre- and post-monsoon seasons in western Himalayan region of India
Sanjay Kumar Ghosh, Indian Institute of Technology (IIT) Roorkee, India

13/7 13:30 - 15:00 IV/1 - Methods for the Update and Verification of Geospatial Databases 1

Session Chair: David Anthony Holland, Ordnance Survey
Session Co-Chair: Penglin Zhang, Wuhan University

13:30 True ortho generation of urban area
Yong Hu, PCI Geomatics, Canada

13:48 Comparison of open source compression algorithms on VHR remote

sensing images for efficient storage hierarchy

Alper Akoguz, Center for Satellite Communications and Remote Sensing, ITU, Turkey

14:06 Analysis of Influence of Terrain Relief Roughness on DEM Accuracy generated from LIDAR in the Czech Republic Territory
Vladimír Kovařík, University of Defence, Czech Republic

14:24 Detection of Orthoimage Mosaicking Seamlines by Means of Wavelet Transformation
Krystian Pyka, AGH University, Poland

13/7 13:30 - 15:00 V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 1

Session Chair: Vladimir Knyaz, State Research Institute of Aviation Systems (GosNIIAS)

Session Co-Chair: Jim Chandler, Loughborough University

13:30 Automated Photogrammetric Measurements of Teeth for Occlusion Analysis

Armen Gaboutchian, State Research Institute of Aviation Systems (GosNIIAS), Russian Federation

13:48 Toward the Automatic Calibration of Dual Fluoroscopy Imaging Systems
Kaleel Al Durgham, University of Calgary

14:06 Photogrammetric 3D acquisition and analysis of medicamentous induced “goose bumps”
Danilo Schneider, Technische Universität Dresden, Germany

14:24 Patient registration using photogrammetric reconstruction from smartphone imagery
Olaf Hellwich, Technical University Berlin, Germany

13/7 13:30 - 15:00 VI/1 - Web-based Resource Sharing for Education and Collaborative Research

Session Chair: Huayi Wu, Wuhan University
Session Co-Chair: Zhipeng Gui, Wuhan University

13:30 Spec Tool; an online education and research resource
Shimrit Maman, Ben-Gurion University of the Negev, Israel

13:48 Developing a cloud-based online geospatial information sharing and geoprocessing platform to facilitate collaborative education and research
Zhipeng Gui, Wuhan University, China

14:06 Mapping Landslides in Lunar Impact Craters Using Chebyshev Polynomials and DEM's
Marco Scaioni, Politecnico di Milano, Italy

14:24 Framework See-Think-Do as a Tool for Crowdsourcing Support – Case Study on Crisis Management
Rostislav Netek, Palacký University Olomouc, Czech Republic

13/7 13:30 - 15:00 VII/4 - Methods for Image Classification 1

Session Chair: Julian Smit, University of Cape Town

Session Co-Chair: Przemysław Kupidura, Warsaw University of Technology

13:30 Mapping crops from a sequence of TerraSAR-X images with dynamic conditional random fields
Benson Kipkemboi Kenduiywo, Technische Universität Darmstadt, Germany

13:48 Unsupervised Wishart classification of wetlands in Newfoundland, Canada using PolSAR data based on Fisher linear discriminant analysis
Bahram Salehi, 1C-CORE and Memorial University of Newfoundland, Canada

14:06 A fuzzy logic-based approach for the detection of flooded vegetation by means of Synthetic Aperture Radar data
Viktoriya Tsyganskaya, Ludwig Maximilians University Munich, Germany

14:24 Multiscale segmentation of

polarimetric SAR image based on SRM superpixels

Fengkai Lang, China University of Mining and Technology, China

14:42 SAR image segmentation with unknown number of classes combined Voronoi tessellation and RJMCMC algorithm
Quanhua Zhao, Liaoning technical university, China

13/7 13:30 - 15:00 VIII/Ths 2 - Operational Remote Sensing Application Services 2

Session Chair: Darshana R Rawal, CEPT University

13:30 Precise ortho imagery as the source for authoritative airport mapping
Hayden Howard, CompassData, Inc., Centennial, USA

13:48 Volumetric Forest Change Detection through VHR Satellite Imagery
Konstantinos Smagas, Geolmaging Ltd

14:06 Overland flow analysis using time series of sUAS-derived elevation models
Justyna Jeziorska, University of Wrocław, Poland, North Carolina State University

14:24 An Application of Close-up Photogrammetry in Viticulture
Maria Grazia D'Urso, University of Cassino and Southern Lazio, Italy

14:42 Image-based airborne LiDAR point cloud encoding for 3D building model retrieval

Yi-Chen Chen, National Cheng Kung University, Taiwan

13/7 15:00 - 16:00 Commercial session III

15:00 Beijing Geoway - High precision geometry processing technology of large scale optical satellite image and its applications

Mi Wang, Wuhan University, China

15:30 Beijing Geoway - Real-time hi-resolution image processing technology
Yuanzheng Shao, Wuhan GEOWAY Geospatial I&T Research Institute, Beijing GEOWAY Software Co., Ltd., China

13/7 15:00 - 16:30 Interactive session

(I/2, I/Vb, II/1, III/1, III/3, IV/2, V/3, VII/5, ThS16)

I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms

New Microwave-Based Missions Applications for Rainfed Crops Characterization

Nilda Sanchez, Universidad de Salamanca

Wavelength selection of hyperspectral LiDAR based on feature weighting for estimation of leaf nitrogen content in rice
Lin Du, Wuhan University, China

Application of time series InSAR technique for deformation monitoring of large-scale landslides in mountainous areas of Western China
Tengteng Qu, Tongji University, China

Verification of Potency of Aerial Digital Oblique Cameras for Aerial Photogrammetry

Ryuji Nakada, Asia Air Survey Co. Ltd, Japan

The effective of different excitation wavelengths on the identification of plant species based on fluorescence LiDAR
Jian Yang, Wuhan University, China

Application of LiDAR data to assess the landslide susceptibility map using weights of evidence method – an example from Podhale region (Southern Poland)
Miroslaw Kamiński, Polish Geological Institut, Poland

Study on the Explainable Ability by Using Airborne Lidar in Tree Canopy and Stand Competition

Shangchuan Huang, National Pingtung University of Science and Technology, Taiwan

Object-based analysis of lidar geometric features for vegetation detection in shaded areas

Yu-Ching Lin, National Defense University, Taiwan

Mangrove forest cover extraction of the coastal areas of negros occidental, western visayas, philippines using lidar data

Florencio Puno Campomanes, University of the Philippines Cebu Phil-LiDAR 2, Philippines

Assessment of four typical topographic corrections in Landsat TM data for snow cover areas

He Jiang, University of Electronic and Science Technology of China, China

Horizontal Position Optimal Solution Determination for the Satellite Laser Ranging Footprints Based on the Slope Model

Yu Wang, Xi'an Surveying and Mapping Institute, China

A Segment-Based Approach for DTM Derivation of Airborne LiDAR Data

Jie Jang, National Geomatics Center of China, China

I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications

The possibility of using images obtained from the UAS in the works concerning the land and buildings registration

Zdzisław Kurczyński, Warsaw University of Technology, Poland

Robust mosaicking of UAV images with narrow overlaps

Jae-In Kim, Inha University, Korea

Chosen aspects of the production of the basic map using UAV imagery

Damian Wierzbicki, Military University of Technology, Poland

RPAS accuracy testing for using it in the cadastre of real estates of the Czech Republic

Eliška Housarová, Czech Technical University in Prague, Czech Republic

UAV multispectral survey to map soil and crop for precision farming applications

Giovanna Sona, Politecnico di Milano, Italy

Calibration of low cost rgb and nir uav cameras

Anna Sylwia Fryskowska, Military University of Technology, Poland

Classical Photogrammetry and UAV – Selected Aspects

Slawomir Mikrut, AGH University of Science and Technology, Poland

Unmanned aerial vehicle use for wood chips pile volume estimation

Martin Mokroš, Technical University in Zvolen, Slovak Republic

Volume computation of a stockpile - a study case, comparing GPS and UAV measurements in open pit quarry

Paulina Lyubenova Raeva, University of Architecture, Civil Engineering and Geodesy, Bulgaria

Dense 3D Point Cloud Generation from UAV Images from Image Matching and Global Optimazation

Sooahm Rhee, DLabs, Korea

Novel approach for estimating nitrogen content in paddy fields using low altitude remote sensing system

Mohammadmehdi Saberioon, University of South Bohemia in Ceske Budejovice, Czech Republic

Archaeological documentation of a defunct Iraqi town

Jaroslav Šedina, Czech Technical University in Prague, Czech Republic

The Evaluation of GPS and RTK techniques for UAV-based Photogrammetry in Urban Area

Mei Ling Yeh, Feng Chia University, Taiwan

Methodology for determining optimal exposure parameters of a hyperspectral scanning sensor

Piotr Walczykowski, Military University of Technology, Poland

Budget UAV-systems for the prospection of small- and medium-scale archaeological sites

Wojciech Ostrowski, Warsaw University of Technology, Poland

Experiences of UAV Surveys applied to the Cultural Heritage and Environmental Risk Management

Mauro Caprioli, Politecnico di Bari, Italy

Wetland Assessment Using Unmanned Aerial Vehicle (UAV) Photogrammetry

Marinus Axel Boon, University of Johannesburg, South Africa

Delines for Authors Preparing Manuscripts for Publication in the ISPRS Archives and the ISPRS Annals Research on the Key Technology of DLG Production Based on Low-Altitude and Large-Scale Photogrammetry

Su guozhong, Shanxi province Basic Geographic Information Institute

Configuration and specifications of an unmaned aerial vehicle for precision agriculture

Manuel Erena, IMIDA, Spain

UAV Onboard GPS in Positioning Determination

Khairul Nizam Tahar, Universiti Teknologi MARA, Malaysia

Remote sensing from unmanned aerial vehicles for oil spill and red tide detection

Anna Klimkowska, University of Seoul, Korea

Two-step camera calibration method developed for micro UAV's

Mateo Gašparović, University of Zagreb, Croatia

Unmanned aerial vehicle

Ivana Čermáková, University of Pardubice, Czech Republic

3D Building Reconstruction By Multiview Images And The Integrated Application With Augmented Reality

Jin-Tsong Hwang, National Taipei University, Taiwan

II/1 - Spatio-temporal Modelling

Spectral Color Indices Based Geospatial Modeling of Soil Organic Matter in Chitwan District, Nepal

Umesh Kumar Mandal, Tribhuvan University

III/1 - Orientation and Surface Reconstruction

Next-Best-View Method Based On Consecutive Evaluation Of Topological Relations

Kai Dierenbach, Karlsruhe Institute of Technology, Germany

Volume based DTM generation from very high resolution photogrammetric DSMs

Björn Piltz, DLR, Germany

Towards Object Driven Floor Plan Extraction from Laser Point Cloud

Kivanc Babacan, York University, Canada

Analyzing rcd30 oblique performance in a production environment

Maria Eulalia Soler, Institut Cartogràfic i Geològic de Catalunya, Spain

Performance Evaluation of Alternative Relative Orientation Procedures for UAV-based Imagery with Prior Flight Trajectory Information

Ayman Habib, Purdue University, USA

Pose estimation and mapping using catadioptric cameras with spherical mirrors

Sagi Filin, Technion - Israel Institute of Technology, Israel

Quality analysis of realistic 3D surface reconstruction using low-cost UAV-borne and terrestrial photogrammetric systems

Zahra Lari, University of calgary, Canada

An optimised system for generating multi-resolution DTMs using NASA MRO datasets

Yu Tao, University College London, United Kingdom

Structured light based 3D scanning for specular surface by the combination of gray code and phase shifting

Alper Yilmaz, The Ohio State University, USA

The new approach towards the camera calibration – gcp's or tls data?

Michał Kowalczyk, Warsaw University of Technology, Poland

Orientation modeling for amature cameras by matching image line features and building vector data

C. H. Hung, National Central University, Taiwan

Single image camera calibration in close

range photogrammetry for solder joint analysis

David Heinemann, Technische Universität Ilmenau, Germany

Image Network Generation of Uncalibrated UAV Images With Low-Cost GPS Data

Shan Huang, Wuhan University, China

Dense Image Matching With Two Steps of Expansion

Zuxun Zhang, Wuhan University, China

Exterior orientation estimation of oblique aerial imagery using vanishing points

Styliani Verykokou, National Technical University of Athens

Fast radiometry guided fusion of disparity images

Stephan Schmid, Daimler AG, Germany

Preparation of the digital elevation model for Orthophoto CR production

Zdeněk Švec, CTU in Prague, Czech Republic

Stereo reconstruction of atmospheric cloud surfaces from fish-eye camera images

Gabor Katai-Urban, Kecskemet College, Hungary

Automatic kappa angle estimation for air photos based on phase only correlation

Yubin Xin, PCI Geomatics, Canada

3D Building Reconstruction Using Dense Photogrammetric Point Cloud

Shirin Malihi, Khaje Nasir Toosi University of Technology, Iran

A new rfm optimized model of high-resolution satellite imagery

Chang Li, Central China Normal University, China

III/3 - Image Sequence Analysis

Cloud Removal from Sentinel-2

Image Time Series through Sparse

Reconstruction from Random Samples

Jakub Bieniarz, DLR, Remote Sensing Technology Institute, Germany

DEM Reconstruction Using Light Field

and Bidirectional Reflectance Function from Multi-View High Resolution Spatial Images

François de Vieilleville, MAGELLIUM SAS, France

Pedestrian detection by laser scanning and depth imagery

Arpad Barsi, Budapest University of Technology and Economics, Hungary

Optimal image stitching for concrete bridge bottom surfaces aided by 3d structure lines

Yahui Liu, Wuhan University, P.R. China

Continuous Mapping of Tunnel Walls in a GNSS_Denied Environment

Michael Alastair Chapman, Ryerson University, Canada

Enhancement strategies for frame-to-frame stereo visual odometry

Jens Kersten, Bauhaus-Universität Weimar, Germany

Estimating reliability of disturbances in satellite time series data based on statistical analysis

Ping Tang, Institute of Remote Sensing and Digital Earth (RADI), CAS, China

Hybrid-based dense stereo matching

Tzu-Yi Chuang, National Taiwan University, Taiwan

An aerial image dense matching method based on optical flow field

Wei Yuan, Wuhan University, China; University of Tokyo, Japan

Mutual Comparative Filtering for Change Detection in Videos with Unstable Illumination Conditions

Boris Vaisovich Vishnyakov, FGUP GosNIIAS, Russian Federation

Automatic Detection of Clouds and Shadows Using High Resolution Satellite Image Time Series

Nicolas Champion, IGN, France

Analysis of the segmented features of indicator of mine presence

Andrija Krtalic, Faculty of Geodesy University of Zagreb, Croatia

IV/2 - Global Status of Mapping and Geo-spatial Database Updating

Research on the Ancient Mongolian Place-name along the Silk Road

Nashunwuritu, Inner Mongolia University, China

Nonzonal expressions of Gauss- Krüger projection in polar regions

Zhongmei Li, Naval University of Engineering, China

V/3 - Terrestrial 3D Imaging and Sensors

Study on Improvement of Accuracy in Inertial Photogrammetry by Combining Images with Inertial Measurement Unit

Hideaki Kawasaki, Tokyo Metropolitan Government Bureau of Port and Harbor, Japan

Development of a novel system to measure a clearance of a passenger platform

Masato Shimizu, Kokusai Kogyo Co., Ltd., Japan

Towards the influence of a car windshield on depth calculation with a stereo camera system

Alexander Hanel, Technische Universitaet Muenchen, Germany

Experimental assessment of the Quanergy M8 lidar sensor

Jean-Emmanuel Deschaud, MINES ParisTech, PSL Research University, Centre for robotics, France

Detection of Slope Movement by Comparing Point Clouds Created by SfM Software

Kazuo Oda, Asia Air Survey Co., Ltd, Japan

Geomorphological mapping with terrestrial laser scanning and UAV based imaging

Nora Tilly, University of Cologne, Germany

Accuracy Assessment of Go Pro Hero 3 (Black) Camera in Underwater Environment

Petra Helmholz, Curtin University, Australia

Calibration of a Multi-Camera Rover

Ansgar Brunn, University of Applied Sciences Würzburg-Schweinfurt, Germany

Terrestrial Laser Scanner for Monitoring the Deformations and the Damages of Buildings

Giuseppina Vacca, University of Cagliari, Italy

Photogrammetric techniques for road surface analysis

Vladimir Knyaz, State Research Institute of Aviation Systems (GosNIIAS), Russia

Automatic Railway Power Line Extraction Using Mobile Laser Scanning Data

Shanxin Zhang, Xiamen University, China; Xizang Minzu University, China

VII/5 - Methods for Change Detection and Process Modelling

Trajectory-based change detection of urban land-cover

Yanghua Zhang, Beijing Normal University, China

Detection of Harbours from High Resolution Remote Sensing Imagery via Saliency Analysis and Feature Learning

Yetianjian Wang, Wuhan University, China

An Unsupervised Change Detection Based on Test Statistic and KI from Multitemporal and Full Polarimetric SAR Images

Jinqi Zhao, Wuhan University, China

An approach to alleviate the false alarm in building change detection from urban VHR image

Jie Chen, Central South University, China

Object-Oriented Change Detection for Remote Sensing Images Based on Multi-Scale Fusion

Haigang Sui, Wuhan University, China

Land cover change detection using saliency and wavelet transformation

Haopeng Zhang, Beihang University; Beijing Key Laboratory of Digital Media

Ground deformation extraction using visible images and LiDAR data in mining Area

Lixin Wu, China University of Mining and

Technology, Xuzhou, China

Comparison of Pixel-Based and Object-Oriented Land Cover Change Detection Methods

Ling Zhu, Beijing University of Civil Engineering and Architecture, China

Monitoring soil moisture in a coal mining area with multi-phase Landsat images

Jinling Kong, Chang'an University, P. R. China; Ministry of Education, P. R. China

Updating national topographic database using change detection methods

Eran Keinan, Survey of Israel, Israel

Change Detection Based On Objects

Ming ting Zhou, Wuhan University, China

A kernel-based similarity measuring for change detection in remote sensing images

Xiaodan Shi, Wuhan University, China

ThS 16 - Perceptual and cognitive experiments with imagery and 3D models

Eye Tracking to Explore the Impacts of Photorealistic 3D Representations in Pedestrian Navigation Performance

Weihua Dong, Beijing Normal University, China

Comparison of User Performance with Interactive and Static 3D Visualization – Pilot Study

Lukas Herman, Masaryk University

Evaluation of the user strategy on 2D and 3D city maps based on novel scanpath comparison method and graph visualization

Jitka Doležalová, Palacký University Olomouc

On-Line Change Monitoring with Transformed Multi-Spectral Time Series, a Study Case in Tropical Forest

Meng Lu, University of Muenster, Germany

Rescheduled interactive presentations

The usage of rusboost boosting method for classification of impervious surfaces

Mustafa Hayri Kesikoglu, University of Erciyes

13/7 16:30 - 17:30 Commercial session IV

16:30 Blue Marble Geographics - LiDAR Processing with Global Mapper

Patrick Cunningham, Blue Marble Geographics, USA

13/7 16:30 - 18:00 I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 2

Session Chair: Eija Honkavaara, Finnish Geospatial Research Institute

Session Co-Chair: Michael Cramer, Universität Stuttgart

16:30 Traffic light detection using conic section geometry

Alper Yilmaz, The Ohio State University, USA

16:48 Toward Real Time UAV s' Image Mosaicking

Sina Mehrdad, University of Isfahan, Iran

17:06 Evaluation of the quality of action cameras with wide-angle lenses in UAV photogrammetry

Heidi Hastedt, Jade University of Applied Sciences, Germany

17:24 UAV photogrammetry with oblique images: first analysis on data acquisition and processing

Nives Grasso, Politecnico di Torino, Italy

13/7 16:30 - 18:00 II/ThS 16 - Perceptual and cognitive experiments with imagery and 3D models

Session Chair: Arzu Coltekin, University of Zurich

Session Co-Chair: Christopher James Pettit, UNSW Australia

16:30 Navigation simulation with virtual 3d geovisualizations - A focus on memory related factors

Ismini-Eleni Lokka, University of Zurich, Switzerland

16:48 Spatial cognition in tangible computing

Brendan Alexander Harmon, North Carolina State University

17:06 Analysis of visual interpretation of satellite data

Hana Svatonova, Masaryk University, Czech Republic

17:24 Understanding human perception of building categories in virtual 3D cities - a user study

Patrick Tutzauer, University of Stuttgart, Germany

17:42 Cognitive aspects of collaboration in 3D virtual environments

Lukáš Herman, Masaryk University, Czech Republic

13/7 16:30 - 18:00 III/3 - Image Sequence Analysis 1

Session Chair: Alper Yilmaz, Ohio State University

Session Co-Chair: Yury Vizilter, State Research Institute of Aviation Systems (GosNIIAS)

16:30 Image stitching with perspective-preserving warping

Tianzhu Xiang, Wuhan University, China

16:48 Detecting anomaly regions in satellite image time series based on seasonal autocorrelation analysis

Ping Tang, Chinese Academy of Sciences (CAS), China

17:06 Measurement and Analysis of Gait by Using a Time-of-Flight Camera

Cihan Altuntas, Selcuk University, Turkey

17:24 A gaussian process based multi-person interaction model

Tobias Klinger, Leibniz Universität Hannover, Germany

13/7 16:30 - 18:00 IV/SpS 12 - EuroSDR: Innovative technologies and methodologies for NMCAs“ 2

Session Chair: Fabio Remondino, FBK Trento

16:30 TrueDOP - a new quality step for official orthophotos

Sven Baltrusch, Landesamt für innere Verwaltung Mecklenburg-Vorpommern, Germany

16:48 EuroSDR – the pan-european network for mapping agencies and academia

André Streilein, Swiss Federal Office of Topography, Wabern, Switzerland

17:06 State-of-the-art of 3D national mapping and remaining research issues

Maria Pla, ICGC, Catalonia

17:24 EuroSDR educational services for continuing professional development

Markéta Potůčková, Charles University in Prague, Czech Republic

13/7 16:30 - 18:00 V/3 - Terrestrial 3D Imaging and Sensors 1

Session Chair: Marco Scaioni, Politecnico di Milano

Session Co-Chair: Danilo Schneider, Technische Universität Dresden

16:30 Model Based Viewpoint Planning for Terrestrial Laser Scanning from an Economic Perspective

Daniel Wujanz, Technische Universität Berlin, Germany

16:48 Improved Real-Time Scan Matching Using Corner Features

Haytham Alaa Mohamed, University of Calgary, Canada

17:06 Automatic thickness and volume estimation of sprayed concrete on anchored retaining walls from terrestrial LiDAR data

Joaquín Martínez-Sánchez, University of Vigo, Spain, Ingeniería Insitu, Spain

17:24 Speeding up coarse point cloud registration by threshold-independent BaySAC match selection

Zhizhong Kang1, China University of Geosciences, China

17:42 Fine registration of kilo-stations networks - a modern procedure for TLS datasets

Jean-François Hullo, Electricité de France, France

13/7 16:30 - 18:00 VII/4 - Methods for Image Classification 2

Session Chair: Peijun Li, Peking University

Session Co-Chair: Taskin Kavzoglu, Gebze

Technical University

16:30 Multiple reflection effects in nonlinear mixture model for hyperspectral image analysis

Hsuan Ren, National Central University, Taiwan

16:48 Parallel Implementation of Morphological Profile Based Spectral-Spatial Classification Scheme for Hyperspectral Imagery

Brajesh Kumar, MJP Rohilkhand University, India

17:06 Investigation of Latent Traces Using Infrared Reflectance Hyperspectral Imaging

Till Schubert, University of Bonn, Germany

17:24 A Diversified Deep Belief Network for Hyperspectral Image Classification

Ping Zhong, National University of Defense Technology, China

17:42 Detection of Disease Symptoms on Hyperspectral 3D Plant Models

Ribana Roscher, Freie Universität Berlin, Germany

13/7 16:30 - 18:00 VIII/1 - Disaster and Risk Reduction 1

Session Chair: T. Srinivasa Kumar, INCOIS

Session Co-Chair: Ni Made Pertiwi Jaya, Yamaguchi University

16:30 Feasibility study of inexpensive FLIR sensors and small UAV deployment for living vs. non-living human detection in rescue missions application scenarios

Eugene Levin, Michigan Technological University, USA

16:48 Dike monitoring by the means of persistent scattering interferometry at the coast of northern germany

Moritz Seidel, Ludwig-Maximilians-Universität München, Germany

17:06 Influence of DEM in Watershed Management as Flood Zonation Mapping

Mudasir Khan, MOMRA, Saudi Arabia

17:24 Estimation of insulator contaminations by means of remote sensing technique

Ge Han, Wuhan University, China

13/7 16:30 - 18:00 VIII/Ths 2 - Operational Remote Sensing Application Services 3

Session Chair: Vinay Kumar Dadhwal, Indian Space Research Organisation

Session Co-Chair: Philip Marzahn, Ludwig-Maximilians-University

16:30 Application of GIS and Groundwater Modelling Techniques to Identify the Perched Aquifers to Demarkate Water Logging Conditions in Parts of Mehsana District, Gujarat, India

Darshana R Rawal, CEPT University, India

16:48 Mapping spatial moisture content of unsaturated agricultural soils with ground-penetrating radar

Omer Shamir, Tel Aviv University, Israel; Israel Ministry of Agriculture; 3Geo-Sense Ltd, Israel

17:06 Comparison of high and low density airborne lidar data for forest road quality assessment

Katalin Kiss, University of Eastern Finland, Finland

17:24 Assessing the impacts of flooding caused by extreme rainfall events through a combined geospatial and numerical modeling approach

Arthur Amora, Caraga State University, Philippines

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PROGRAM XXIII ISPRS
THURSDAY 14 JULY



Thursday, 14 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Club A	I/3 - Multi-Platform Multi-Sensor System Calibration 1
	Club B	I/ThS 11 - Unmanned Aerial Systems: The Roadmap from Research to Applications 1
	Club C	II/2 - Multiscale n-dimensional Spatial Data Representations, Data Structures and Algorithms 1
	Meeting Hall IV	III/2 - Point Cloud Processing 1
	Club D	IV/3 - Global DEM Interoperability 1
	Meeting Hall I A	SAF - SA1 Perspectives on International Earth Observation Missions
	Meeting Hall I B	NMCAF - SN1 Imagery for national tasks
	Meeting Hall V	VII/4 - Methods for Image Classification 3
	Club E	VIII/1 - Disaster and Risk Reduction 2
08:30 - 18:00	Meeting Room 2.2	CATCON
10:30 - 12:00	Club B	I/3 - Multi-Platform Multi-Sensor System Calibration 2
	Club C	II/2 - Multiscale n-dimensional Spatial Data Representations, Data Structures and Algorithms 2
	Club H	III/4 - 3D Scene Analysis 1
	Club D	IV/4 - Geospatial Data Infrastructure 1
	Meeting Hall I A	SAF - SA2 Remote sensing for environmental monitoring and societal benefit
	Meeting Hall I B	NMCAF - SN2 3-dimensional geoinformation
	Club E	SpS13 - FIG's contributions to the Geo-Spatial Society
	Meeting Hall IV	V/2 - Cultural Heritage Data Acquisition and Processing: Image based survey for CH
	North Hall	VII/4 - Methods for Image Classification 4
	Meeting Hall V	VIII/1 - Disaster and Risk Reduction 3
	Club A	VIII/2 - Health 1

13:30 - 15:00	Club H	I/5 - Satellite Systems for Earth Observation 1
	Club B	I/ThS 11 - Unmanned Aerial Systems: The Roadmap from Research to Applications 2
	Club C	IV/7 - 3D Indoor Modelling and Navigation 1
	Meeting Hall I A	SAF - SA3 New Earth Observation technologies and applications: The commercial perspective
	Meeting Hall I B	NMCAF - SN3 Geospatial data infrastructures
	Club A	V/1 - Vision Metrology 1
	Club D	VI/2 - E-Delivery of Education Services
	North Hall	VII/6 - Remote Sensing Data Fusion 1
	Meeting Hall IV	VIII/1 - Disaster and Risk Reduction 4
	Meeting Hall V	VIII/2 - Health 2
15:00 - 16:30	Foyer 3rd Floor	Interactive session (I/5, II/2, III/5, IV/8, V/1, V/2, VI/2, VIII/1, VIII/2, ThS11, ThS17, SpS13, SpS14)
15:30 - 17:00	Meeting Hall I A	SAF - SA4 Earth Observation Data Policy and long-term Data Continuity
	Meeting Hall I B	NMCAF - SN4 Quality assessment of geoinformation
16:30 - 18:00	Club E	I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 2
	Club B	II/ThS 17 - Smart Cities
	Club C	III/5 - Computer Graphics and Remote Sensing
	Club H	IV/8 - Planetary Mapping and Spatial Databases 1
	Club D	V/4 - Terrestrial 3D Modelling: Algorithms and Methods 1
	North Hall	VII/6 - Remote Sensing Data Fusion 2
	Meeting Hall IV	VIII/1 - Disaster and Risk Reduction 5

Thursday 14 July 2016

14/7 08:30 - 10:00 I/3 - Multi-Platform Multi-Sensor System Calibration 1

Session Chair: Ayman Habib, Purdue University

Session Co-Chair: Gerhard Kemper, GGS GmbH

08:30 Approach for Improving the Integrated Sensor Orientation

Edson Aparecido Mitishita, Federal University of Parana, Brazil

08:48 A hierarchical solution for sensor localization in noisy and restricted conditions

Shunping JI, Wuhan University, China

09:06 Comparative analysis of different LiDAR system calibration techniques

Ayman Habib, Purdue, USA

09:24 Hybrid online mobile laser scanner calibration through image alignment by mutual information

Bruno Vallet, Université Paris Est - IGN, SRIG, MATIS, France

09:42 Calibration Procedures on Oblique Camera Setups

Balazs Melykúti, GIP, Dr. Kruck Co. GbR

14/7 08:30 - 10:00 I/ThS 11 - Unmanned Aerial Systems: The Roadmap from Research to Applications 1

Session Chair: Babak Ameri, GEOSYS Technology Solutions

Session Co-Chair: Costas Armenakis, York University

08:30 Design and implementation of a low-cost UAV-based multi-sensor payload for rapid-response mapping applications

Mostafa Sakr, University of Calgary, Canada

08:48 UAV surveying for a complete mapping and documentation of archaeological findings. The Early Neolithic site of Portonovo.

Roberto Pierdicca, Università Politecnica delle Marche, Italy

09:06 Quality analysis on 3D building models reconstructed from UAV imagery

Małgorzata Jarząbek-Rychard, Mateusz Karpina

09:24 From UAS data acquisition to actionable information – how and end-to-end solution helps oil palm plantation operators to perform a more sustainable plantation management

Christian Hoffmann, Trimble Germany GmbH, Germany

14/7 08:30 - 10:00 II/2 - Multiscale n-dimensional Spatial Data Representations, Data Structures and Algorithms 1

Session Chair: Christopher Malcolm Gold, Southwest Jiaotong University

Session Co-Chair: Eric Guilbert, Université Laval

08:30 A Multi-Scale Settlement Matching Algorithm Based on ARG

Han Yue, Wuhan University, China

08:48 Parallel processing of big point clouds using Z-order-based partitioning

Christian Alis, University College London, United Kingdom

09:06 Beyond Maximum Independent Set: An Extended Model for Point-Feature Label Placement

Jan-Henrik Haunert, University of Osnabrück, Germany

09:24 Comparative analysis of data structures for storing massive TINs in a DBMS

Kavisha Kumar, Delft University of Technology, The Netherlands

09:42 Automated Photogrammetric Image Matching With Sift Algorithm and Delaunay Triangulation

Francisc Antón Castro, DTU, Technical University of Denmark

14/7 08:30 - 10:00 III/2 - Point Cloud Processing 1

Session Chair: Sander Oude Elberink, University of Twente

Session Co-Chair: Martin Rutzinger, Austrian Academy of Sciences

08:30 Classification of airborne laser scanning data using geometric multi-scale features and different neighbourhood types
Martin Weinmann, Karlsruhe Institute of Technology (KIT), Germany

08:48 Fast Semantic Segmentation of 3D Point Clouds with Strongly Varying Density
Timo Hackel, ETH Zürich, Switzerland

09:06 ULS LiDAR supported analyses of laser beam penetration from different ALS systems into vegetation
Martin Wieser, Technische Universität Wien, Austria

09:24 Object Classification via Planar Abstraction
Florent Lafarge, INRIA Sophia Antipolis, France

09:42 Footprint Map Partitioning Using Airborne Laser Scanning Data
Biao Xiong, University of Twente, The Netherlands

14/7 08:30 - 10:00 IV/3 - Global DEM Interoperability 1

Session Chair: Jan-Peter Muller, UCL Mullard Space Science Laboratory
Session Co-Chair: Takeo Tadono, Japan Aerospace Exploration Agency

08:30 ASTER Global DEM Version 3, and new water body dataset
Michael Abrams, Jet Propulsion Laboratory, USA

08:48 Validation of the ASTER Global Digital Elevation Model version 3 over the conterminous United States
Dean Gesch, U.S. Geological Survey, USA

09:06 Evaluation of ASTER GDEM V3 Using ICESat Laser Altimetry
Claudia Cristina Carabajal, Sigma Space Corporation @ NASA/GSFC, USA

09:24 A near-global bare-earth DEM from SRTM
John Christian Gallant, CSIRO, Australia

09:42 NASADEM Global Elevation Model: Methods and Progress
Robert Crippen, California Institute of Technology, USA

14/7 08:30 - 10:00 SAF - SA1 Perspectives on International Earth Observation Missions

Session Chair: Gunter Schreier, DLR

08:30 Welcome address by IAA
Sandau Rainer, IAA

08:35 Welcome address by IAF
Jan Kolar, IAF

08:40 Making Space for Earth
Lawrence Friedl, NASA

09:00 Earth Observation until 2030 - ESA's programme and the Challenges ahead
Liebig Volker, ESA

09:20 The Development and Technological Innovation of Chinese Remote Sensing Satellites
Haiyi Cao, China Academy of Space Technology, China

09:40 JAXA's Earth observation program and mapping applications
Yamamoto Shizuo, JAXA

14/7 08:30 - 10:00 NMCAF - SN1 Imagery for national tasks

Session Chair: Jantien Stoter, TU Delft

08:30 Introduction and Welcome
Gregory Scott, UN-GGIM

08:35 Image data – the core information source for the tasks of national mapping agencies
Andy Mc Gill, Ordnance Survey Ireland, Ireland

08:52 Data from Remote Sensing for Development and Applications of National Mapping in the United States
Usery Lynn, US Geological Survey, USA

09:09 Integration of remotely sensed data into Geospatial Reference Information databases. UN-GGIM National approach
Antonio Arozarena, Instituto Geografico Nacional, Spain

09:26 Updating Maps Using High Resolution Satellite Imagery
Khurram Shehzad Janjua, MOMRA, Saudi Arabia

09:43 How do satellite images impact the

geoinformation updating process at IGN France
Jean-Phillipe Cantou, IGN Espace

14/7 08:30 - 10:00 VII/4 - Methods for Image Classification 3

Session Chair: Weihong Cui, Wuhan University

Session Co-Chair: Mustafa Hayri Kesikoglu, University of Erciyes

08:30 Remote Sensing Image Classification Applied to the First National Geographical Information Census of China

Xin Yu, Beijing Institute of Surveying and Mapping, China

08:48 A comparison of sub-pixel mapping methods for coastal areas

Qingxiang Liu, University of New South Wales, Australia

09:06 Pollen bearing honey bee detection in hive entrance video recorded by remote embedded system for pollination monitoring

Ratko Pilipovic, University of Banja Luka, Bosnia and Herzegovina

09:24 Automatic sea bird detection from high resolution aerial imagery

Görres Jochen Grenzdörffer, Rostock University, Germany

09:42 Polarimetric SAR data GMM classification base on improved Freeman incoherent decomposition

Mounira Ouarzeddine, USTHB

14/7 08:30 - 10:00 VIII/1 - Disaster and Risk Reduction 2

Session Chair: Suzanne Brunke, MDA

Session Co-Chair: Ramji Dwivedi, MNNIT Allahabad

08:30 Academe-local government partnership towards effective application of geospatial technologies for smarter flood disaster management at the local level: an example from Mindanao, Philippines

Meriam Makinano-Santillan, Caraga State University, Philippines

08:48 Assessment of Flooded Areas Projections and Floods Potential Impacts Applying Remote Sensing Imagery and

Demographic Data

Daniel Andres Rodriguez, Brazilian Institute for Space Research, Brazil

09:06 Rapid Risk Evaluation (ER2) Using Ms Excel Spreadsheet: A Case Study of Fredericton (New Brunswick)

Emmanuel Stefanakis, University of New Brunswick, Canada

09:24 Analysis and Remediation of the 2013 Lac Mégantic Train Derailment

Suzanne Brunke, MDA, Canada

09:42 3D visualization of volcanic ash dispersion prediction with spatial information open platform in Korea

Junhee Youn, Korea Institute of Civil Engineering and Building Technology, Korea

14/7 08:30 - 18:00 CATCON

Session Chair: Gerhard König, Technische Universität Berlin

Session Co-Chair: Anjana Vyas, CEPT University

Graphos (inteGRated PHOtogrammetric Suite)

Pablo Rodriguez-Gonzalvez, University of Salamanca, Spain

GeoSquare: a collaborative online geospatial information sharing and geoprocessing platform for education and research

Huayi Wu, Wuhan University, China

dtwSat: Time-Weighted Dynamic Time Warping for satellite image time series analysis in R

Victor Maus, National Institute For Space Research, Brazil

HELIOS Sandbox: A User-Friendly Laser Scanning Simulator for Education, Planning and Research of Laser Scanning Operations with Stationary, Ground-Based Mobile and Airborne Platforms

Sebastian Bechtold, Heidelberg University, Germany

Spatial Decision Support System for Solar Energy

Deepak Kumar, Central University of Karnataka, India

3D visualization of volcanic ash dispersion prediction with spatial information open platform in Korea

Junhee Youn, Korea Institute of Civil Engineering and Building Technology, Korea

Learning Photogrammetry with Interactive Software Tool PhoX

Thomas Luhmann, Jade University of Applied Sciences, Germany

LIME: Interpretation, visualisation and communication of 3D models in geoscience

Simon John Buckley, Uni Research AS, Norway

Remote sensing paper/ early warning system for earthquakes disaster mitigation in Syria

Moutaz Dalati, General Organization for Remote Sensing, Syrian Arab Republic

Schistosomiasis: Geospatial Surveillance and Response Systems in Southeast Asia

John Brooks Malone, Louisiana State University, USA

Typological-Parametric Models for Virtual Reconstruction. Case Study: Merida, Yucatan, Mexico.

Antonio Rodriguez, Universidad Anahuac Mayab, Mexico

14/7 10:30 - 12:00 I/3 - Multi-Platform Multi-Sensor System Calibration 2

Session Chair: Cheng Wang, Xiamen University

Session Co-Chair: Petri Niiles Rönholm, Aalto University

10:30 Efficient orientation and calibration of large aerial blocks of multi-camera platforms
Wilfried Karel, TU Wien, Austria

10:48 Quality analysis and correction of mobile backpack laser scanning data
Petri Rönholm, Aalto University, Finland; Finnish Geospatial Research Institute, Finland

11:06 Low cost and efficient 3d indoor mapping using multiple consumer rgb-d cameras
Shuang Song, Wuhan University, China

11:24 Geometric calibration of Ziyuan-3 three-line cameras combining ground control points and lines

Jinshan Cao, Collaborative Innovation Center of Geospatial Technology, China

11:42 A novel matching algorithm based on phase correlation using peak calculation

Fan Mo2, Information Engineering University, China

14/7 10:30 - 12:00 II/2 - Multiscale n-dimensional Spatial Data Representations, Data Structures and Algorithms 2

Session Chair: Thomas H. Kolbe, Technical University of Munich

Session Co-Chair: Francesc Antón Castro, DTU

10:30 A conceptual model for the representation of landforms using ontology design patterns

Eric Guilbert, Université Laval, Canada

10:48 Two-graph building interior representation for emergency response applications

Pawel Boguslawski, University of the West of England, United Kingdom

11:06 Voluminator 2.0 - speeding up the approximation of the volume of defective 3D building models

Maximilian Sindram, Technische Universität München, Germany

11:24 Automatic Construction of Road Network Hierarchy

Weiping Yang, Esri, USA

14/7 10:30 - 12:00 III/4 - 3D Scene Analysis 1

Session Chair: Franz Rottensteiner, Leibniz Universität Hannover

Session Co-Chair: Gunho Sohn, York University

10:30 Facade Interpretation using a Marked Point Process

Susanne Wenzel, University of Bonn, Germany

10:48 Superpixel cut for figure-ground image segmentation

Michael Ying Yang, TU Dresden, Germany

11:06 Classification of informal settlements through the integration of 2D and 3D features extracted from UAV data

Caroline Margaux Gevaert, University of Twente, The Netherlands

11:24 Object-based coregistration of terrestrial photogrammetric and ALS point clouds in forested areas

Przemyslaw Polewski, Munich University of Applied Sciences, Germany; Technische Universitaet Muenchen, Germany

11:42 Fast Probabilistic Fusion of 3D Point clouds via Occupancy Grids for Scene Classification

Andreas Kuhn, Bundeswehr University Munich, Germany

14/7 10:30 - 12:00 IV/4 - Geospatial Data Infrastructure 1

Session Chair: E. Pattabhi Rama Rao, Indian National Centre for Ocean Information Services

Session Co-Chair: Dev Raj Paudyal, University of Southern Queensland

10:30 Critical Assessment of Object Segmentation in Aerial Image Using Geo-Hausdorff Distance

Hui Sun, Wuhan University, China

10:48 The fundamental spatial data in the basic public administration registers

Karel Janečka, University of West Bohemia, Czech Republic

11:06 Enhanced data discoverability for in situ hyperspectral datasets

Barbara A. Rasaiah, UCAR, USA

11:24 The European Location Framework - from national to European

Eva Pauknerova, Czech Office for Surveying, Mapping and Cadastre, Czech Republic

14/7 10:30 - 12:00 SAF - SA2 Remote sensing for environmental monitoring and societal benefit

Session Chair: Ian Dowman, UCL

10:30 Societal Benefits and GEO's Second Decade

Barbara Ryan, GEO Secretariat

10:52 Climate from Space

Briggs Stephen, European Space Agency, Senior Adviser, Earth Observation, GCOS

11:14 Applications of Earth Observation for Societal Benefit: Case Studies in Africa

Hussein Farah, RCMRD, Kenya

11:36 Relationship between climate change impact, migration and socioeconomic development

Kyaw Sann Oo, Myanmar Peace Center, Myanmar

14/7 10:30 - 12:00 NMCAF - SN2 3-dimensional geoinformation

Session Chair: André Streilein, Swiss Federal Office of Topography

10:30 Towards a 3D Spatial Data Infrastructure in the Netherlands

Jantien Stoter, TU Delft, The Netherlands

10:52 New geospatial products of the Czech Republic

Karel Brázdil, Land Survey Office, Czech Republic

11:14 An INSPIRE conform 3D Building Model of Bavaria using cadastre information, LIDAR and image matching

Joachim Batscheider, Bavarian Agency for Digitisation, High-Speed Internet and Surveying, Germany

11:36 First Steps Towards an Integrated Citygml-Based 3D Model of Vienna

Giorgio Agugiaro, AIT - Austrian Institute of Technology, Austria

14/7 10:30 - 12:00 SpS13 - FIG's contributions to the Geo-Spatial Society

Session Chair: Gerda Schennach, FIG/OVG

Session Co-Chair: Sagi Dalyot, The Technion

10:30 The Contribution of Surveyors in the Sustainable Management of Cities and Rapidly Urbanized Areas

Chryssy Potsiou, National Technical University of Athens, Greece

10:48 Bridging the Gap between Surveyors and the Geo-Spatial Society

Hartmut Müller, Mainz University of Applied Sciences, Germany

11:06 Understanding urban regeneration in turkey

Ezgi Candas, Istanbul Technical University, Turkey

14/7 10:30 - 12:00 V/2 - Cultural Heritage Data Acquisition and Processing: Image based survey for CH

Session Chair: Thomas Robert Jordan, University of Georgia

Session Co-Chair: Dante Abate, The Cyprus Institute

10:30 360° Immersive images to virtualize indoor complex architectures. The study case of Gothic apse

Araceli Pérez, University of A Coruña, Spain

10:48 Combining Public Domain and Professional Panoramic Imagery for the Accurate and Dense 3d Reconstruction of the Destroyed Bel Temple in Palmyra

Wissam Wahbeh, University of Applied Sciences and Arts Northwestern Switzerland FHNW, Switzerland

11:06 Data Provenance in Photogrammetry through Documentation Protocols

Nicola Carboni, UMR 3495 MAP CNRS/MCC, France

11:24 Using Remotely Sensed Data for Documentation of Archaeological Sites in Northeastern Mesopotamia

Eva Matoušková, Czech Technical University in Prague, Czech Republic

14/7 10:30 - 12:00 VII/4 - Methods for Image Classification 4

Session Chair: Julian Smit, University of Cape Town

Session Co-Chair: Brajesh Kumar, MJP Rohilkhand University

10:30 A data field method for urban remotely sensed imagery classification considering spatial correlation

Ye Zhang, Wuhan University, China

10:48 A region-based multi-scale approach for object-based image analysis

Taskin Kavzoglu, Gebze Technical University, Turkey

11:06 Aerial urban classification based on image pixel labelling with deep convolutional neural networks and logistical regression

Wei Yao, Munich University of Applied Sciences, Germany

11:24 Topic modeling for object-based classification of VHR remote sensing images based on multiscale segmentations

Li Shen, Southwest Jiaotong University, China

14/7 10:30 - 12:00 VIII/1 - Disaster and Risk Reduction 3

Session Chair: Vijaya Sunanda Manneela, Indian National Centre for Ocean Information Services

Session Co-Chair: Peter Fischer, German Aerospace Center

10:30 Near real-time determination of earthquake source parameters for tsunami early warning from geodetic observations

V. Sunanda Manneela, Indian National Centre for Ocean Information Services, India

10:48 Assessment of the utility of the Advanced Himawari Imager to detect and attribute fire over Australia

Bryan Hally, RMIT University, Australia; Bushfire and Natural Hazards Co-operative Research Centre; University of Twente, The Netherlands

11:06 Landslides extraction from diverse remote sensing data sources using semantic reasoning

Wen Cao, Tongji University, China

11:24 Refinement method for residential area revision in earthquake risk assessment based on remote sensing

Aixia Dou, China Earthquake Administration, China

11:42 Automatic Building Damage Detection Method Using High-Resolution Remote Sensing Images and 3D GIS Model

Jihui Tu, Wuhan University, China; Electronics & Information School of Yangtze University, China

14/7 10:30 - 12:00 VIII/2 - Health 1

Session Chair: Fazlay S. Faruque, University of Mississippi Medical Center Services

Session Co-Chair: Alexander Liss, Tufts University

10:30 Role of remote sensing in population density estimates and utility in spatiotemporal schistosomiasis risk modeling in Ghana

Alexandra V. Kulinkina, Tufts University, USA

10:48 Linking Satellite Remote Sensing Based Environmental Predictors to Disease: An Application to the Spatiotemporal Modelling of Schistosomiasis in Ghana
Madeline Wrable, Tufts University, USA

11:06 Spatial Correlations of Malaria Incidence Hotspots with Environmental Factors in Assam, North East India
Bijoy Krishna Handique, North Eastern Space Applications Centre, India

11:24 Stochastic coloured petrinet based healthcare infrastructure interdependency model
Nivedita Nukavarapu, Indian Institute of Technology Bombay, India

11:42 Schistosomiasis: geospatial surveillance and response systems in southeast Asia
John Malone, Pathobiological Sciences, School of Veterinary Medicine, USA

14/7 13:30 - 15:00 I/5 - Satellite Systems for Earth Observation 1

Session Chair: Xinming Tang, the Satellite Surveying and Mapping Application Center, National Administration of Surveying, Mapping and Geo-information

Session Co-Chair: Ralf Reulke, Humboldt-Universität zu Berlin

13:30 Current Status of International Airborne Platform Data and Instrument Interface Standards
Matt Freer, Droplet Measurement Technologies, USA

13:48 Automatic mrf-based registration of high resolution satellite video data
Christos Platias, National Technical University

of Athens, Greece

14:06 The new hyperspectral sensor DESIS on the multi-payload platform MUSES installed on ISS
Rupert Mueller, DLR, Germany

14:24 Pléiades project: assessment of georeferencing accuracy, image quality, pansharpening performance and DSM/DEM quality
Hüseyin Topan, Bülent Ecevit University, Turkey

14:42 Geospatial analysis using remote sensing images: case studies of Zonguldak test field
Caglar Bayik, Bulent Ecevit University, Turkey

14/7 13:30 - 15:00 I/ThS 11 - Unmanned Aerial Systems: The Roadmap from Research to Applications 2

Session Chair: Görres Jochen Grenzdörffer, Rostock University

Session Co-Chair: Costas Armenakis, York University

13:30 Potential of UAV-based laser scanner and multispectral camera data in building inspection
David Mader, TU Dresden, Germany

13:48 UAS based tree species identification using the novel FPI based hyperspectral cameras in visible, NIR and SWIR spectral ranges
Roope Näsi, Finnish Geospatial Research Institute, Finland

14:06 Compact hyperSpectral Imaging system (cosi) for small remotely piloted aircraft systems (RPAS) – system overview and first performance evaluation results
Aleksandra Sima, Flemish Institute for Technological Research - VITO NV, Belgium

14:24 UAV Monitoring for Enviromental Management in Galapagos Islands
Daniela Ballari, University of Cuenca, Ecuador

14:42 Satellite Imagery Assisted Road-based Visual Navigation System
Anastasiia Volkova, Univerity of Sydney, Australia

14/7 13:30 - 15:00 IV/7 - 3D Indoor Modeling and Navigation 1

Session Chair: Sisi Zlatanova, Delft University of Technology

Session Co-Chair: George Sithole, University of Cape Town

13:30 Localization corrections for mobile laser scanner using local support-based outlier filtering

Ville V Lehtola, Aalto University, Finland

13:48 Moving human path tracking based on video surveillance in 3D indoor scenarios
Zhe Wang, University of Electric Science and Technology of China, China

14:06 First Experiments with the Tango Tablet for Indoor Scanning

Abdoulaye Abou Diakité, TU Delft, The Netherlands

14:24 Modeling of Indoor Space Using a Rotating Stereo Frame Camera System
Jeongin Kang, University of Seoul, Korea

14:42 Geofencing-based localization for 3D data acquisition navigation

Masafumi Nakagawa, Shibaura Institute of Technology, Japan

14/7 13:30 - 15:00 SAF - SA3 New Earth Observation technologies and applications: The commercial perspective

Session Chair: Stephen Briggs, ESA

13:30 New Earth Observation technologies and applications: The commercial perspective

Schingler Robbie, Planet Labs

13:52 An Overview of UrtheCast's UrtheDailyTM and OptiSARTM Constellation
Larson Wade, UrtheCast

14:14 Successful Launch & Commission of TripleSat Constellation - Start of Commercial Operation Services

Sun Wei, 21Aerospace Technology, China

14:36 EO Services in this Changing World
Andre Jadot, EARSC

14/7 13:30 - 15:00 NMCAF - SN3 Geospatial data infrastructures

Session Chair: Julius Ernst, OVG- Austrian Society for Surveying and Geoinformation

13:30 Service-oriented National Geospatial Data Infrastructure of China

Chunfeng Wang, National Administration of Surveying, Mapping and Geoinformation, China

13:52 The Role of Geospatial Information for Sustainable Development, the African Perspective

Sultan Mohammed Alya, Ethiopian Mapping Agency, Ethiopia

14:14 Integrating a Global Policy Agenda into National Geospatial Capabilities

Gregory Scott, UN-GGIM, USA

14:36 Reinventing the national topographic database

Risto Ilves, National Land Survey of Finland, Finland

14/7 13:30 - 15:00 V/1 - Vision Metrology 1

Session Chair: Mark Shortis, RMIT University

Session Co-Chair: Stuart Robson, UCL

13:30 Industrial photogrammetry - accepted metrology tool or exotic niche

Werner Bösemann, AICON 3D Systems GmbH, Germany

14:06 Accuracy of 3D Reconstruction in an Illumination Dome

Lindsay W. MacDonald, University College London, United Kingdom

14:24 A method to achieve large volume, high accuracy photogrammetric measurements through the use of an actively deformable sensor mounting platform

Ben Sargeant, University College London, United Kingdom

14:42 A Holistic Approach for Inspection of Civil Infrastructures Based on Computer Vision Techniques

Christos Stentoumis, National Technical University of Athens, Greece

14/7 13:30 - 15:00 VI/2 - E-Delivery of Education Services

Session Chair: Anjana Vyas, CEPT University

Session Co-Chair: Gerhard König,

Technische Universität Berlin

13:30 An adaptive web-based learning environment for the application of remote sensing in schools

Nils Wolf, Heidelberg University of Education, Germany

13:48 Development of an all-purpose free photogrammetric tool

Diego Gonzalez-Aguilera, University of Salamanca, Spain

14:06 A Cognitive Approach to Teaching a Graduate Level Geobia Course

Raechel Bianchetti, Michigan State University, USA

14:24 Lost in the cloud - new challenges for teaching GIS

Chris Bellman, RMIT University, Australia

14:42 Learning Photogrammetry with Interactive Software Tool PhoX

Thomas Luhmann, Jade University of Applied Sciences, Germany

14/7 13:30 - 15:00 VII/6 - Remote Sensing Data Fusion 1

Session Chair: Peter Reinartz, DLR

Session Co-Chair: Zhilin Li, Hong Kong Polytechnic University

13:30 Graph matching for the registration of persistent scatterers to optical oblique imagery

Lukas Schack, Leibniz Universität Hannover, Germany

13:48 A new spatial and temporal fusion model

Jing Wang, The Chinese University of Hong Kong, Hong

14:06 On the challenges in stereogrammetric fusion of SAR and optical imagery for urban areas

Michael Schmitt, Technical University of Munich, Germany

14:24 Alternatives to four-component decomposition for polarimetric sar

Jixian Zhang, Chinese Academy of Surveying & Mapping, China

14:42 Mapping urban tree canopy cover

using fused airborne lidar and satellite imagery data

Ebadat Ghanbari Parmehr, RMIT University, Australia

14/7 13:30 - 15:00 VIII/1 - Disaster and Risk Reduction 4

Session Chair: Przemyslaw Tymkow, Wrocław University of Environmental and Life Sciences

Session Co-Chair: Junhee Youn, Korea Institute of Civil Engineering and Building Technology

13:30 3D GIS for flood modelling in river valleys

Przemyslaw Tymkow, Wrocław University of Environmental and Life Sciences, Poland

13:48 Integrating geo-spatial data for regional landslide susceptibility modeling in consideration of run-out signature

Jhe-Syuan Lai, National Central University, Taiwan

14:06 Landslides Identification Using Topographic Terrain Attributes Derived from Airborne Laser Scanning Data and SVM Classification

Kamila Pawłuszek, Wrocław University of Environmental and Life Sciences, Poland

14:24 Least Square Support Vector Machine for Detection of Tec-Seismo-Ionospheric Anomalies Associated with the Powerful Nepal Earthquake (Mw=7.5) of 25 April 2015

Mehdi Akhoondzadeh Hanzaei, University of Tehran, Iran

14:42 Estimation of Damaged Areas due to the 2010 Chile Earthquake and Tsunami Using SAR Imagery of ALOS/PALSAR

Pertiwi Jaya Ni Made, Yamaguchi University, Japan

14/7 13:30 - 15:00 VIII/2 - Health 2

Session Chair: Fazlay S. Faruque, University of Mississippi Medical Center

Session Co-Chair: Yves M. Tourre, Ldeo of Columbia University

13:30 Re-emerging Malaria vectors in rural Sahel (Nouna, Burkina Faso): The Paluclim project

Yves M. Tourre, Ldeo of Columbia University, USA

13:48 Extending LKN climate regionalization with spatial regularization: An application to epidemiological research

Alexander Liss, Tufts University, USA

14:06 Spatial distrubiton of children treated by cancer in Zonguldak, Turkey

Mustafa Özendi, Bülent Ecevit University, Turkey

14:24 Influence of Topographic and Hydrographic Factors on the Spatial Distribution of Leptospirosis Disease in Sao Paulo, Brazil: an Approach Using Geospatial Techniques and GIS Analysis

Marcos César Ferreira, UNICAMP - State University of Campinas, Brazil

14:42 Geographic Medical History: Advances in Geospatial Technology Present New Potentials in Medical Practice

Fazlay S. Faruque, University of Mississippi Medical Center, USA

14/7 15:00 - 16:30 Interactive session

(I/5, II/2, III/5, IV/8, V/1, V/2, VI/2, VIII/1, VIII/2, ThS11, ThS17, SpS13, SpS14)

I/5 - Satellite Systems for Earth Observation

High Performance Computing for DSM Extraction from ZY-3 Tri-stereo Imagery
Yubin Xin, PCI Geomatics, Canada

Automatic assessment of acquisition and transmission losses in Indian remote sensing satellite data

Deepika Roy, Indian Space Research Organization, India

Evaluation the Potential of Satellite Hyperspectral Resurs-P2 Data for Forest Application

Olga Brovkina, Global Change Research Centre, Czech Republic

Assessment of satellite precipitation products in the Philippine archipelago

Mark Daryl Ramos, University of the Philippines; IBM Philippines

On The Evaluation of GNSS

Complementary by Using Quasizenith Satellite of Japan

Masaaki Shikada, Kanazawa Institute of Tecnology, Japan

Georeferencing accuracy analysis of a single WorldView-3 image collected over Milan

Luigi Barazzetti, Politecnico di Milano, Italy

Assessment of the geometric quality of Sentinel-2 data

Miloš Pandžić, University of Belgrade, Serbia

GPS AND GLONASS combined static precise point positioning

Onkar Dikshit, Indian Institute of Technology (IIT) Kanpur, India

Analysing post-seismic deformation of izmit earthquake with insar, gnss and coulomb stress modelling

Ruken Alac Barut, University of New South Wales, Australia

Multi-Satellite Scheduling Approach for Dynamic Areal Tasks Triggered by Emergent Disasters

Xiaonan Niu, Beijing Normal University, China

Tutorial 6: Practical Remote Sensing: Handling Optical Data, Elbegjargal Nasanbat

Elbegjargal Nasanbat, National Remote Sensing Center

Philippines' first earth observation micro satellite: standard products

Gay Jane Perez, University of the Philippines Diliman, Philippines

II/2 - Multiscale n-dimensional Spatial Data Representations, Data Structures and Algorithms

The need of nested grids for aerial and satellite images and Digital Elevation Models

Guillermo Villa, National Geographic Institute. Spain

Establishing a national 3d geo-data model for building data compliant to CityGML: case of Turkey

Serpil Ates Aydar, Istanbul Technical

University, Turkey

Cloud removal from multi-temporal satellite images using cloud substitution model

Danang Surya Candra, University of Queensland, Australia

Technical aspects for the creation of a multi-dimensional Land Information System

Charalabos Ioannidis, National Technical University of Athens

3D Nearest Neighbor Search Using a Clustered Hierarchical Tree Structure

Francesc Antón Castro, Technical University of Denmark

3D geo-information requirements for disaster and emergency management

Elif Demir Özbek, Istanbul Technical University, Turkey

III/5 - Computer Graphics and Remote Sensing

Irregular Morphing for Real-Time Rendering of Large Terrain

Sid Ali Kalem, USTHB, Algeria

New Approach for forest inventory estimation and timber harvesting planning in mountain areas: the SLOPE project

Federico Devigili, Fondazione Graphitech, Italy

Evaluation of Colour Settings in Aerial Images with the Use of Eye-Tracking User Study

Jakub Miřijovský, Palacký University in Olomouc, Czech Republic

A Fast Approach for Stitching of Aerial Images

Adel Moussa, University of Calgary, Canada

Special texture image matching based on graph theory

Shiyu Chen, Wuhan University, China

Optical remote sensing image optimized dehazing algorithm based on HOT

Yang Zhou, Zhengzhou Institute of Surveying and Mapping, China

Line feature matching

Jingxue Wang, Liaoning Technical University, R.P.China

Denoising algorithm for the pixel-response non-uniformity correction of a scientific CMOS under low light conditions

Changmiao Hu, Chinese Academy of Sciences, China

IV/8 - Planetary Mapping and Spatial Databases

Special software for planetary image processing and research

A.E. Zubarev, Moscow state university of geodesy and cartography, Russian Federation

SPICE tools supporting planetary remote sensing

Charles Acton, NASA/JPL, USA

Mapping of planetary surface age based on crater statistics obtained by an automatic detection algorithm

Atheer L. Salih, TU Dortmund, Germany

Quantitative assessment of a novel super-resolution restoration technique using HiRISE with MSL Navcam images: how much resolution enhancement is possible from repeat-pass observations

Yu Tao, University College London, United Kingdom

Radiometric calibration of Mars HiRISE high resolution imagery based on FPGA

Yifan Hou, Information Engineering University, China; Information Engineering University, China

Geometric calibration of the Clementine UVVIS Camera using images acquired by the Lunar Reconnaissance Orbiter

Emerson Jacob Speyerer, Arizona State University, USA

Batch co-registration of Mars high-resolution images to HRSC MC11-E mosaic

Panagiotis Sidiropoulos, Mullard Space Science Laboratory, United Kingdom

Development of heterogenic distributed environment for spatial data processing

using cloud technologies

I. P. Karachevtseva, Moscow state university of geodesy and cartography, Russian Federation

Automation of Morphometric Measurements for Planetary Surface Analysis and Cartography

A. A. Kokhanov, Moscow state university of geodesy and cartography, Russian Federation

Libration Model for Enceladus Based on Geodetic Control Point Network

E.S. Brusnikin, Moscow state university of geodesy and cartography, Russian Federation

Dense image matching of Mars Express HRSC imagery based on precise point prediction method

Yifan Hou, Information Engineering University, China

Mapping of inner and outer celestial bodies using new global and local topographic data derived from photogrammetric image processing

A. Yu. Zharkova, Moscow state university of geodesy and cartography, Russian Federation

V/1 - Vision Metrology

Eccentricity on an image caused by projection of a circle and a sphere

Ryuji Matsuoka, Kokusai Kogyo Co., Ltd., Japan

Determination of steering wheel angles during car alignment by image analysis methods

Thomas Voegtle, Karlsruhe Institute of Technology (KIT), Germany

Performance evaluation of 3D modeling software for UAV photogrammetry

Hideharu Yanagi, Japan Association of Survivors, Japan

Application of vision metrology to in-orbit measurement of large reflector onboard communication satellite for next generation mobile satellite communication

Maki Akioka, National Institute of Information and Communications Technology, Japan

On fundamental evaluation using uav imagery and 3d modeling software

Kazuya Nakano, Aero Asahi Corporation, Japan; Tokyo Denki University, Japan

Robust vision-based pose estimation algorithm for an UAV with known gravity vector

Vladimir Kniaz, State Research Institute of Aviation Systems (GosNIIAS), Russian Federation

V/2 - Cultural Heritage Data Acquisition and Processing

From point cloud to digital fabrication: a tangible reconstruction of Ca' Vendramin dei Leoni, the Guggenheim Museum in Venice

Caterina Balletti, università luav di venezia, Italy

Knowledge and valorization of historical sites through 3D documentation and modeling

Elisa Farella, Federico II University, Italy

Use of Image Based Modelling for Documentation of Intricately Shaped Objects

Peter Barták, S s.r.o., Páříčková 18, 82108 Bratislava, Slovakia

Photogrammetric Techniques for Promotion of Archaeological Heritage: The Archaeological Museum of Parma (Italy)

Elisa Dall'Asta, University of Parma, Italy

The representation of cultural heritage from traditional drawing to 3D survey: the case study of casamary's abbey

Marco Canciani, University of RomaTre, Italy

The Process of Digitizing of Old Globe

Klara Ambrozova, VUGTK, v.v.i., Czech Republic

HGIS and archive researches: a tool for the study of the ancient mill channel of Cesena (Italy)

Gabriele Bitelli, University of Bologna, Italy

Computational Vision in UV-Mapping of Textured Meshes Coming from Photogrammetric Recovery: Unwrapping Frescoed Vaults

Isabel Martínez-Espejo Zaragoza, Pisa University, Italy

Integration of point clouds from tIs and image-based matching for generation of high resolution orthoimages

Adam Salach, Warsaw University of Technology, Poland

3D Modelling and Interactive Web-Based Visualization of Cultural Heritage Objects

Mila Nikolaeva Koeva, University of Twente, Netherlands

Applications of macro photogrammetry in archaeology

Dubravko Gajski, Faculty for Geodesy, Croatia

From point cloud to BIM: a modelling challenge in the cultural heritage field

Cinzia Tommasi, Politecnico di Milano, Italy

Data Integration Acquired from Micro-UAVs and Terrestrial Laser Scanner for the 3D Mapping of Jesuit Ruins of São Miguel Das Missões

Mário Luiz Lopes Reiss, Federal University of Rio Grande do Sul, Brazil

Non-destructive survey of archaeological sites using airborne laser scanning and geophysical applications

Zdeněk Poloprutský, CTU in Prague, Czech Republic

Three-Dimensional Recording of Bastion Middleburg Monument Using Terrestrial Laser Scanner

Zulkepli Bin Majid, Universiti Teknologi Malaysia, Malaysia

TLS Models generation assisted by UAV survey

Antonia Spanò, Politecnico di Torino, Italy

Acquisition of 3D Information for Vanished Structure by Using Only an Ancient Picture

Yoichi KUNII, Tokyo University of Agriculture, Japan

A geodatabase for multisource data

applied to cultural heritage: the case study of Villa Revedin Bolasco

Alberto Guarnieri, University of Padova, Italy

Probabilistic Guidance of the Reconstruction Process of Russian-orthodox Churches

Maria Chizhova, University of Applied Sciences Würzburg-Schweinfurt, Germany; Technische Universität München, Germany

3D Documentation and Data Management in the Dazu Thousand-Hand Bodhisttva Statue in China

Miaole Hou, Beijing University of Civil Engineering and Architecture, China

3D Modeling of Components of a Garden by Using Point Cloud Data

Rihito Kumazaki, Tokyo University of Agriculture, Japan

Digitization of cultural heritage of Slovak Republik

Anna Sučíková, Pamiatkový úrad SR, Slovakia

Applying lidar data in modern age archaeology and military historical reconstruction

Attila Juhász, Budapest University of Technology and Economics, Hungary

The Survey of Cultural Heritage after an Earthquake: The Case of Emilia – Lombardia In 2012

Andrea Adami, Politecnico di Milano, Italy

VI/2 - E-Delivery of Education Services

GUIDE - A web-based information system promoting learning software in photogrammetry, remote sensing and GIS
Gerhard König, Technische Universität Berlin, Germany

E-Learning in Photogrammetry, Remote Sensing and Spatial Information Science
Anjana Vyas, CEPT University, India

VIII/1 - Disaster and Risk Reduction

Disaster Management: An Integral Part of Science & Technology System and Land Administration-Management System

*Sisi Zlatanova, Delft University of Technology,
The Netherlands*

**Extraction of flooded areas due the 2015
Kanto-Tohoku heavy rainfall in Japan
using PALSAR-2 images**

Fumio Yamazaki, Chiba University, Japan

**Sentinel-1/2 data for ship traffic
monitoring on the Danube River**

*Alexandru Badea, Romanian Space Agency,
Romania*

**A UAV based 3D positioning framework
for detecting locations of buried persons
in collapsed disaster area**

*Hyoungseok Moon, Korea Institute of Civil
Engineering and Building Technology, Korea*

**Evaluating the Human Damage of
Tsunami at Each Time Frame in Aggregate
Units Based on GPS data**

*Yoshiki Ogawa, The University of Tokyo,
Japan*

**Radioactive pollution estimate for
Fukushima Nuclear Power Plant by a
particle model**

Keisuke Saito, Nagasaki University, Japan

**An attempt to develop an Environmental
Information System of Ecological
Infrastructure for evaluating functions of
Ecosystem-based Solutions for Disaster
Risk Reduction (Eco-DRR)**

*Tomoko Doko, Keio University, Japan; Nature
& Science Consulting Co., Ltd., Japan*

**Environmental Impact Assessment
of Rosia Jiu Opencast Area Using an
Integrated SAR Analysis**

*Alexandru Badea, Romanian Space Agency,
Romania*

**Spatial Resolution Effects of Digital
Terrain Models on Landslide Susceptibility
Analysis**

*Kuan-Tsung Chang, Ming-hsin University of
Science and Technology, Taiwan*

**Running to safety: analysis of disaster
susceptibility of neighborhoods and
proximity of safety facilities in Silay City,
Philippines**

*Chito Lim Patiño, University of the Philippines
Cebu Phil-LiDAR 1, Philippines*

Analysis of debris flow behaviors using

airborne LiDAR and image data

Gihong Kim, Gangneung-Wonju National University, Korea

Detecting Disaster Damages of 2015 Typhoon Etau by the Combination Use of Different SAR Satellites

Kenichi Honda, Kokusai Kogyo Co.,Ltd., Japan

Landslide risk mapping and modeling in China

Weiyue Li, Shanghai Normal University, China

The Study of Insurance Premium Rate Mapping Considering the Wind and Flood Hazard Risks

JunSeok Lee, LX Spatial Information Research Institute, Korea

Vulnerability Assessment Using LiDAR Data in Silang-Sta. Rosa Subwatershed, Philippines

Milben Alejandro Bragais, University of the Philippines Los Baños, Philippines

Analysis of debris flow disaster due to heavy rain by X-band MP radar data

Masahiro Nishio, Kinki University, Japan

VIII/2 – Health

Spatial-temporal modelling of particulate matter for health effects studies

Nicholas A. S. Hamm, University of Twente, Netherlands

Causative factors of social inequality and its impact on community health: A Neighbourhood level study in Midnapore Municipal Area, West Bengal, India

Utpal Roy, University of Calcutta, India

ThS 11 - Unmanned Aerial Systems: The Roadmap from Research to Applications

A workflow for UAVs integration into a geodesign platform

Andreea Calugaru, ESRI Romania, Romania; University of Agronomic Sciences and Veterinary Medicine Bucharest

Accuracy assessment of coastal topography reived from UAV images

Nathalie Long, LIENSS, Université de La Rochelle – CNRS, France

Multi-criteria gis analyses with the use of uavs for the needs of spatial planning

Dorota Zawieska, Warsaw University of Technology, Poland

ThS 17 - Smart cities

Estimation of housing vacancy distributions: basic Bayesian approach using utility data

Kiichiro Kumagai, Setsunan University, Japan

Mobile gis: A tool for informal settlement occupancy audit to improve integrated human settlement implementation in Ekurhuleni, South Africa

Baleseng Mokoena, University of Johannesburg, South Africa

Road Network Extraction from DSM by Mathematical Morphology and Reasoning

Yan Li, Nanjing University, China

Estimating pm2.5 in jjj region using 3km modis aod product and meteorological data

Yuenan Li, University of Waterloo, Canada

Geomatics for smart cities: obtaining the urban planning BAF index from existing digital maps

Vittorio Casella, University of Pavia, Italy

Investigating the influence of vegetation density and road network on crime - a case study in Vancouver, British Columbia, Canada

Yuenan Li, University of Waterloo, Canada

Visualisation of dependencies between city structure and thermal behaviour in Brno

Jan Novotny, Academy of Sciences of the Czech Republic, v. v. i., Czech Republic

SpS 13 - FIG: The Surveyors' Response to City Management

Study of using MMS to determine risk of road blocking by collapsed buildings

Kazuhito Nose, ASIA AIR SURVEY CO., LTD., Japan

SpS 14 - IAG: Imaging Geodesy

Geodetic reference system

transformations of 3D archival geospatial data using a single SSC TerraSAR-X image

Dimitra Vassilaki, Technological Educational Institute of Athens, Greece

Rescheduled interactive presentations

Analysis of the possibilities of using low-cost scanning system in 3d modeling

Michal Maksymilian Kedzierski, Military University of Technology, Poland

Chosen aspects of satellite imagery integration from EROS B and LANDSAT 8

Paulina Delis, Military University of Technology, Poland

Determining spectral reflectance coefficients from hyperspectral images obtained from low altitudes

Agnieszka Jenerowicz, Military University of Technology, Poland

Integration of Geodata in Documenting Castle Ruins

Paulina Nerc, Military University of Technology in Warsaw, Poland

14/7 15:30 - 17:00 SAF - SA4 Earth Observation Data Policy and long-term Data Continuity

Session Chair: Lawrence FRIEDL, NASA

15:30 The Contribution of Earth Observation Time Series to the Global Change Dialogue
Ehrenfreund Pascale, DLR

15:52 Geospatial data in support of Future Earth

Mario Hernandez, Future Earth, Switzerland

16:14 Space Data for Societal challenges and Growth; Access to Copernicus data for society and the economy

Andreas Veispak, European Commission, DG GROW I3

16:36 Standards-Based Services for Big Spatio-Temporal Data

Peter Baumann, Jacobs University, Germany

14/7 15:30 - 17:00 NMCAF - SN4 Quality assessment of geoinformation

Session Chair: Andy Mc Gill, Ordnance Survey Ireland

15:30 Quality Assessment in a Changing World

Jonathan Holmes, EuroGeographics Quality Knowledge Exchange Network

15:52 The topographic data deluge – collecting and maintaining data in a 21st century mapping agency

David Anthony Holland, Ordnance Survey, United Kingdom

16:14 Quality issues of 3D geometry in the Swiss Topographic Landscape Model

Kellenberger Tobias, Swiss Federal Office of Topography swisstopo, Switzerland

16:36 UNGGIM-ISPRS Project. Global Status of Mapping

Gottfried Konecny, Leibniz University Hannover, Germany

14/7 16:30 - 18:00 I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 2

Session Chair: Dorota A. Grejner-Brzezinska, The Ohio State University

Session Co-Chair: Martin Kada, Technische Universität Berlin

16:30 Quality Assessment of Building Textures Extracted from Oblique Airborne Thermal Imagery

Dorota Iwaszczuk, Technische Universität München, Germany

16:48 Improve the ZY-3 height accuracy using ICESat/GLAS laser altimeter data
Guoyuan Li, Wuhan University, China; Satellite Surveying and Mapping Application Centre, NASG, China; Jiangsu Center for Collaborative Innovation in Geographical Information Resource Development and Application, China

17:06 Reduction of striping noise in overlapping LiDAR intensity data by radiometric normalization

Wai Yeung Yan, Ryerson University, Canada

17:24 Evaluation Digital Elevation Model Generated by Synthetic Aperture Radar Data
Hasan Bilgehan Makineci, Selcuk University, Turkey

14/7 16:30 - 18:00 II/ThS 17 - Smart Cities 2

Session Chair: Christopher James Pettit, UNSW Australia

Session Co-Chair: Arzu Coltekin, University of Zurich

16:30 Real-time environmental sensors to improve health in the Sensing City
Lukas Marek, University of Canterbury, New Zealand

16:48 Assessing urban droughts in a smart city framework
Renee Obringer, Purdue University, USA

17:06 Big Cycling Data Processing: from Personal Data to Urban Applications
Christopher James Pettit, UNSW Australia, Australia

17:24 Urban growth scenarios of a future mega city: case study Ahmedabad
Arthur Lehner, Austrian Institute of Technology, Austria

17:42 Walkability for different urban granularities
Daria Hollenstein, FHNW University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

14/7 16:30 - 18:00 III/5 - Computer Graphics and Remote Sensing

Session Chair: Mathieu Brédif, IGN

Session Co-Chair: Martin Christen, FHNW

16:30 OpenWebGlobe 2: Visualization of Complex 3D-Geodata in the (mobile) Webbrowser
Martin Christen, FHNW, Switzerland

16:48 Automatic mosaicking of satellite imagery considering the clouds
Yifei Kang, Wuhan University, China

17:06 An IHS-Based Enhancement Method with Improved Scale/Shift Parameter of Linear Model

Zhang Bingxian, Beijing Institute of Space Mechanics & Electricity, China

17:24 Consistent tonal correction for multi-view remote sensing images mosaicking
Menghan Xia, Wuhan University, China

17:42 Roof reconstruction from airborne laser scanning data based on image processing methods
Steffen Goebels, Niederrhein University of Applied Sciences, Germany

14/7 16:30 - 18:00 IV/8 - Planetary Mapping and Spatial Databases 1

Session Chair: Juergen Oberst, German Aerospace Center (DLR)

Session Co-Chair: Irina P. Karachevtseva, Moscow State University of Geodesy and Cartography

16:30 Extracting Accurate and Precise Topography from LROC Narrow Angle Camera Stereo Observations
Megan Rachel Henriksen, Arizona State University, USA.

16:48 A Solution to Low RFM Fitting Precision of Planetary Orbiter Images Caused by Exposure Time Changing
Bin Liu, Chinese Academy of Sciences, China

17:06 Mass movements' detection in HiRISE images of the north pole of Mars
Lida Fanara, DLR, Germany; TU Berlin, Germany

17:24 Identifying Surface Changes on HRSC Images of The Mars South Polar Residual Cap (SPRC)
Alfiah Rizky Diana Putri, University College London, United Kingdom

17:42 A semi-rigorous sensor model for precision geometric processing of Mini-RF bistatic radar images of the Moon
Randolph Kirk, U.S. Geological Survey, Astrogeology Science Center, USA

14/7 16:30 - 18:00 V/4 - Terrestrial 3D Modelling: Algorithms and Methods 1

Session Chair: Jan Boehm, UCL

Session Co-Chair: Thomas Kersten, HafenCity University Hamburg

16:30 Historical buildings models and their handling via 3D survey: from points clouds to HBIM

Giulia Sammartano, Politecnico di Torino, DAD, Italy

16:48 3D documentation of 40 kilometers of historical porticoes – The challenge

Fabio Remondino, FBK Trento, Italy

17:06 3D digitization of an heritage masterpiece - a critical analysis on quality assessment

Fabio Menna, 3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Italy

17:24 Evaluation of acquisition strategies for image-based construction site monitoring

Sebastian Tuttas, Technical University of Munich, Germany

17:42 Sharing high-resolution models and information on web: the web module of bim3dsg system

Fabrizio Rechichi, Politecnico di Milano, Italy

14/7 16:30 - 18:00 VII/6 - Remote Sensing Data Fusion 2

Session Chair: Guoqing Zhou, Guilin University of Technology

Session Co-Chair: Michael Schmitt, Technical University of Munich (TUM)

16:30 Super Resolution Reconstruction Based on Multi-scale Detail Enhancement of ZY-3 Satellite Images

Hong Zhu, Liaoning Technical University

16:48 Modelling the Carbon Stocks Estimation of the Tropical Lowland Dipterocarp Forest Using LiDAR and Remotely Sensed Data

Nurul Ain Mohd Zaki, Universiti Teknologi Mara, Malaysia

17:06 The Optimized Block-regression-based Fusion Algorithm for Pan-sharpening of Very High Resolution Satellite Imagery

Jinghui Yang, Chinese Academy of Surveying and Mapping, China; German Aerospace Center (DLR), Germany

17:24 Assessment of cropping systems diversity in the Fergana Valley through image fusion of Landsat 8 and Sentinel-1

Dimo Dimov, University of Würzburg, Germany

17:42 Pan-sharpening approaches based on unmixing of multispectral remote sensing imagery

Gintautas Palubinskas, German Aerospace Center DLR, Germany

14/7 16:30 - 18:00 VIII/1 - Disaster and Risk Reduction 5

Session Chair: Eugene Levin, Michigan Technological University

Session Co-Chair: Ramji Dwivedi, MNNIT Allahabad

16:30 A New Method to Detect Regions Endangered by High Wind Speeds

Thomas Krauß, German Aerospace Center, Germany

16:48 Multi-temporal SAR Interferometry for landslide monitoring

Ramji Dwivedi, Motilal Nehru National Institute of Technology (MNNIT) Allahabad, India

17:06 Innovative airborne sensors for disaster Management

Orhan Altan, ISPRS 1st Vice President, Turkey

17:24 A meteorological risk assessment method for power lines based on GIS and multi-sensor integration

Zhimin Xu, Wuhan University, China

17:42 Drought forecasting based on machine learning of remote sensing and long-range forecast data

Sumin Park, UNIST, Korea, China; Satellite Surveying and Mapping Application Center, National Administration of Surveying, Mapping and Geo-information, China
Kong S.A.R. (China)



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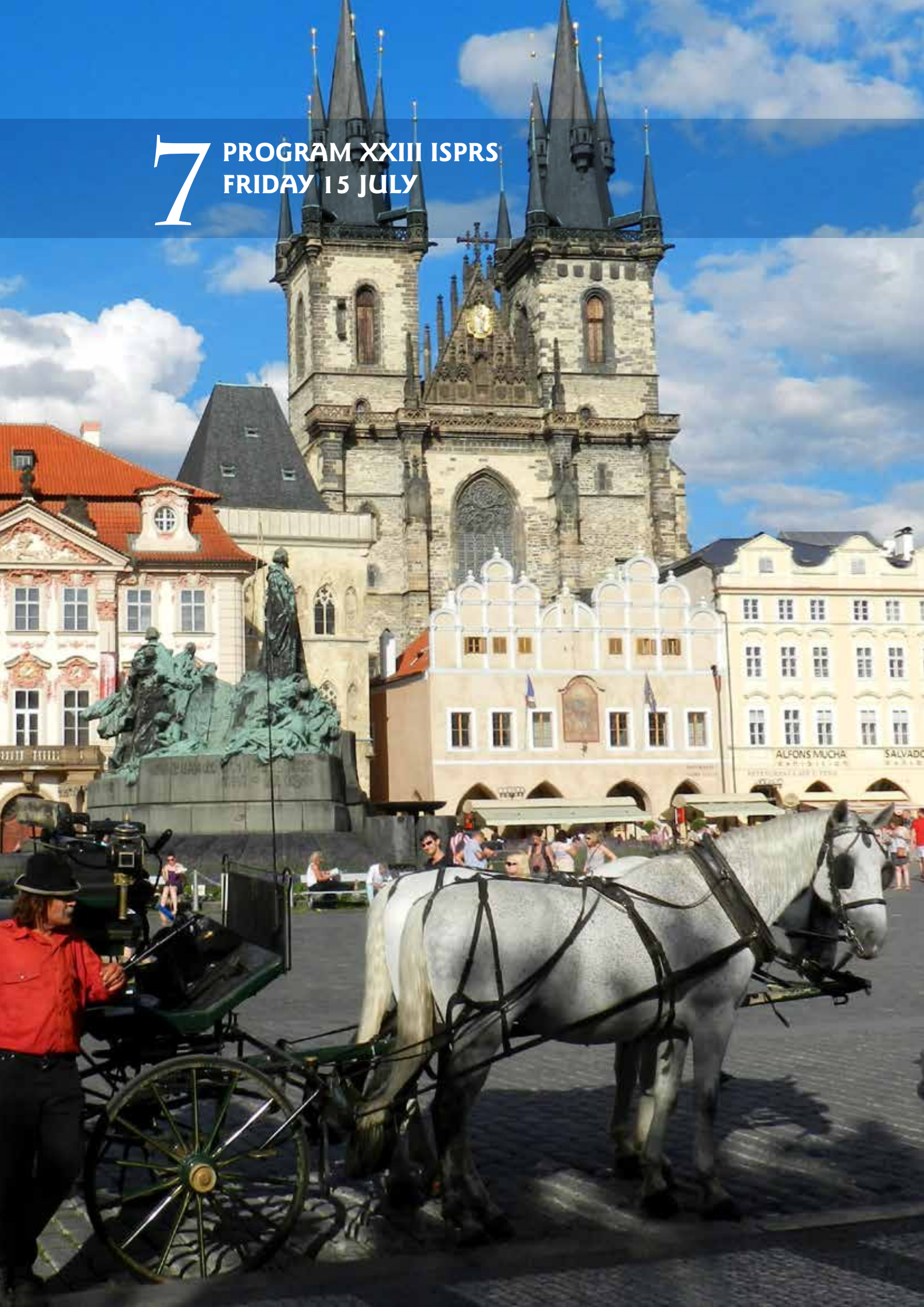
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7 PROGRAM XXIII ISPRS FRIDAY 15 JULY



Friday, 15 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Meeting Hall IV	Elsevier Session I
	Small HallII	I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 3
	Club H	II/3 - Spatial Analysis and Data Mining 1
	Club A	III/VII - Pattern Analysis in Remote Sensing
	Club B	IV/5 - Web and Cloud Based Geospatial Services and Applications 1
	Club C	IV/7 - 3D Indoor Modelling and Navigation 2
	Meeting Hall I	NMCAF+SAF - JS1 High-resolution satellite imaging for geospatial information
	Club E	V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 2
	Club D	VII/ThS 15 - The quest for objects – does Geographic Object-based Image Analysis meet society's needs?
10:30 - 12:00	Meeting Hall IV	Elsevier Session II
	Club H	I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 1
	Small HallII	I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications
	Club B	II/5 - GeoComputation and GeoSimulation
	Club A	III/1 - Orientation and Surface Reconstruction 2
	Meeting Hall I	NMCAF+SAF - JS2 Challenges
	Club C	V/1 - Vision Metrology 2
	Club D	VI/3 - Promotion of International Collaborative Education Programs + VI/5 - Promotion of the Profession to Young People
	Club E	VII/3 - Information Extraction from Hyperspectral Data 1: Spectral based information for Thematic Mapping
13:30 - 15:00	Meeting Hall V	VIII/3 - Weather, Atmosphere and Climate Studies
	Small HallII	I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 5
	Club B	II/6 - Geovisualization and Virtual Reality 1

	Club A	III/cloud - 3D Semantic Point Cloud Challenge
	Club C	IV/1 - Methods for the Update and Verification of Geospatial Databases 2
	Club D	IV/4 - Geospatial Data Infrastructure 2
	Meeting Hall I	NMCAF+SAF - JS3 Future prospects
	Meeting Hall IV	V/2 - Cultural Heritage Data Acquisition and Processing: Direct point cloud acquisition methods
	Meeting Hall V	VII/4 - Methods for Image Classification 5
	Club E	VIII/4 - Water Resources 1
15:00 - 16:30	Foyer 3rd Floor	Interactive session (II/6, III/4, III/VII, IV/1, IV/4, IV/7, V/5, VI/3, VI/4, VI/5, VIII/3, VIII/4,
16:30 - 18:00	Club H	I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 3
	Club B	II/6 - Geovisualization and Virtual Reality 2
	Club A	III/4 - 3D Scene Analysis 2
	Club C	IV/3 - Global DEM Interoperability 2
	Meeting Hall IV	V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 3
	Club D	VII/SpS 16 - EARSel: Imaging Spectroscopy in environmental analyses
	Meeting Hall V	VIII/4 - Water Resources 2
	Club E	VIII/5 - Energy & Geological Applications
	Meeting Hall I	White Elephant Session

Friday 15 July 2016

15/7 08:30 - 10:00 Elsevier Session I

08:30 Author/Reviewer workshop: 'How to publish (and review) in a top journal/ the ISPRS Journal of Photogrammetry and Remote Sensing

15/7 08:30 - 10:00 I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 3

Session Chair: Görres Jochen Grenzdörffer, Rostock University

Session Co-Chair: Francesco Nex, University of Twente - ITC Faculty

08:30 Co-registration of dsms generated by uav and laser scanning systems
Costas Armenakis, York University, Canada

08:48 Assessment of the quality of digital terrain model produced from unmanned aerial system imagery
Dejan Grigillo, University of Ljubljana, Slovenia

09:06 A Robust Registration Algorithm For Time Series UAV-Image-Based Point Clouds For Change Detection
Abdulla Al-Rawabdeh, University of Calgary, Canada

09:24 Direct georeferencing of UAV data based on simple building structures
Winhard Ronald Tampubolon, Universität der Bundeswehr München, Germany

15/7 08:30 - 10:00 II/3 - Spatial Analysis and Data Mining 1

Session Chair: Emmanuel Stefanakis, University of New Brunswick

Session Co-Chair: Qingming Zhan, Wuhan University

08:30 Understanding urban traffic flow characteristics from the perspective of network centrality at different granularities
Pengxiang Zhao, Wuhan University, China

08:48 Event Detection Using Mobile Phone Mass GPS Data and Their Reliability Verification by DMSP/OLS Night Light Image
Akiyama Yuki, The University of Tokyo, Japan

09:06 Identification of Local Surface Urban Heat Island through the Morphology of the Land Surface Temperature
Jiong Wang, Wuhan University, China

09:24 A reliability evaluation system of association rules
Jiangping Chen, Wuhan University, China

09:42 Investigating the potential of activity tracking app data to estimate cycle flows in urban areas
James Haworth, University College London, United Kingdom

15/7 08:30 - 10:00 III/VII - Pattern Analysis in Remote Sensing

Session Chair: Uwe Stilla, Technische Universität München

Session Co-Chair: Stefan Hinz, KIT Karlsruhe

08:30 Semantic segmentation of aerial images with an ensemble of fully convolutional neural networks
Dimitrios Marmanis, German Aerospace Center DLR, Germany; Technische Universität München, Germany

08:48 Fusion of hyperspectral and VHR multispectral image classifications in urban areas
Clément Mallet, IGN, France

09:06 Palm tree detection using circular autocorrelation of polar shape matrix
Abhishek Manandhar, Technische Universität München, Germany

09:24 Vehicle detection of aerial image using TV-L1 texture decomposition
Yanli Wang, Wuhan University, China

15/7 08:30 - 10:00 IV/5 - Web and Cloud Based Geospatial Services and Applications 1

Session Chair: Bert Veenendaal, Curtin University

Session Co-Chair: Lixin Wu, China University of Mining & Technology

08:30 The new NASA Web World Wind virtual globe and visualization of VGI data
Candan Eylul Kilislar, Politecnico di Milano, Italy

08:48 The URBIS project: Identification and characterization of potential urban development areas as a web-based service
Nina Mancke, Universität Osnabrück, Germany

09:06 A map mash-up application: investigation the temporal effects of climate change on salt lake basin
Osman Sami Kirtiloglu, Selcuk University, Konya, Turkey

09:24 A Wildlife Monitoring System Based on Tianditu and Beidou: In Case of the Tibetan Antelope
Hongping Zhang, National Geomatics Center of China, China

09:42 Publishing platform for aerial orthophotos, the complete stack
Jachym Cepicky, Cleerio s.r.o., Czech Republic

15/7 08:30 - 10:00 IV/7 - 3D Indoor Modelling and Navigation 2

Session Chair: Masafumi Nakagawa, Shibaura Institute of Technology
Session Co-Chair: Qing Zhu, Southwest Jiaotong University

08:30 Indoor Navigation from Point Clouds: 3D Modelling and Obstacle Detection
Lucía Díaz-Vilariño, University of Salamanca, Spain; University of Vigo, Spain

08:48 Rasterization and voxelization of 2-d and 3-d space partitionings
Ben Gorte, TU Delft, The Netherlands

09:06 Combining geometric context and orientation map for indoor corridor modeling from a single imagery
Gunho Sohn, York University, Canada

09:24 BIM-GIS Integrated Geospatial Information Model Using Semantic Web and RDF Graphs
El-Hadi Hor, GeolCT, Lab, York University, Canada

09:42 Position, Location, Place and Area: An Indoor Perspective
George Sithole, University of Cape Town, South Africa

15/7 08:30 - 10:00 NMCAF+SAF - JS1 High-resolution satellite imaging for geo-spatial information

Session Chair: Jun Chen, ISPRS/National Geomatics Center of China

08:30 Bringing space to the ground – UNOSAT earth observation solutions with practical impact
Einar Bjorgo, UNOSAT

08:52 Operational remote sensing services in North Eastern Region of India for natural resources management, early warning for disaster risk reduction and knowledge dissemination
P.L.N. Raju, North Eastern Space Applications Centre, Shillong, India

09:14 Towards InSAR everywhere, all the time, with Sentinel-1
Zhenhong Li, Newcastle University, United Kingdom

09:36 Societal benefits of high resolution satellite data: Indian Experiences
Shailesh Nayak, Earth System Science Organisation, India

15/7 08:30 - 10:00 V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 2

Session Chair: Hans-Gerd Maas, TU Dresden
Session Co-Chair: Simon John Buckley, Uni Research AS

08:30 The potential of low-cost RPAS for multi-view reconstruction of sub-vertical rock faces
Riccardo Roncella, University of Parma, Italy

08:48 A review of hyperspectral imaging in close range applications
Simon Buckley, Uni Research CIPR, Norway

09:06 Towards a Low-Cost, Real-Time Photogrammetric Landslide Monitoring System Utilising Mobile and Cloud Computing Technology
Polpreecha Chidburee, Newcastle University, United Kingdom

09:24 Evaluating dense 3d reconstruction software packages for oblique monitoring of

crop canopy surface

Sebastian Brocks, University of Cologne, Germany

15/7 08:30 - 10:00 VII/ThS 15 - The quest for objects – does Geographic Object-based Image Analysis meet society's needs?

Session Chair: Thomas Blaschke, University of Salzburg

Session Co-Chair: Geoffrey Hay, University of Calgary

08:30 Object-based image analysis beyond remote sensing - the human perspective

Thomas Blaschke, University of Salzburg, Austria

08:48 Object-based image analyses for the assessment of mineral extraction in conflict regions of the Democratic Republic of the Congo

Olaf Kranz, University of Salzburg, Austria; Helmholtz Association of German Research Centres, Germany

09:06 Does the data resolution/origin matter? Satellite, airborne and UAV imagery to tackle plant invasions

Jana Müllerová, Institute of Botany CAS, Czech Republic

09:24 Improving the quality of segmentation for road extraction in urban areas

Mehdi Maboudi, University of Tehran, Iran

15/7 10:30 - 12:00 Elsevier Session II

10:30 Publishing innovations workshop: 'Changes in the publishing landscape'

15/7 10:30 - 12:00 I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 1

Session Chair: Peter Reinartz, DLR

Session Co-Chair: Rupert Mueller, DLR

10:30 Kernel MAD Algorithm for Relative Radiometric Normalization

Ping Tang, Chinese Academy of Sciences, China

10:48 Radiometric normalization of large airborne image data sets acquired by

different sensor types

Stephan Gehrke, Hexagon Geosystems, Switzerland

11:06 Distripping for TDICCD remote sensing image based on static features of histogram

Hui-ting GAO, Beijing Institute Of Space Mechanics & Electricity, China

15/7 10:30 - 12:00 I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 4

Session Chair: Görres Jochen Grenzdörffer, Rostock University

Session Co-Chair: Francesco Nex, University of Twente - ITC Faculty

10:30 Non-destructive Monitoring of Rice by hyperspectral in-field Spectrometry and UAV-based Remote Sensing: Case Study of field-grown Rice in North Rhine-Westphalia, Germany

Maximilian Willkomm, University of Cologne, Germany

10:48 Light-weight multispectral UAV sensors and their capabilities for predicting grain yield and detecting plant diseases

Stephan Nebiker, FHNW University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

11:06 UAV-based remote sensing for grassland monitoring

Marcel Possoch, University of Cologne, Germany

11:24 Using remote sensing and RPAS for archaeology and monitoring in western Greenland

Karel Pavelka, Czech Technical University in Prague, Czech Republic

15/7 10:30 - 12:00 II/5 - GeoComputation and GeoSimulation

Session Chair: James Haworth, University College London

Session Co-Chair: Jan Boehm, UCL

10:30 Sideload – Ingestion of Large Point Clouds into the Apache Spark Big Data Engine

Jan Boehm, UCL, United Kingdom

10:48 Geosimulation Modeling Approach for 3D Urban Densification Developments

Suzana Dragicevic, Simon Fraser University, Canada

11:06 A conceptual framework for virtual geographic environments knowledge engineering

Lan You, Chinese University of Hong Kong, Hong Kong S.A.R. (China); Hubei University, China

11:24 A high-performance method for simulating surface rainfall-runoff dynamics using particle system

Fangli Zhang, Shenzhen University, China; Hong Kong Baptist University, Hong Kong, China

11:42 Lateral flooding associated to wave flood generation on river surface

Carolina Ramirez-Nunez, Ruprecht Karls Universität Heidelberg, Germany

15/7 10:30 - 12:00 III/1 - Orientation and Surface Reconstruction 2

Session Chair: Olaf Hellwich, Technical University Berlin

Session Co-Chair: Helmut Mayer, Bundeswehr University Munich

10:30 Image-guided non-local dense matching with three-steps optimization

Yongjun Zhang, Wuhan University, China

10:48 Structureless bundle adjustment with self-calibration using accumulated constraints

Alessandro Cefalu, University of Stuttgart, Germany

11:06 Fast and Resistant Procrustean Bundle Adjustment

Andrea Fusiello, Università di Udine, Italy

11:24 Rectification and robust matching using oriented image triplets for minimally invasive surgery

Niklas Conen, Jade University of Applied Sciences, Germany

11:42 Convex image orientation from relative orientations

Martin Reich, Leibniz Universität Hannover, Germany

15/7 10:30 - 12:00 NMCAF+SAF - JS2 Challenges

Session Chair: Gregory Scott, UN-GGIM

10:30 Earth Observation: Towards the Exabyte Era

Wolfgang Wagner, Technische Universität Wien, Austria

10:52 Geo-brokering, a mission and a challenge for national mapping and cadastral agencies

Ingrid Vanden Berghe, IGN Belgium

11:14 What Happens When You Combine Machine Learning and Satellite Imagery

Giovanni Marchisio, DigitalGlobe, USA

11:36 Planetary Scale Data Processing and Management with Google Earth Engine

Noel Gorelick, Google, USA

15/7 10:30 - 12:00 V/1 - Vision Metrology 2

Session Chair: Mark Shortis, RMIT University

Session Co-Chair: Thomas Luhmann, Jade University of Applied Sciences

10:30 Close range calibration of long focal length lenses in a changing environment

Stuart Robson, UCL, United Kingdom

10:48 Experiments on calibrating tilt-shift lenses for close-range photogrammetry

Erica Nocerino¹, 3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Italy

11:06 Influence of raw image preprocessing and other selected processes on accuracy of close-range photogrammetric systems according to VDI 2634

Jan Reznicek, Jade University of Applied Sciences, Germany

11:24 External verification of the bundle adjustment in photogrammetric software using the Damped Bundle Adjustment Toolbox

Niclas Börlin, Umeå University, Sweden

11:42 Observations on the performance of x-ray computed tomography for dimensional metrology

Hannah Clare Corcoran, UCL, United Kingdom; 2NPL, United Kingdom

15/7 10:30 - 12:00 VI/3 - Promotion of International Collaborative Education Programs + VI/5 - Promotion of the Profession to Young People

Session Chair: Maria Grazia D'Urso, University of Cassino and Southern Lazio

Session Co-Chair: Juan Gregorio Rejas, Universidad Politécnica de Madrid

10:30 Concept and Practice of Teaching Technical University Students to Modern Technologies of 3D Data Acquisition and Processing: A Case Study of Close-Range Photogrammetry and Terrestrial Laser Scanning

Kravchenko Julia, Kyiv National University of Construction and Architecture, Ukraine

10:48 The 'Moon Mapping' Project to Promote Cooperation Between Students of P.R. China and Italy

Marco Scaioni, Politecnico di Milano, Italy

11:06 Close-range sensing techniques in alpine terrain

Martin Rutzing, Austrian Academy of Sciences, Austria; University of Innsbruck, Austria

11:24 Implementation of active teaching methods and emerging topics in photogrammetry and remote sensing

Mojca Kosmatin Fras, University of Ljubljana, Slovenia

11:48 The Use of UAS for Rapid 3D Mapping in Geomatics Education

Peter Tian-Yuan Shih, National Chiao Tung University, Taiwan

15/7 10:30 - 12:00 VII/3 - Information Extraction from Hyperspectral Data 1: Spectral based information for Thematic Mapping

Session Chair: Eyal Ben-Dor, Tel Aviv University

Session Co-Chair: Anna Brook, University of Haifa

10:30 Spatial-spectral Classification Based on the Unsupervised Convolutional Sparse Auto-encoder for Hyperspectral Remote Sensing Imagery

Xiaobing Han, Wuhan University, China

10:48 Virtual dimensionality estimation in hyperspectral imagery based on unsupervised feature selection

Mohsen Ghamary Asl, Toosi University of Technology, Iran

11:06 Evaluating the initialization methods of wavelet networks for hyperspectral image classification

Pai-Hui Hsu, National Taiwan University, Taiwan

11:24 Geometric and reflectance signature characterization of complex canopies using hyperspectral stereoscopic images from UAV and terrestrial platforms

Eija Honkavaara, Finnish Geospatial Research Institute, Finland

15/7 10:30 - 12:00 VIII/3 - Weather, Atmosphere and Climate Studies

Session Chair: Konrad Schindler, ETH Zurich
Session Co-Chair: Nicolas Paparoditis, IGN

10:30 Determination of Methane sources globally by SCIAMACHY

Jonggeol Park, Tokyo University of Information Sciences, Japan

10:48 A Novel Index for Atmospheric Aerosol types Categorization with Spectral Optical Depths from Satellite Retrieval

Tang-Huang Lin, National Central University, Taiwan

11:06 The climate of the Canary Islands by Annual Cycle Parameters

Benjamin Bechtel, University of Hamburg, Germany

11:24 Investigating land surface temperature changes using Landsat data in Konya, Turkey

Osman Orhan, Selcuk University, Turkey

11:42 Spatiotemporal evaluation of nocturnal cold air drainage over a simple slope using thermal infrared imagery

Vahid Ikani, University of Sherbrooke, Canada

15/7 13:30 - 15:00 I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 5

Session Chair: Babak Ameri, GEOSYS Technology Solutions
Session Co-Chair: Wolfgang Förstner, Universität Bonn

13:30 Monitoring of coastal changes including shallow under water areas around the bird island Langenwerder with UAS and bathymetric laser surveys
Görres Jochen Grenzdörffer, Rostock University, Germany

13:48 Co-Registration of Multitemporal UAV Image Datasets for Monitoring Applications: A New Approach
Irene Aicardi, Politecnico di Torino, Italy

14:06 High-resolution debris flow volume mapping with unmanned aerial systems (UAS) and photogrammetric techniques
Marc Adams, Austrian Forest Research Center (BFW), Austria

14:24 Possibilities of using lidar and photogrammetric data obtained with unmanned aerial system for levees monitoring
Wienczyslaw Plutecki, MSP Marcin Szender, Poland

15/7 13:30 - 15:00 II/6 - Geovisualization and Virtual Reality 1

Session Chair: Bo Wu, The Hong Kong Polytechnic University
Session Co-Chair: Susanne Bleisch, FHNW University of Applied Sciences and Arts Northwestern Switzerland

13:30 Direct Image-to-Geometry Registration Using Mobile Sensor Data
Christian Kehl, Uni Research AS - Centre for Integrated Petroleum Research, Norway; University of Bergen, Norway

13:48 Gaze and Feet as Additional Input Modalities for Interacting with Spatial Data
Arzu Coltekin, University of Zurich, Switzerland

14:06 Impact of Schematic Designs on the Cognition of Underground Tube Maps

Zhilin Li, Hong Kong Polytechnic University

14:24 Do the visual complexity algorithms match the generalization process in geographical displays?
Arzu Coltekin, University of Zurich, Switzerland

14:42 Animation Strategies for Smooth Transformations Between Discrete LODs of 3D Building Models
Martin Kada, Technische Universität Berlin, Germany

15/7 13:30 - 15:00 III/cloud - 3D Semantic Point Cloud Challenge

Session Chair: Konrad Schindler, ETH Zurich
Session Co-Chair: Roderik Lindenbergh, TU Delft

13:30 Invited talk
Nicolas Paparoditis, IGN, France

14:10 Introduction of the 3D semantic point cloud challenge
Timo Hackel, ETH Zürich, Switzerland

14:30 Presentation of baseline methods
Timo Hackel, ETH Zürich, Switzerland

14:50 Questions / discussion

15/7 13:30 - 15:00 IV/1 - Methods for the Update and Verification of Geospatial Databases 2

Session Chair: Petra Helmholz, Department of Spatial Sciences, Curtin University
Session Co-Chair: Giorgio Agugiaro, AIT - Austrian Institute of Technology

13:30 Contextual land use classification: How detailed can the class structure be?
Lena Albert, Leibniz Universität Hannover, Germany.

13:48 Methods for the Update and Verification of Forest Surface Model
Marie Brenova, University of Defence, Czech Republic

14:06 Primary creating of Central spatial database of the Slovak Republic and the procedures of revision
Maroš Miškolci, Topografický ústav Banská Bystrica, Slovakia

14:24 Using third party data to update a reference dataset in a quality evaluation service

Emerson M. A. Xavier, Brazilian Army Geographic Service, Brazil; University of Jaen, Spain

14:42 Evaluation of model recognition for grammar-based automatic 3d building model reconstruction

Qian Yu, Curtin University, Australia

15/7 13:30 - 15:00 IV/4 - Geospatial Data Infrastructure 2

Session Chair: Dev Raj Paudyal, University of Southern Queensland

Session Co-Chair: E. Pattabhi Rama Rao, Indian National Centre for Ocean Information Services

13:30 A discussion about effective ways of Basic Resident Register on GIS

Naoya Oku, Kokusai Kogyo co.,ltd., Japan

13:48 A Virtual Hub Brokering Approach for Integration of Historical and Modern Maps

Nazarena Bruno, University of Parma, Italy

14:06 Design for Connecting Spatial Data Infrastructures With Sensor Web (SENSDI)

Devanjan Bhattacharya, University Nova Lisboa, Portugal

14:24 Visual analysis

Haiyan Liu, Institution of surveying and mapping, China

14:42 Data Archiving and Distribution of LiDAR and Derived Datasets in the Philippines

Mark Edwin Tupas, University of the Philippines, Philippines

15/7 13:30 - 15:00 NMCAF+SAF - JS3 Future prospects

Session Chair: Gunter Schreier, DLR

13:30 Wrapping up NMCAF

Julius Ernst OVG- Austrian Society for Surveying and Geoinformation, Austria

13:35 Wrapping up SAF

Ian Dowman UCL, United Kingdom

13:40 Panel discussion

Ingrid Vanden Berghe, IGN Belgium

13:40 Panel discussion

Nicolas Paparoditis, IGN, France

13:40 Panel discussion

Gregory Scott, UN-GGIM

13:40 Panel discussion

Yamamoto Shizuo, JAXA

13:40 Panel discussion

Larson Wade, UrtheCast

13:40 Panel discussion

Lawrence Friedl, NASA

15/7 13:30 - 15:00 V/2 - Cultural Heritage Data Acquisition and Processing: Direct point cloud acquisition methods

Session Chair: Fulvio Rinaudo, POLITECNICO DI TORINO

Session Co-Chair: Mikhail Vavulin, Tomsk State University

13:30 See-Through Imaging of Laser-Scanned 3D Cultural Heritage Objects Based on Stochastic Rendering of Large-Scale Point Clouds

Satoshi Tanaka, Ritsumeikan University, Japan

13:48 Multispectral analysis of indigenous rock art using terrestrial laser scanning

David Belton, Curtin University, Australia

14:06 BIM from laser scans... not just for buildings: NURBS-based parametric modeling of a medieval bridge

Luigi Barazzetti, Politecnico di Milano, Italy

14:24 Virtual reconstruction of lost architectures: from the TLS survey to AR interaction

Roberto Pierdicca, Polytechnic University of Marche, Italy

15/7 13:30 - 15:00 VII/4 - Methods for Image Classification 5

Session Chair: Viktoriya Tsyganskaya, Ludwig Maximilians University Munich

Session Co-Chair: Ping Zhong, National university of defense technology

13:30 SPMK and grab-cut based target extraction from high resolution remote

sensing images

Weihong Cui, Wuhan University, China,
Collaborative Innovation Center for
Geospatial Technology, China; University of
Waterloo, Canada

**13:48 Accounting for variance in
hyperspectral data coming from limitations
of the imaging system**

Boris Mikhailovich Shurygin, Moscow
Institute of Physics and Technology (State
University), Russia

**14:06 Benchmarking Deep Learning
Frameworks for the Classification of High
Resolution Satellite Multispectral Data**

Maria Papadomanolaki, National Technical
University of Athens, Greece

**14:24 Balanced vs Imbalanced Training
Data: Classifying Rapideye Data with
Support Vector Machines**

Fusun Balik Sanli, Yildiz Technical University,
Turkey

**15/7 13:30 - 15:00 VIII/4 - Water Resources
1**

Session Chair: Shaini Naha, Indian Institute of
Remote Sensing

**13:30 Automated wetland delineation
from multi-frequency and multi-polarized
SAR images in high temporal and spatial
resolution**

Linda Moser, GAF AG, Germany

**13:48 Utilization of landsat data for water
quality observation in small inland water
bodies**

Miroslav Páslér, University of Pardubice,
Czech Republic

**14:06 Improved correction method for
water-refracted terrestrial laser scanning
data acquired in the mountain channel**

Naoko Miura, The University of Tokyo, Japan

**14:24 Automatic River Network Extraction
from LiDAR Data**

Eduardo Nuñez Maderal, National Mapping
Agency of Spain, Spain

**14:42 Digital survey techniques for
documentation of wooden shipwreck**

Elisa Costa, IUAV University of Venice, Italy

15/7 15:00 - 16:30 Interactive session

(II/6, III/4, III/VII, IV/1, IV/4, IV/7, V/5,
VI/3, VI/4, VI/5, VIII/3, VIII/4, VIII/5,
ThS15)

II/6 - Geovisualization and Virtual Reality

**VISA: An Automatic Aware and Visual Aids
Mechanism for Improving the Correct Use
of Geospatial Data**

Yu-Ting Su, National Cheng Kung University,
Taiwan

**Integration of images and lidar point
clouds for building façade texturing**

Liang-Chien Chen, National Central
University, Taiwan

**Underwater 3d modeling: image
enhancement and point cloud filtering**

Ioanna Sarakinou, Aristotle University of
Thessaloniki, Greece

**The effectiveness of panoramic maps
design: a preliminary study based on mobile
eyetracking**

Raffaella Balzarini, Inria Grenoble Rhône-
Alpes, France.

**A virtual globe-based multi-resolution
TIN surface modeling and visualization
method**

Xianwei Zheng, Wuhan University, China

**Precise visualization method for cultural
heritage-the case of high-resolution Read
Relief Image Map used for study of Royal
City of Angkor Thom, Cambodia**

Tatsuro Chiba, Asia Air Survey co., Ltd., Japan

**Mosaicking Mexico - The Big Picture of
Big Data**

Shawn Melamed, PCI Geomatics

**Exploratory user study to evaluate the
effect of street name changes on route
planning using 2D maps**

Serena Coetzee, University of Pretoria, South
Africa

**Quality aspects of aerial digital
orthophotos, the producers point of view**

Albert Wiedemann, University of Applied
Sciences Erfurt, Germany

Ground surface visualization using Red

Relief Image Map for a variety of map scales

Bateer Hasi, Asia Air Survey, Co., Ltd, Japan

III/4 - 3D Scene Analysis

Automatic Generation of Building Models with Levels of Detail 1-3

Martin Drauschke, German Aerospace Center, Germany

Analysis of a Graph Based Model for the Detection of River Networks Using Marked Point Processes

Alena Schmidt, Leibniz Universität Hannover, Germany

Hierarchical higher order CRF for the classification of airborne lidar point clouds in urban areas

Joachim Niemeyer, Leibniz Universität Hannover, Germany

Automatic extraction and regularization of building outlines from airborne lidar point clouds

Bastian Albers, Universität Osnabrück

Inlining 3D reconstruction, multi-source texture mapping and semantic analysis using oblique aerial imagery

Dirk Frommholz, DLR, Germany

Automatic road sign inventory using mobile mapping systems

Mario Soilán, Universidad de Vigo, Spain

An Improved Snake Model for Refinement of Lidar-Derived Building Roof Contours Using Aerial Images

Shugen Wang, Wuhan University, China

Fast and robust segmentation and classification for change detection in urban point clouds

Xavier Roynard, MINES ParisTech, PSL Research University, France

Application for 3d scene understanding in estimating discharge of domestic waste along complex urban rivers

Yazid Ninsalam, National University of Singapore; Singapore-ETH Centre, Future Cities Laboratory

Classification of photogrammetric point

clouds of scaffolds for construction site monitoring using subspace clustering and pca

Yusheng Xu, Technische Universität München, Germany

Efficient semantic segmentation of man-made scenes using fully connected crfs

Michael Ying Yang, TU Dresden, Germany

Ray-based detection of openings in urban areas using mobile LIDAR data

Thomas Collet, Siradel, France

Comparison between two 3d building reconstruction approaches - point cloud based vs. image processing based

Dennis Dahlke, Deutsches Zentrum für Luft- und Raumfahrt, Germany

Vectorization of road data extracted from aerial and UAV imagery

Dimitri Bulatov, Fraunhofer IOSB, Germany

A convolutional network for semantic facade segmentation and interpretation

Matthias Schmitz, Bundeswehr University Munich, Germany

Automatic tree-crown detection in challenging scenarios

Dimitri Bulatov, Fraunhofer IOSB, Germany

Semi-automatic building models and facade texture mapping from mobile phone images

Jongwon Jeong, Inha University, Korea

Evaluation of SIFT and SURF for vision based localization

Xiaozhi Qu, Université Paris-Est, IGN, France

Automatically determining scale for unstructured point clouds

Jayren Kadamen, University of Cape Town, South Africa

Automatic building extraction and roof reconstruction in 3K imagery based on line segments

Alexander Köhn, German Aerospace Center (DLR), Germany

Extraction of building boundary lines from airborne LiDAR point clouds

Yi-Hsing Tseng, National Cheng Kung

University, Taiwan,

Automatic 3D Building Reconstruction from a Dense Image Matching Dataset

Andrew Philip McClune, Newcastle University, United Kingdom

Object based image analysis combining high spatial resolution imagery and LiDAR point clouds

Yong Fang, Xi'an Institute of Surveying and Mapping

Impact of building heights on 3D urban density estimation from spaceborne stereo imagery

Feifei Peng, Wuhan University, China

Building change detection by combining LiDAR data and ortho image

Daifeng Peng, Wuhan University, China

Influence of GSD for 3D city modeling and visualization from aerial imagery

Zafar Alam, MOMRA, Saudi Arabia

III/VII - Pattern Analysis in Remote Sensing

A fully automated pipeline for classification tasks with an application to remote sensing

Kumiko Suzuki, Kokusai Kogyo Co., Ltd.

Single-image super resolution for multispectral remote sensing data using convolutional neural networks

Lukas Liebel, Technical University of Munich, Germany

Searching remotely sensed images for meaningful nested gestalten

Eckart Michaelsen, Fraunhofer IOSB, Germany

Beesmart – A crowdsourcing project with smartphones

Eberhard Gülch, Hochschule für Technik Stuttgart, Germany

Assessing the suitability of simulated SAR signatures of debris for the usage in damage detection

Silvia Dorothee Kuny, Fraunhofer IOSB, Germany

Hyperspectral image kernel sparse subspace clustering with spatial max

pooling operation

Hongyan Zhang, Ghent University, Belgium

Extraction of roof lines from high resolution images by a grouping method

Aluir Porfirio Dal Poz, São Paulo State University, Brazil

Image labeling for LiDAR intensity image using K-NN of feature obtained by convolutional neural network

Masaki Umemura, Meijo University

Using morphlet-based image representation for object detection

Vladimir Gorbatshevich, FGUP Gosniias, Russian Federation

No-reference image quality assessment for ZY-3 imagery in urban areas using statistical model

Yi Zhang, Wuhan University, China

Improvement and extension of shape evaluation criteria in multi-scale image segmentation

Mitsuteru Sakamoto, PASCO Corporation, Japan

Knowledge based 3D building model recognition using convolutional neural networks from LiDAR and aerial imageries

Fatemeh Alidoost, University of Tehran, Iran

Detecting linear features by spatial point processes

Dengfeng Chai, Zhejiang University, China

Fast drawing of traffic sign using mobile mapping system

Qi Yao, Wuhan University, China

Spatial-temporal pattern of vegetation index change and the relationship to land surface temperature in Zoige

Zheng Chen, Beijing Normal University, China

The land surface temperatures impact to the land cover types

Mohd Noor Norzailawati, International Islamic University Malaysia (IIUM), Malaysia

A novel ship detection method for large-scale optical satellite images based on visual LBP feature and visual attention model

Zhina Song, Wuhan University, China

Machine learning based road detection from high resolution imagery

Ye Lv, Wuhan University, China

Advanced extraction of spatial information from high resolution satellite data

Tomáš Pour, Palacký University Olomouc, Czech Republic

IV/1 - Methods for the Update and Verification of Geospatial Databases

Data management framework of drone-based 3D model reconstruction of disaster site

Changyoon Kim, Korea Institute of Civil Engineering and Building Technology, Korea

The use of multiple data sources in the process of topographic maps updating

Adriana Cantemir, National Centre of Cartography, Romania

Road network generalization based on float car tracking

Cheng Zhou, WUST, China

IV/4 - Geospatial Data Infrastructure

Automated reverse geocoding of cities for satellite images based on cascaded k nearest neighbor algorithm: a case study of Turkey

Alper Akoguz, Center for Satellite Communications and Remote Sensing, ITU, Turkey

The effect of pixel size on the accuracy of orthophoto production

Ferruh Yildiz, Selcuk University, Turkey

Geolocation support for water supply and sewerage projects in Azerbaijan

Magsad Huseyn Gojmanov, Baku State University, Azerbaijan

IV/7 - 3D Indoor Modelling and Navigation

Video based indoor fingerprinting and positioning

Xing Zhang, Shenzhen University, China

A Laser-SLAM Algorithm for Indoor Mobile Mapping

Kai Sun, Ledor Spatial Information

Technology Co., China

The generation of building floor plans using portable and unmanned aerial vehicle mapping system

Guang-Je Tsai, National Cheng Kung University, Taiwan

A schema for extraction of indoor pedestrian navigation grid network from floor plans

Lei Niu, Henan University of Urban Construction, China

An indoor space partition method for fingerprint location considering pedestrian accessibility

Yue Xu, Nanjing Normal University, China

An Indoor Navigation Algorithm Considering Obstacles on 2D Plan

Shuangfeng Wei, Beijing University of Civil Engineering and Architecture, China; Key Laboratory for Urban Geomatics of National Administration of Surveying, Mapping and Geoinformation, China; Delft University of Technology, The Netherlands

A semantic model to define indoor space in context of emergency evacuation

Nishith Maheshwari, International Institute of Information Technology, India

V/5 - Close-range Measurements for Bio-medical Sciences and Geosciences

Panorama Image Sets for Photogrammetric Terrestrial Surveys

Livia Piermattei, University of Padova, Italy

Mapping eroded areas on mountain grassland with terrestrial photogrammetry and object-based image analysis

Andreas Mayr, University of Innsbruck, Austria

Review of advances in Cobb angle calculation and image-based modeling of spinal deformities

Vasilis Giannoglou, Aristotle University of Thessaloniki, Greece

A simulation tool assisting the design of a close range photogrammetry system for the Sardinia Radio Telescope

Franco Buffa, Osservatorio Astronomico di Cagliari, INAF

Autonomous Robotic Inspection in Tunnels

Anastasios Doulamis, National Technical University of Athens, Greece

Exploitation of stereophotogrammetric measurement of a foot in analysis of plantar pressure distribution

Barbora Pánková, Charles University in Prague, Czech Republic

3D modelling and rapid prototyping for cardiovascular surgical planning – two case studies

Erica Nocerino, 3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Italy

Deformation monitoring of retrofitted short concrete columns with laser sensor

Emin Ozgur Avsar, Istanbul Technical University, Turkey

Development of a UAV-based landslide monitoring system

Maria Valasia Peppas, Newcastle University, UK

Assessment of restoration methods of x-ray images with emphasis on medical photogrammetric usage

Sahar Hosseini, University of Tehran, Iran

4D animation reconstruction from multi-camera coordinates transformation

Jyun-Ping Jhan, National Cheng Kung University, Taiwan

A Photogrammetric Instrument for Underground Pipe Survey in the Well Bottom

Yongrong Li, Chinese Academy of Surveying and mapping, China

VI/3 - Promotion of International Collaborative Education Programs

A Framework for an Open Source Geospatial Certification Model

Franz-Josef Behr, Stuttgart University of Applied Sciences, Germany

VI/4 - Promotion of Regional Cooperation

and Regional Capacity Development in Geoinformatics

Filtering Techniques on Analysis of Archeology Areas Using Radarsat Images: Case Study of Lembah Bujang, Malaysia
Norzailawati Mohd Noor, International Islamic University of Malaysia, Malaysia

VI/5 - Promotion of the Profession to Young People

Contest of web-based geospatial applications for students and young scientists

Fuan Tsai, National Central University, Taiwan

Latest developments of the ISPRS Student Consortium

Ivan Detchev, University of Calgary, Canada

VIII/3 - Weather, Atmosphere and Climate Studies

Detection of dry intrusion on water vapour images over central Europe – June 2010 to September 2011

Petr Kolar, University of Defence, Czech Republic

Impact of level of details in the 3D reconstruction of trees for microclimate modeling

Elena Bournez, ICube laboratory, France

Sensitivity of land surface and Cumulus schemes for Thunderstorm prediction

Dinesh Kumar, Central University of Jammu, India

Determining the impacts of land cover/use categories on land surface temperature using Landsat 8-OLI

Emine Mujgan Ergene, Istanbul Technical University, Turkey

VIII/4 - Water Resources

Estimation of phosphorus emissions in the upper Iguazu basin (Brazil) using GIS and the MoRE model

Regina Tiemy Kishi, UFPR Federal University of Parana, Brazil

A Combined Approach with Smos and Modis to Monitor Agricultural Drought

Nilda Sanchez, Universidad de Salamanca, Spain

Optimal band ratio analysis of worldview-3 imagery for bathymetry of shallow rivers (case study: Sarca river, Italy)

Milad Niroumand-Jadidi, University of Trento, Italy; Freie Universität Berlin, Germany

Quantification of glacier depletion in the central Tibetan Plateau by using integrated satellite remote sensing and gravimetry

Kuo-Hsin Tseng, National Central University, Taiwan

Understanding the behavior of sediment and nutrient spread in nagarjuna sagar reservoir using temporal landsat data, Water Resources paper

Tarun Teja Kondraju, IIIT-HYDERABAD, India

Change detection of lake Aba Samuel in Ethiopia

Romuald Kaczynski, Military University of Technology, Poland

Remote Sensing Application of the Geophysical Changes in the Coastlines and Rivers of Zambales, Philippines

Annie Melinda Paz-Alberto, Central Luzon State University, Philippines

Assesment of surface water from sobradinho's resorvoir under drought effects using multi-temporal landsat images

Erivaldo Antonio da Silva, FCT - UNESP, Brazil

Relation between GRACE-derived water storage change and precipitation over Kaidu River Basin, China

Junyi Huang, Hong Kong Baptist University, Hong Kong S.A.R. (China)

A study of water pollution early warning framework based on Internet of things

Chengfang Hu, Changjiang River Scientific Research Institute, China

Evaluation of rainfall-runoff models for mediterranean subcatchments

Ahmet Cilek, University of Cukurova, Turkey

VIII/5 - Energy & Geological Applications

Gold mineral prospecting using Phased Array type L-band Synthetic Aperture Radar (PALSAR) satellite remote sensing data, Central Gold Belt, Malaysia

Amin Beiranvand Pour, Universiti Teknologi Malaysia, Malaysia

Detection and Discrimination of the Thick Oil Patches on the Sea Surface

Dominique Dubucq, TOTAL, France

Application of PALSAR-2 remote sensing data for landslide hazard mapping in Kelantan river basin, Peninsular Malaysia

Amin Beiranvand Pour, Universiti Teknologi Malaysia, Malaysia

GIS-Based Wind Farm Site Selection Model in the Emirate of Abu Dhabi, Uae

Nazmi Saleous, UAE University, United Arab Emirates

ThS 15 - The quest for objects – does Geographic Object-based Image Analysis meet society's needs?

Improvement evaluation on ceramic roof extraction using WORLDVIEW-2 imagery and geographic data mining approach

Vanessa da Silva Brum-Bastos, University of St Andrews

15/7 16:30 - 18:00 I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 3

Session Chair: Charles K Toth, The Ohio State University

Session Co-Chair: Norbert Haala, University of Stuttgart

16:30 Mobile mapping by fmcw synthetic aperture radar operating at 300 GHz

Stephan Palm, Fraunhofer FHR, Germany

16:48 Geometric Quality Assessment of Lidar Data Based on Swath Overlap

Aparajithan Sampath, SGT, Contractor to US Geological Survey, USA

17:06 HOPC: A Novel Similarity Metric Based on Geometric Structural Properties for Multi-Modal Remote Sensing Image Matching

Yuanxin Ye, Southwest Jiaotong University, China

17:24 Medium format camera evaluation based on the latest PHASE ONE technology
Tobias Toelg, Phase One A/S, Denmark

15/7 16:30 - 18:00 II/6 - Geovisualization and Virtual Reality 2

Session Chair: Arzu Coltekin, University of Zurich

Session Co-Chair: Christopher James Pettit, UNSW Australia

16:30 Investigating the use of 3D geovisualizations for urban design in informal settlement upgrading in South Africa
Victoria Rautenbach, University of Pretoria, South Africa

16:48 Towards the development of a taxonomy for visualisation of streamed geospatial data
Bolelang Sibolla, CSIR, South Africa

17:06 On the Usability and Usefulness of 3D (Geo)Visualizations and Virtual Reality
Arzu Coltekin, University of Zurich, Switzerland

17:24 Challenges of a modern atlas of the Ageing Society
Susanne Bleisch, FHNW University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

17:42 Integration of GIS and BIM for indoor geovisual analytics
Bo Wu, The Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

15/7 16:30 - 18:00 III/4 - 3D Scene Analysis 2

Session Chair: Markus Gerke, University of Twente

Session Co-Chair: Bruno Vallet, IGN

16:30 Iterative re-weighted instance transfer for domain adaptation
Andreas Paul, Leibniz Universität Hannover, Germany

16:48 Potential of Multi-Temporal Oblique Airborne Imagery for Structural Damage Assessment
Anand Vetrivel, University of Twente,

Netherlands

17:06 Joint simultaneous reconstruction of regularized building superstructures from low-density LIDAR data using ICP
Andreas Wichmann, Technische Universität Berlin, Germany

17:24 A global solution to topological reconstruction for building roof models from airborne lidar point clouds
Jie Shan, Wuhan University; Purdue University

17:42 Incremental Refinement of Façade Models with Attribute Grammar from 3D Point Clouds
Youness Dehbi, University of Bonn, Germany

15/7 16:30 - 18:00 IV/3 - Global DEM Interoperability 2

Session Chair: Jan-Peter Muller, UCL Mullard Space Science Laboratory

Session Co-Chair: Dean Gesch, U.S. Geological Survey

16:30 Validation of 'AW3D' global DSM generated from ALOS PRISM
Junichi Takaku, Remote Sensing Technology Center of Japan, Japan

16:48 Generation of the 30 m-mesh global digital surface model by ALOS PRISM
Takeo Tadono, Japan Aerospace Exploration Agency, Japan

17:06 Vertical accuracy assessment of 30-m resolution ALOS, ASTER, and SRTM global DEMs over northeastern Mindanao, Philippines
Jojene Santillan, Caraga State University, Philippines

17:24 ICESAT validation of TANDEM-X I-DEM over the UK
Lang Feng, University College London, United Kingdom

17:42 Comparative analysis of global digital elevation models and ultra-prominent mountain peaks
Carlos H., Grohmann, University of Sao Paulo, Brazil

15/7 16:30 - 18:00 V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 3

Session Chair: Danilo Schneider, Technische Universität Dresden

Session Co-Chair: Patrik Meixner, Primis spol. s r. o.

16:30 3D geological outcrop characterization: Automatic detection of 3D planes (azimuth and dip) using LiDAR point clouds
Katharina Anders, Heidelberg University, Germany

16:48 Mapping alpine vegetation location properties by dense matching
Robert Niederheiser, Austrian Academy of Sciences, Austria

17:06 Synergetic Fusion of UAV and TLS Data for Soil Erosion Assessment
Anette Eltner, Technische Universität Dresden, Germany

17:24 A comparison of UAV and TLS data for soil roughness assessment
Milutin Z Milenkovic, Vienna University of Technology, Austria

17:42 Generation and comparison of TLS and SfM based 3D models of solid shapes in hydromechanic research
Danilo Schneider, Technische Universität Dresden, Germany

15/7 16:30 - 18:00 VII/SpS 16 - EARSeL: Imaging Spectroscopy in environmental analyses

Session Chair: Klaus-Ulrich Komp, EFTAS Remote Sensing Transfer of Technology

Session Co-Chair: Lucie Homolová, Global Change Research Institute

16:30 Supporting Management of European Refugee Streams by Earth Observation and Geoinformation
Klaus-Ulrich Komp, EFTAS Remote Sensing Transfer of Technology, Germany

16:48 Identification of a robust lichen index for the deconvolution of lichen and rock mixtures using pattern search algorithm (case study: Greenland)

Sara Salehi, University Of Copenhagen; Geological Survey of Denmark and Greenland,

17:06 Task-dependent Band-Selection of Hyperspectral Images by Projection-Based Random Forests
Ronny Haensch, Technische Universität Berlin, Germany

17:24 Influence of the Viewing Geometry on Hyperspectral Data Retrieved from UAV Snapshot Cameras
Helge Aasen, Institut of Geography, Germany

17:42 Estimation of forest biochemical and structural properties from airborne imaging spectroscopy data
Lucie Homolová, Global Change Research Institute, Czech Republic

15/7 16:30 - 18:00 VIII/4 - Water Resources 2

Session Chair: Miroslav Pásler, University of Pardubice

Session Co-Chair: Linda Moser, German Aerospace Center (DLR)

16:30 Spatiotemporal dynamics of surface water extent from three decades of seasonally continuous Landsat time series at subcontinental scale
Mirela Tulbure, University of New South Wales, Australia

16:48 Long-term monitoring of water dynamics in the Sahel region using the Multi-SAR-System
Adina Bertram, German Aerospace Center, Germany; Sachverständigenbüro für Luftbildauswertung und Umweltfragen, Germany

17:06 An original processing method of satellite altimetry for estimating water levels and volume fluctuations in a series of small lakes of the Pantanal wetland complex in Brazil
Paulo Henrique da Costa, Universidade Federal de Minas Gerais, Brazil

17:24 Hydrological modelling and data assimilation of satellite based snow cover area using a variable infiltration capacity macro scale land surface model

Shaini Naha, Indian Institute of Remote Sensing, India

17:42 Validation of Satellite Precipitation (TRMM 3B43) in Ecuadorian Coastal Plains, Andean Highlands and Amazonian Rainforest

Daniela Ballari, University of Cuenca, Ecuador

17:30 How to give a presentation

Shunji Murai, Japan Earthquake Science Exploration Agency, Japan
photogrammetric point clouds of scaffolds for construction site monitoring using subspace clustering and pca

15/7 16:30 - 18:00 VIII/5 - Energy & Geological Applications

Session Chair: SM Ramasamy, Bharathidasan university

Session Co-Chair: Rao Sriramachandra Divi, Kuwait University

16:30 Geological mapping by combining spectral unmixing and cluster analysis for hyperspectral data

Yasushi Yamaguchi, Nagoya University, Japan

16:48 Development of a Multi-Site and Multi-Device Webgis-Based Tool for Tidal Current Energy Development

Ma. Rosario Concepcion Ortiz Ang, University of the Philippines Diliman, Philippines

17:06 Thermal Remote sensing - New algorithm

Nithiyanandam Yogeswaran, TERI University, India

17:24 Geological mapping using machine learning algorithms

Alexander Stanford Harvey, Queen's University

17:42 Anomaly identification from super-low frequency electromagnetic data for coalbed methane detection

Shanshan Zhao, Peking University, China

15/7 16:30 - 18:00 White Elephant Session

Session Chair: Armin Gruen, ETH Zurich

16:30 How to write a thesis

Armin Gruen, ETH Zurich, Switzerland

17:00 How to prepare a project proposal

Gottfried Konecny, Leibniz University Hannover, Germany



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8

PROGRAM XXIII ISPRS
SATURDAY 16 JULY



Saturday, 16 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Congress Hall	Plenary 2
10.30 - 12:00	Club B	I/3 - Multi-Platform Multi-Sensor System Calibration 3
	Club H	II/3 - Spatial Analysis and Data Mining 2
	Club C	III/3 - Image Sequence Analysis 2
	Club A	IV/8 - Planetary Mapping and Spatial Databases 2
	Club E	V/4 - Terrestrial 3D Modelling: Algorithms and Methods 2
	Club D	VII/2 - DEM Generation and Surface Deformation Monitoring from SAR Data + SpS 14 - IAG: Imaging Geodesy
	Meeting Hall I B	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 1
13:30 - 15:00	Club H	I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 4
	Club C	II/4 - Spatial Statistics and Uncertainty Modeling
	Club D	II/ThS 12 - Location-based Social Media Data
	Club A	IV/5 - Web and Cloud Based Geospatial Services and Applications 2 + SpS 6 - ICA: LBS and ubiquitous cartography
	Club B	IV/II - Computing Optimization for Spatial Databases and Location based Services + IV/II/VIII - Global Land Cover Mapping and Services + IV/6 - Sensor Web and Internet of Things 1
	Club E	V/SpS 1 - CIPA: Geospatial Technology for Cultural Heritage
	Meeting Hall I A	VII/ThS 6 - Persistent Scatterer Interferometry
15:00 - 16:30	Meeting Hall I B	VIII/6 - Cryosphere 1
	Foyer 3rd Floor	Interactive session (I/1, I/3, II/4, III/2, IV/5, IV/II, V/4, VII/2, VIII/6, ThS4, ThS7, ThS9,
16:30 - 18:00	Club B	I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 2
	Club H	III/2 - Point Cloud Processing 2
	Club A	IV/8 - Planetary Mapping and Spatial Databases 3

	Club C	IV/ThS 9 - In-door and out-door seamless location and navigation
	Club E	V/3 - Terrestrial 3D Imaging and Sensors 2
	Club D	VII/ThS 7 - Information extraction from SAR imagery
	Meeting Hall I A	VIII/6 - Cryosphere 2
	Meeting Hall I B	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 2

Saturday 16 July 2016

16/7 08:30 - 10:00 Plenary 2

Session Chair: Lena Halounová, ISPRS Prague

Session Co-Chair: Christian Heipke, LUH

08:30 Flexible Navigation for Mobile Robots Operating in the Real

Cyrril Stachniss, University of Bonn, Germany

09:00 3D Reconstruction from Photographs

Tomas Pajdla, Czech Technical University in Prague, Czech Republic

09:30 Big Data in Photogrammetry and Remote Sensing

Deren Li, Wuhan University, China

16/7 10:30 - 12:00 I/3 - Multi-Platform Multi-Sensor System Calibration 3

Session Chair: Ayman Habib, Purdue University

Session Co-Chair: Boris Jutzi, KIT

10:30 Matching aerial images to 3d building models based on context-based geometric hashing

Gunho Sohn, York University, Canada

10:48 Performance evaluation of different ground filtering algorithms for uav-based point clouds

Cigdem Serifoglu, Karadeniz Technical University, Turkey

11:06 Orientation of Oblique Airborne Image Sets - Experiences from the ISPRS/EuroSDR Benchmark on Multi-Platform Photogrammetry

Markus Gerke, University of Twente, The Netherlands

11:24 Multi Sensor and Platforms Setups for Various Airborne Applications

Rudi Vasel, Aerial Surveys GmbH, Germany

11:42 Co-registration Airborne LiDAR point cloud data and synchronous digital images using combined adjustment

Yunsheng Zhang, Central South University, China

16/7 10:30 - 12:00 II/3 - Spatial Analysis and Data Mining 2

Session Chair: Stefania Zourlidou, Leibniz University

Session Co-Chair: Luliang TANG, Wuhan University

10:30 Application of dsm in obstacle clearance surveying of aerodrome

Xin Qiao, Qingdao Geotechnical Investigation and Surveying Institute, China

10:48 Wikipedia Entries as a Source of Car Navigation Landmarks

Sagi Dalyot, The Technion, Israel

11:06 Intersection detection based on qualitative spatial reasoning on stopping-point clusters

Stefania Zourlidou, Leibniz University, Germany

11:24 Crowdsourcing Big Trace data Filtering: A Partition-and-Filter Model

Xue Yang, Wuhan University, China

11:42 Towards adaptive high-resolution images retrieval schemes

Assia Kourgli, USTHB, Algeria

16/7 10:30 - 12:00 III/3 - Image Sequence Analysis 2

Session Chair: Michael Ying Yang, ITC - University of Twente

Session Co-Chair: Clément Mallet, IGN

10:30 Accurate Optical Target Pose Determination for Applications in Aerial Photogrammetry

Davide Antonio Cucci, École polytechnique fédérale de Lausanne, Switzerland

10:48 Change detection via morphological comparative filters

Yuri V. Vizilter, State Research Institute of Aviation Systems, Russian Federation

11:06 Simultaneous detection and tracking of pedestrian from panoramic laser scanning data

Wen Xiao, Newcastle University, UK

11:24 GPS-Denied Geo-Localisation Using Visual Odometry

Alper Yilmaz, The Ohio State University, USA

11:42 A unified blending framework for panorama completion via graph cuts
Kai Chen, Wuhan University, China

16/7 10:30 - 12:00 IV/8 - Planetary Mapping and Spatial Databases 2

Session Chair: Paul Schenk, Ipi

Session Co-Chair: Jonas Bostelmann, Leibniz Universität Hannover

10:30 Korean lunar lander – concept study for landing-site selection for lunar resource exploration

Christian Wöhler, Technische Universität Dortmund, Germany

10:48 Geopositioning precision analysis of multiple image triangulation using IRO NAC lunar images

Kaichang Di, Institute of Remote Sensing and Digital Earth, CAS, China

11:06 Photogrammetric processing of apollo 15 metric camera oblique images

Kenneth Lee Edmundson, U.S. Geological Survey, USA

11:24 Method of a planetary rover localization based on synthetic Lunokhod images

Natalia Kozlova, MIIGAiK MExLab, Russian Federation

11:42 Estimate of DTM degradation due to image compression for the stereo camera of the Bepicolombo mission

Cristina Re, INAF, Italy

16/7 10:30 - 12:00 V/4 - Terrestrial 3D Modelling: Algorithms and Methods 2

Session Chair: Diego Gonzalez-Aguilera, University of Salamanca

Session Co-Chair: Takashi Fuse, University of Tokyo

10:30 Exploring regularities for improving façade reconstruction from terrestrial point clouds

Kaixuan Zhou, TU Delft, The Netherlands

10:48 Validation of point clouds segmentation algorithms through their application to several case studies for indoor building modelling

Hélène Macher, ICube Laboratory UMR 7357,

INSA Strasbourg, France

11:06 Deriving 3D point clouds from terrestrial photographs - Comparison of different sensors and software

Helene Petschko, Friedrich Schiller University Jena, Germany

11:24 Integrating Smartphone Images and Airborne Lidar Data for Complete Urban Building Modelling

Shenman Zhang, Wuhan University, China

11:42 Combination of TLS point clouds and 3D data from Kinect v2 sensor to complete indoor models

Elise LACHAT, ICube Laboratory - INSA Strasbourg, France

16/7 10:30 - 12:00 VII/2 - DEM Generation and Surface Deformation Monitoring from SAR Data + SpS 14 - IAG: Imaging Geodesy

Session Chair: Uwe Soergel, TU Darmstadt

Session Co-Chair: Michele Crosetto, CTTC

10:30 Monitoring of land subsidence in Ravenna municipality using integrated sar - gnss techniques: description and first results.

Giuseppe Artese, University of Calabria, Italy

10:48 Monitoring Ground Subsidence in Areas Covered By Dense Vegetation Using TerraSAR-X Images: A Case Study of Hangzhou

Hong'an Wu, Chinese Academy of Surveying and Mapping, China

11:06 Coseismic Deformation Field and Fault Slip Distribution of the 2015 Chile Mw8.3 Earthquake

Chunyan Qu, State Key Laboratory of Earthquake Dynamics, Institute of Geology, China

11:24 Sentinel-1 InSAR processing of corner reflector information in the northern-Bohemian coal basin

Ivana Hlavacova, Czech Technical University in Prague, Czech Republic

11:42 Precursory Slope Deformation Around Landslide Area Detected by InSAR Throughout Japan

Takayuki Nakano, Geospatial Information

Authority of Japan, Japan

16/7 10:30 - 12:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 1

Session Chair: Evgeny Panidi, Saint-Petersburg State University

Session Co-Chair: Kentaro Kuwata, the University of Tokyo

10:30 How Much Carbon is Store in Deserts? An Approach for Chilean Atacama Desert Using Landsat-8 Products

Hector Jaime Hernandez, Universidad de Chile, Chile

10:48 Urban Morphological Dynamics in Santiago (Chile): Proposing Sustainable Indicators From Remote Sensing

Hector Jaime Hernandez, Universidad de Chile, Chile

11:06 Examining Urban Expansion Using Multi-temporal Landsat Imagery: A Case Study Of The Montreal Census Metropolitan Area From 1975 to 2015, Canada

Lingfei Ma, Univeristy of Waterloo, Ontario, Canada

11:24 Comparison of Uncalibrated Rgbvi with Spectrometer-Based NDVI Derived from UAV Sensing Systems on Field Scale

Georg Bareth, University of Cologne, Geography, Germany

11:42 Multi-temporal analysis of WWII reconnaissance photos

Patrik Meixner, Primis spol. s r. o., Czech Republic

16/7 13:30 - 15:00 I/2 - LiDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms 4

Session Chair: Norbert Haala, University of Stuttgart

Session Co-Chair: Dorota Iwaszczuk, Technische Universität München

13:30 Simulation of full-waveform laser altimeter echo waveform

Yi Lv, Tongji University, China

13:48 Pairwise-SVM for On-Board Urban Road LiDAR Classification

Zhen Shu, Leador Spatial Information Technology Co., Ltd, China

14:06 Developing the stablilized mapping system for the gyrocopter - report from the first tests

Jakub Kolecki, ADRAM Ltd., Poland

14:24 Potential of Airborne Imaging Spectroscopy at CzechGlobe

Jan Hanuš, UVGZ AV ČR - CzechGlobe, Czech Republic

16/7 13:30 - 15:00 II/4 - Spatial Statistics and Uncertainty Modeling

Session Chair: Wenzhong John Shi, The Hong Kong Polytechnic University

Session Co-Chair: Huan Xie, Tongji University

13:30 A Contributor-Reputation Based Trust Degree Computation Model for Crowdsourcing Geographic Data

Xiaoguang Zhou, Central South University, China

13:48 Accuracy and spatial variability of GNSS surveying to landslides mapping in road inventories to semi-detailed scale: case in Colombia

Nixon Alexander Correa Muñoz, Universidad Nacional de Colombia, Colombia

14:06 Analysis and Validation of Grid DEM Generation Based on Gaussian Markov Random Field (GMRF)

Fernando J. Aguilar, University of Almeria, Spain

14:24 Validation and Upscaling of Soil Moisture Satellite Products in Romania

Ionut Sandric, Esri Romania; University of Bucharest, Romania

14:42 Evaluating the effects of reductions in lidar data on the visual and statistical characteristics of the created digital elevation models

Fahmy Fahiem Asal, Menoufia University, Egypt

16/7 13:30 - 15:00 II/ThS 12 - Location-based Social Media Data

Session Chair: Marguerite Madden, University of Georgia

Session Co-Chair: Mingshu Wang, University of Georgia

13:30 A three-step spatial-temporal-semantics clustering algorithm for human activity pattern analysis

Wei Huang, Ryerson University, Toronto, Canada

13:48 Using crowdsourced data (twitter & facebook) to delineate the origin and destination of commuters of the gautrain public transit system in south africa
Themban Moyo, University of Johannesburg, South Africa

14:06 NASA Web World Wind: Multidimensional Virtual Globe for Geo Big Data Visualization
Gabriele Prestifilippo, Politecnico di Milano, Italy

14:24 Using geo-targeted social media data to detect outdoor air pollution
Wei Jiang, Wuhan University, China

16/7 13:30 - 15:00 IV/5 - Web and Cloud Based Geospatial Services and Applications 2 + SpS 6 - ICA: LBS and ubiquitous cartography

Session Chair: Maria Antonia Brovelli, Politecnico di Milano

Session Co-Chair: Bert Veenendaal, Curtin University

13:30 Designing and modelling coast management gis for bosphorus
Mustafa Umit Gumusay, Yildiz Technical University, Turkey;

13:48 Vega-Constellation Tools to Analyze Hyperspectral Images
Victor Petrovich Savorskiy, Kotel'nikov IRE RAS, Russian Federation

14:06 Defining earth data batch processing tasks by means of a flexible workflow description language
Constantin-Ioan Nandra, Technical University of Cluj-Napoca, Romania

14:24 Atlas basemaps in Web 2.0 epoch
Viktor Chabaniuk, National Academy of Sciences of Ukraine, Ukraine

16/7 13:30 - 15:00 IV/II - Computing Optimization for Spatial Databases

and Location based Services + IV/II/VIII - Global Land Cover Mapping and Services + IV/6 - Sensor Web and Internet of Things 1

Session Chair: Umit Isikdag, Mimar Sinan Fine Arts University

Session Co-Chair: Patrik Meixner, Primis spol. s r. o.

13:30 Tiling and stitching raster data, GIS data processing in distributed computing environment
Angéla Olasz, Institute of Geodesy, Cartography and Remote Sensing (FÖMI), Hungary

13:48 OpenStreetMap Data as Source for Built-up and Urban Areas on Global Scale
Thomas Brinkhoff, Jade University Oldenburg, Germany

14:06 Integration of Geo-Sensor Feeds and Event Consumer Services for Real-Time Representation of IoT Nodes
Umit Isikdag, Mimar Sinan Fine Arts University, Turkey

14:42 Design and implement an interoperable Internet of Things application based on an extended OGC SensorThings API standard
Chih-Yuan Huang, National Central University, Taiwan

16/7 13:30 - 15:00 V/SpS 1 - CIPA: Geospatial Technology for Cultural Heritage

Session Chair: Andreas Georgopoulos, ELKE NTUA

Session Co-Chair: Stratos Stylianidis, Geolmaging Ltd

13:30 3D Image Based Geometric Documentation of the Tower of Winds
Magdalini Tryfona, ELKE NTUA, Greece

13:48 Recording and modelling of monuments' interior space using range and optical sensors
Charalampos Georgiadis, Aristotle University of Thessaloniki, Greece

14:06 The Florence Baptistery: 3-D survey as a knowledge tool for historical and structural investigations

Grazia Tucci, University of Florence, Italy

14:24 Technical assistance for the conservation of built heritage at Bagan, Myanmar

Davide Mezzino, Carleton University, Canada

14:42 The CIPA Database for Saving the Heritage of Syria

Minna Angelina Silver, University of Oulu, Finland

16/7 13:30 - 15:00 VII/ThS 6 - Persistent Scatterer Interferometry

Session Chair: Michele Crosetto, CTTC

Session Co-Chair: Uwe Soergel, TU Darmstadt

13:30 Persistent Scatterer Interferometry Using Sentinel-1 Data

Michele Crosetto, CTTC, Geomatics Division Spain

13:48 Centimeter Cosmo-Skymed Range Measurements for Monitoring Ground Displacements

Paola Capaldo, University of Rome "La Sapienza", Italy

14:06 Change detection based on persistent scatterer interferometry - a new method of monitoring building changes

Chia-Hsiang Yang, Technical University of Darmstadt, Germany

16/7 13:30 - 15:00 VIII/6 - Cryosphere 1

Session Chair: Josefino Comiso, NASA

Session Co-Chair: Kohei Cho, Tokai University

13:30 Mass balance changes and ice dynamics of Greenland and Antarctic ice sheets from laser altimetry

Beata M. Csatho, University at Buffalo, USA

13:48 Glacier volume change estimation using time series of improved ASTER DEMs

Luc Girod, University of Oslo, Norway

14:06 Fusion of laser altimetry data with DEMs derived from stereo imaging systems

Toni F. Schenk, University at Buffalo, USA

14:24 A Novel Method for Estimation of Glacier Surface Motion in 1960s from ARGON KH-5 Optical Imagery

Rongxing Li, Tongji University, China

14:42 Optical flow applied to time-lapse image series to estimate glacier motion in the southern Patagonia ice field

Maria Gabriela Lenzano, National Cuyo University, Argentina

16/7 15:00 - 16:30 Interactive session

(I/1, I/3, II/4, III/2, IV/5, IV/II, V/4, VII/2, VIII/6, ThS4, ThS7, ThS9, ThS12, SpS1)

I/1 - Standardization of Airborne Platform Interfaces

Java-Library for the Access, Storage and Editing of Calibration Metadata of Optical Sensors

Wolfgang Kresse, Politechnika Koszalińska, Poland

I/3 - Multi-Platform Multi-Sensor System Calibration

Critical Assessment of Correction Methods for Fisheye Lens Distortion

Yangyang Liu, WuHan University, China

The outdoor rapid calibration technique and realization of non-metric digital camera based on the method of multi-image DLT and resection

Qiang Zhang, Information Engineering University, China

National Guidelines for Digital Camera Systems Certification

Yaron A Felus, Survey of Israel, Israel

Performance assessment and geometric calibration of Resourcesat-2

Radhadevi Pullur Variam, Advanced data Processing Research Institute, India

Commercial Off the Shelf Ground Control Supports Calibration and Conflation From Ground to Space Based Sensors

Mariana Danielova, AccuEarth s.r.o., Czech Republic

Evaluation Of Main CEOS Pseudo-Invariant Calibration Sites Using MODIS, MISR And GlobAlbedo Products

Said Kharbouche, Mullard Space Science Laboratory, United Kingdom

II/4 - Spatial Statistics and Uncertainty Modeling

Estimating sea ice parameters from multi-look SAR images using first- and second-order variograms

Xiaojuan Wang, Liaoning Technical University, China

Study on modeling and visualizing the positional uncertainty of remote sensing image

Weili Jiao, Chinese Academy of Sciences, China

Modeling urban dynamics using random forest: Implementing ROC and TOC for model evaluation

Mahmoud Reza Delavar, University of Tehran, Iran

Will it blend? Visualization and accuracy evaluation of high-resolution fuzzy vegetation maps

András Zlinszky, Hungarian Academy of Sciences, Hungary

Non Linear Optimization Applied to Angle-Of-Arrival Satellite Based Geo-Localization for Biased and Time-Drifting Sensors

Andrew Terzuoli, IEEE, USA

A modified genetic algorithm for finding fuzzy shortest paths in uncertain networks

Mahmoud Reza Delavar, University of Tehran, Iran

III/2 - Point Cloud Processing

Uncertainty propagation for terrestrial mobile laser scanner

Miloud Mezian, Universite Paris-Est, France

Digital terrain from a two-step segmentation and outlier-based algorithm

Kassel Liam Hingee, University of Western Australia, Australia

Point cloud refinement with a target-free intrinsic calibration of a mobile multi-beam LIDAR system

Houssem Noura, Mines ParisTech, France

Multispectral airborne laser scanning for automated map updating

Leena Matikainen, Finnish Geospatial Research Institute FGI, Finland

The igmulus urban showcase: automatic tree classification and identification in huge mobile mapping point clouds

Roderik Lindenbergh, TU Delft, the Netherlands

A Fast and Flexible Method for Meta-Map Building for ICP Based SLAM

Kristian Morin, Leica Geosystems, Canada

Automated mosaicking of multiple 3d point clouds generated from a depth camera

Hangyeol Kim, Inha University, Korea

Evaluating Morphological Changes along a Dike Landside Slope by 4-D High Resolution Terrestrial Laser Scanning

Roderik Lindenbergh, Delft University of Technology, the Netherlands

Evaluation of methods for coregistration and fusion of RPAS-based 3D point clouds and thermal infrared images

Ludwig Hoegner, Technical University of Munich, Germany

Evaluation of wavelet and non-local mean denoised terrestrial laser scanning data for small-scale joint roughness estimation

Maja Bitenc, Graz University of Technology, Austria

Towards automatic single-sensor mapping by multispectral airborne laser scanning

Eero Ahokas, Finnish Geospatial Research Institute FGI, Finland

Urban road detection in airborne laser scanning point cloud using random forest algorithm

Andrzej Borkowski, Wroclaw University of Environmental and Life Sciences, Poland

A min-cut based filter for airborne lidar data

Serkan Ural, Purdue University, U.S.A.; Hacettepe University, Turkey

Perspective intensity images for co-registration of terrestrial laser scanner and digital camera

Yubin Liang, Tianjin Normal University, China

Building facade documentation using laser scanning and photogrammetry and data implementation into BIM

Martina Faltýnová, Czech Technical University in Prague, Czech Republic

Using mobile laser scanning data for features extraction of high accuracy driving maps

Yuan Liu, Wuhan University, China

A Weighted Closed-form Solution for RGB-D Data Registration

Kaue de Moraes Vestena, Federal University of Parana - UFPR, Brazil

Tensor based object-oriented classification for Airborne LiDAR data

Nan Li, Tongji University, China

An approach to automatic detection and hazard risk assessment of large protruding rocks in densely forested hilly region

Subas Chhatkuli, Pasco Corporation, Japan

Change Detection of Mobile LiDAR Data Using Cloud Computing

Kun Liu, University College London, United Kingdom

Road-scene tree separation from mobile laser scanning data

Haiyan Guan, Nanjing University of Information Science & Technology, China

First Prismatic Building Model Reconstruction from Tomosar Point Clouds

Yao Sun, Technical University of Munich (TUM), Germany; Wuhan University, China

The use of computer vision algorithms in the process of automatic terrestrial laser scanning data registration

Jakub Markiewicz, Warsaw University of Technology, Poland

An energy-based approach for detection and characterization of subtle entities within terrestrial laser scanning point-

clouds

Reuma Arav, Technion - Israel Institute of Technology, Israel

Classification of Lidar data for generating a highly precise roadway map

Jihee Jeong, University of Seoul, Korea

DTM Generation from Photogrammetric Point Clouds with a Partial Use of an Existing Lower Resolution DTM

Misganu Debella-Gilo, Norwegian Institute for Bioeconomy Research, Norway

Digital terrain models from mobile laser scanning data in Moravian Karst

Nataliya Tyagur, Brno University of Technology, Czech Republic

Automatic extraction of building outlines from point cloud generated from high resolution aerial images

Yandong Wang, EagleView technology Corporation, USA

Forest stand segmentation using airborne lidar data and very high resolution multispectral imagery

Clément Dechesne, IGN - Laboratoire MATIS, France

Extension of RCC Topological Relations for 3D Complex Objects Components Extracted from 3D LiDAR Point Clouds

Xu-Feng XING, Laval University, Canada

Individual Tree of Urban Forest Extraction from Very High Density LiDAR Data

Mehran Satari Abrovi, University of Isfahan, Iran

Multiparameter correction intensity of terrestrial laser scanning data as an input for rock surface modelling

Václav Paleček, Masaryk University, Czech Republic

Fast and robust stem reconstruction in complex environments using terrestrial laser scanning

Di Wang, Vienna University of Technology, Austria

Automatic 3D extraction of buildings, vegetation and roads from lidar data

Adelmounim Bellakaout, Institut

*Agronomique et Vétérinaire Hassan II,
Morocco*

Point Cloud Oriented Shoulder Line Extraction in Loess Hilly Area

*Min Li, Nanjing Normal University, China;
Jiangsu Center for Collaborative Innovation
in Geographical Information Resource
Development and Application, China*

Automatic Road Extraction Based On Multiple Features from LiDAR Data

*Yijing Li, the School of Civil Engineering and
Architecture in Nanchang University, China*

The Performance of Semi-Automatic DTM from Point Cloud Image Matching Compared with DTM from LIDAR

*Aji Rahmayudi, Badan Informasi Geospasial,
Indonesia*

Convolutional neural network based DEM super resolution

*Wenguang Hou, Huazhong University of
Science and Technology, China*

Detection of geometric keypoints and its application to point cloud coarse registration

*Martín Rodrigo Bueno Esposito, University of
Vigo, Spain*

Dubai 3D textured DSM using high resolu- tion vertical and oblique airborne imagery *Abd Allateef Ziad Ahmad, Dubai Municipality, United Arab Emirates*

Scan profiles based method for segmentation of mobile laser scanning point clouds

*Hoang Long Nguyen, Curtin University,
Australia*

Land covers classification from full- waveform lidar data based on support vector machines

*Mei Zhou, Chinese Academy of Sciences,
China*

IV/5 - Web and Cloud Based Geospatial Services and Applications

Traffic Sign Inventory from Google Street View images

Victor J. D. Tsai, National Chung Hsing

University, Taiwan, China

Use and optimisation of paid crowdsourcing for the collection of geodata

*Volker Walter, University of Stuttgart,
Germany*

Optimizing cloud based image storage, dissemination and processing

Peter Becker, Esri, USA

Eras of web mapping developments: past, present and future

Bert Veenendaal, Curtin University, Australia

IV/II - Computing Optimization for Spatial Databases and Location based Services

Providing R-tree support for mongoDB database

Longgang Xiang, LIESMARS, China

The design of a high performance earth image and raster data management and processing platform

*Qingyun {Jeffrey} Xie, Oracle Corporation,
USA*

Creation of a Web Map and Mobile Application based on a Printed Book

*Vladimír Holubec, Czech technical university
in Prague, Czech Republic*

V/4 - Terrestrial 3D Modelling: Algorithms and Methods

A fast and robust algorithm for road edges extraction from LIDAR data

*Kaijin Qiu, Leader Spatial Information
Technology Corporation, China*

The feasibility of 3D point cloud generation from Smartphones

*Naif Muidh Alsubaie, University of Calgary,
Canada*

Coarse point cloud registration by EGI matching of voxel clusters

*Jinhu Wang, Delft University of Technology,
the Netherlands*

Kinect V2 and RGB Stereo Cameras Integration for Depth Map Enhancement

*Roberta Ravanelli, University of Rome "La
Sapienza", Italy*

**Drawing for traffic marking using
bidirectional gradient-based detection
with MMS LiDAR intensity**

*Genki Takahashi, Kokusai Kogyo Co., Ltd.,
Japan*

**Tree stem reconstruction using vertical
fisheye images: a preliminary study**

*Adilson Berveglieri, São Paulo State
University - UNESP, Brazil*

**Multi-target Detection from Full-waveform
Airborne Laser Scanner Using PHD Filter**

Wataru Nakanishi, University of Tokyo, Japan

**An automatic method for geometric
segmentation of masonry arch bridges for
structural engineering purposes**

Belén Riveiro, University of Vigo, Spain

**Incorporation of unreliable information
into photogrammetric reconstruction for
recovery of scale and geolocation using
non-parametric belief propagation**

*Joshua Stephen Hollick, Curtin University,
Australia*

**Development of image selection method
using graph cuts**

Takashi Fuse, University of Tokyo, Japan

**VII/2 - DEM Generation and Surface De-
formation Monitoring from SAR Data**

**A method for the extraction of long-term
deformation characteristics of long-span
high-speed railway bridges using high-
resolution SAR images**

*Hongguo Jia, Southwest Jiaotong University,
China*

**Land Subsidence Monitoring Using PS-
InSAR Technique for L-Band SAR Data**

*Shailaja Thapa, Indian Space Research
Organization, India*

**Semi-Automatic DTM from DSM Radar
Data to Accelerate Topographic Map
Production**

*Aldino Rizaldy, Badan Informasi Geospasial
(Geospatial Information Agency), Indonesia*

**Baseline Estimation Algorithm with Block
Adjustment for Multi-Pass Dual-Antenna
InSAR**

*Guowang Jin, Zhengzhou Institute of
Surveying and Mapping, China*

**Ground deformation monitoring Qingdao
coastal areas by time-series TerraSAR-X
images**

*Anye Hou, Qingdao Geotechnical
Investigation and Surveying Research
Institute; Engineering Research Center of
Shandong For Ocean Geographic Information
Integration and Application, China*

VIII/6 - Cryosphere

**Forecasting Antarctic sea ice
concentrations using results of temporal
mixture analysis**

*Junhwa Chi, Korea Polar Research Institute,
Korea*

**Change analysis of Antarctic ice shelves
based on multiple remote sensing
products**

Yixiang Tian, Tongji University, China

**Antarctic ice sheet surface mass balance
estimates from 2003 to 2015 using ICESat
and CryoSat-2 data**

Huan Xie, Tongji University, China

**Comparison of digital surface models
for snow depth mapping with drone and
aerial cameras**

*Ruedi Boesch, Swiss Federal Institute for
Forest, Snow and Landscape Research
WSL, Switzerland*

**Study on the retrieval of snow depth from
FY3B/MWRI in the Arctic**

Lele Li, Ocean University of China, China

**Long-term monitoring of glacier change
at Gössnitzkees (Austria) using terrestrial
photogrammetry**

*Viktor Kaufmann, Graz University of
Technology, Austria*

**Novel Snow Depth Retrieval Method
Using Time Series SSM/I Passive
Microwave Imagery**

Mahdi Hasanlou, University of Tehran, Iran

**A multi-temporal approach for detecting
snow cover area using geostationary
imagery data**

Hwa-Seon Lee, Inha University, Korea

ThS 4 - TanDEM-X

Wetland mapping with SAR/Quadpol data acquired during TanDEM-X Science Phase

Magdalena Mleczko, University of Warmia and Mazury in Olsztyn, Poland

ThS 7 - Information extraction from SAR imagery

A combined correcting method about GB-SAR rail determination error and atmospheric effects

Junhuan Peng, China University of Geosciences, China

ThS 9 - In-door and out-door seamless location and navigation

The design of worker's behavior analysis method in workplace using indoor positioning technology

Kenichi Tabata, Kokusai Kogyo Co., Ltd, Japan

ThS 12 - Location-based Social Media Data

A method for studying the development pattern of urban commercial service facilities based on customer reviews from social media

Yandong Wang, Wuhan University, China

Tweets and Facebook posts, the novelty techniques in the creation of origin-destination models.

Hope Koketsa Malema, University of Johannesburg, South Africa

Using social media for disaster emergency management

Teng Wang, Wuhan University, China

Geography matters in online hotel reviews

Mingshu Wang, University of Georgia, USA

Spatial-Temporal analysis of social media data related to Nepal Earthquake 2015

Laxmi Thapa, Ministry of Land Reform and Management, Nepal

SpS 1 - CIPA: Geospatial Technology for Cultural Heritage

3D Survey and Augmented Reality for Cultural Heritage. The Case Study of Aurelian Wall at Castra Praetoria in Rome.
Mauro Saccone, Università degli studi Roma Tre, Italy

Three dimensional reconstruction of large cultural heritage buildings from UAV video and TLS data

Lixin Wu, China University of Mining and Technology, China

3D visualization for virtual museum development

Margarita Skamantzari, NTUA, Greece

Rescheduled interactive presentations

Detection of barchan dunes on high resolution satellite images

Amine Mohammed Azzaoui, Université Mohammed V-Agdal, Morocco

Quality Test Various Existing DEM in Indonesia toward 10 meter National DEM

Fahmi Amhar, Geospatial Information Agency of Indonesia (BIG), Indonesia

A random forests approach for woody vegetation cover monitoring with Landsat data

Elias Symeonakis, Manchester Metropolitan University, United Kingdom

16/7 16:30 - 18:00 I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 2

Session Chair: Daniela Poli, Terra Messflug
Session Co-Chair: Thomas Krauss, DLR

16:30 Refined satellite image orientation in the free open-source photogrammetric tools Apero/MicMac

Ewelina Rupnik, Ecole Nationale des Sciences Géographiques, Institut de Physique du Globe de Paris, France

16:48 RPC stereo processor (RSP) – a software package for digital surface model and orthophoto generation from satellite stereo imagery

Rongjun Qin, The Ohio State University, USA

17:06 Analysis and correction of systematic height model errors

Karsten Jacobsen, Leibniz University
Hannover, Germany

17:24 Absolute Radiometric Calibration of the Göktürk-2 Satellite Sensor Using Tuz Gölü (Landnet Site) from NDVI Perspective

Ufuk Sakarya, TÜBTAK UZAY, Turkey

16/7 16:30 - 18:00 III/2 - Point Cloud Processing 2

Session Chair: Florent Lafarge, INRIA

Session Co-Chair: Martin Weinmann,
Karlsruhe Institute of Technology (KIT)

16:30 Classification of LiDAR Data with Point Based Classification Methods

Naci Yastikli, Yildiz Technical University, Turkey

16:48 Pairwise linkage for point cloud segmentation

Xiaohu Lu, Wuhan University, China

17:06 Automatic extraction of DTM from low resolution DSM by two-steps semi-global filtering

Yanfeng Zhang, Wuhan University, China

17:24 Urban tree classification using full-waveform Airborne Laser Scanning

Zsófia Koma, Eötvös Loránd University,
Hungary

17:42 Correction and Densification of UAS-Based Photogrammetric Thermal Point Cloud

Ozgun Akcay, Canakkale Onsekiz Mart
University, Turkey

16/7 16:30 - 18:00 IV/8 - Planetary Mapping and Spatial Databases 3

Session Chair: Kaichang Di, Chinese
Academy of Sciences

Session Co-Chair: Emerson Jacob Speyerer,
Arizona State University

16:30 SAfS for pixel-level DEM generation from monocular images constrained by low-resolution DEM

Bo Wu, The Hong Kong Polytechnic
University, China

16:48 The effect of illumination on stereo DTM quality: Simulations in support of

Europa exploration

Randolph Kirk, U.S. Geological Survey,
Astrogeology Science Center, USA

17:06 Refinement of stereo image analysis using photometric shape recovery as an alternative to bundle adjustment

Arne Grumpe, TU Dortmund, Germany

17:24 Comparison and co-registration of DEMs generated from HiRISE and CTX images

Yiran Wang, The Hong Kong Polytechnic
University, China

17:42 Global bundle adjustment with variable orientation point distance for precise Mars Express orbit reconstruction

Jonas Bostelmann, Leibniz Universität
Hannover, Germany

16/7 16:30 - 18:00 IV/ThS 9 - In-door and out-door seamless location and navigation

Session Chair: George Sithole, University of
Cape Town

Session Co-Chair: Sisi Zlatanova, Delft
University of Technology

16:30 Floor identification with commercial smartphones in WiFi -based Indoor Localization System

Mengyun Liu, Wuhan University, China

16:48 Laser-Based SLAM with Efficient Occupancy Likelihood Map Learning for Dynamic Indoor Scenes

Li Li, Wuhan University, China

17:06 Extension and evaluation of the AGAST feature detector

Hongmou Zhang, German Aerospace Center,
Germany

17:24 Private Graphs - Access rights on graphs for seamless navigation

Wolfgang Dörner, Deggendorf Institute of
Technology, Germany

17:42 A Review of Recent Research in Indoor Modelling & Mapping

Mehmet Gunduz, Yildiz Technical University,
Turkey

16/7 16:30 - 18:00 V/3 - Terrestrial 3D Imaging and Sensors 2

Session Chair: Roderik Lindenbergh, TU Delft
Session Co-Chair: Zhizhong Kang, China University of Geosciences

16:30 Motorized panoramic camera mount – Calibration and image capture

Heikki Juhani Kauhanen, Aalto University, Finland

16:48 Enhancement of stereo imagery by artificial texture projection generated using a lidar

Joshua Veitch-Michaelis, University College London, United Kingdom

17:06 Integration of Kinect and Low-Cost GNSS for Outdoor Navigation

Diana Pagliari, Politecnico di Milano, Italy

17:24 Development and evaluation of simple measurement system using the oblique photo and DEM

Hideki Nonaka, Asia Air Survey Co., Ltd., Japan

17:42 Calibration of the sr4500 time-of-flight camera for outdoor mobile surveying applications: a case study

Christophe Heinkelé, Cerema, France

16/7 16:30 - 18:00 VII/ThS 7 - Information extraction from SAR imagery

Session Chair: Mattia Crespi, University of Rome La Sapienza

Session Co-Chair: Uwe Soergel, TU Darmstadt

16:30 Improved model-based polarimetric decomposition using the polinsar similarity parameter

Houda Latrache, University of Sciences and Technology Houari Boumediene (USTHB), Algeria

16:48 Detection of multipath pixels in SAR images by statistic methods

Jingwen Zhao, Tongji University, The Hong Kong Polytechnic University, China

17:06 SAR Application

Min-Gee Hong, Kookmin University, Korea

17:24 Polarimetric signatures identification

for different features in Radarsat-2 PolSAR image: a case study of Halayib area, Egypt

Ayman Nasr Hamed Nasr, National Authority for Remote Sensing and Space Sciences (NARSS), Egypt

17:42 Evaluation of relative geometric accuracy of TerraSAR-X by pixel matching methodology

Takashi Nonaka, Nihon University, Japan

16/7 16:30 - 18:00 VIII/6 - Cryosphere 2

Session Chair: Beata Maria Csatho, University at Buffalo

Session Co-Chair: Luc Girod, University of Oslo

16:30 Global changes in the sea ice cover and associated surface temperature changes

Josefino Comiso, NASA, USA

17:06 Thin ice area extraction in the Sea of Okhotsk from GCOM-W1/AMSR2 Data

Kohei Cho, Tokai University, Japan

17:24 Remotely-sensed glacier change estimation: a case study at Lindblad Cove, Antarctic Peninsula

Karolina D. Fieber, Newcastle University, United Kingdom

17:42 Recognition of drainage tunnels during glacier lake outburst events from terrestrial image sequences

Ellen Schwalbe, Technische Universität Dresden, Germany

16/7 16:30 - 18:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 2

Session Chair: Georg Bareth, University of Cologne

16:30 Combined analysis of Sentinel-1 and RapidEye data for improved crop type classification: an early season approach for rapeseed and cereals

Ulrike Lussem, University of Cologne, Germany

16:48 Mapping of the land cover spatiotemporal characteristics in Northern Russia caused by climate change

Evgeny Panidi, Saint-Petersburg State

University, Russia

17:06 Characterization and spectral monitoring of coffee lands in Brazil

Helena Maria Ramos Alves, EMBRAPA, Brazil

17:24 Estimating corn yield in the United States with MODIS EVI and machine learning methods

Kentaro Kuwata, University of Tokyo, Japan

17:42 Assessment of Classification Accuracies of Sentinel-2 and Landsat-8 Data for Land Cover / Use Mapping

Raziye Hale Topaloglu, Istanbul Technical University, Turkey.

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We would like to welcome ISPRS members and all delegates to give us the opportunity to host the ISPRS 2020 Congress in Dubai, which would not only be a first for the region, but will also give further impetus to the growth of modern technologies in the region.

Why Dubai?

- Its central location gives Dubai the unique advantage of being easily accessible to people from various countries and regions around the globe.
- The United Arab Emirates has been at the forefront of using new-age technologies including GIS, Photogrammetry, Remote Sensing, Cartography and other related technology. The future looks even

brighter with bigger investments planned in the application of newer technologies.

- The 2020 ISPRS Congress in Dubai will also give the participants a chance to experience the traditional Middle Eastern culture with a delectable mix of some of the most advanced and ultra-modern architectural creations on the planet



PROGRAM XXIII ISPRS
SUNDAY 17 JULY



Sunday, 17 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Small HallII	I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 6
	Meeting Hall I A	II/3 - Spatial Analysis and Data Mining 3 + ICWG
	Club B	II/ThS 13 - Linked Geospatial Data + ICWG II/IV - Semantic Interoperability and Ontology for Geospatial Information
	Club H	III/1 - Orientation and Surface Reconstruction 3
	Club C	IV/SpS 18 - Advancing Geospatial Research into Standards: The ISPRS and OGC Coordination
	Club A	V/2 - Cultural Heritage Data Acquisition and Processing: Recent survey methods for CH documentation
	Meeting Hall I B	VII/4 - Methods for Image Classification 6
	Club D	VIII/7 - Forestry, Natural Ecosystems & Biodiversity 1
	Club E	Youth Forum 1
10:30 - 12:00	Small HallII	I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 7
	Club B	II/7 - Intelligent Spatial Decision Support
	Club A	III/I - Sensor Modeling for Integrated Orientation and Navigation
	Club D	IV/ThS 8 - Recent mapping of small planetary satellites, asteroids and comets
	Meeting Hall I A	V/1 - Vision Metrology 3
	Club C	VII/4 - Methods for Image Classification 7
	Meeting Hall I B	VIII/7 - Forestry, Natural Ecosystems & Biodiversity 2
	Club E	Youth Forum 2
13:30 - 15:00	Club H	I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 3
	Club B	II/8 - Mobility: Tracking, Analysis and Communication

	Club A	III/1 - Orientation and Surface Reconstruction 4 + III/4 - 3D Scene Analysis 3
	Small Hall I	V/2 - Cultural Heritage Data Acquisition and Processing: UAV and Photogrammetry for CH survey
	Club C	VII/5 - Methods for Change Detection and Process Modelling 2
	Club D	VII/ThS 3 - Sentinel-I Radar
	Meeting Hall I A	VIII/7 - Forestry, Natural Ecosystems & Biodiversity 3 + ThS 10 - Spatial ecology and ecosystem services mapping using Essential Biodiversity Variables (EBVs)
	Meeting Hall I B	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 3
	Club E	Youth Forum 3
15:00 - 16:30	Foyer 3rd Floor	Interactive session (II/3, II/7, II/8, III/I, VII/4, VIII/8, ThS1, ThS3, ThS13, ThS14, YF)
16:30 - 18:00	Club H	I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 4
	Club B	II/ThS 14 - Recent Developments in Open Data
	Club C	IV/SpS 4 - ICA: Image maps- theory, methods, standards
	Club A	V/3 - Terrestrial 3D Imaging and Sensors 3
	Club D	VII/5 - Methods for Change Detection and Process Modelling 3
	Meeting Hall I A	VIII/7 - Forestry, Natural Ecosystems & Biodiversity 4
	Meeting Hall I B	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 4
	Club E	VIII/9 - Coastal and Ocean Applications 1

Sunday 17 July 2016

17/7 08:30 - 10:00 I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 6

Session Chair: Francesco Nex, University of Twente - ITC Faculty

Session Co-Chair: Heidi Hastedt, Jade university of Applied Sciences

08:30 Modelling steep surfaces by various configurations of nadir and oblique photogrammetry

Vittorio Casella, University of Pavia, Italy

08:48 An integrative object-based image analysis workflow for UAV images

Huai Yu, Wuhan University, China

09:06 Forest Canopies and Open Area Effects on Snow Accumulation from Unmanned Aerial Vehicle (UAV) Photogrammetry and Ground Measurements, Sumava National Park, Czech Republic

Theodora Lendzioch, Charles University, Czech Republic

09:24 Random forest and objected-based classification for forest pest extraction from uav aerial imagery

Yi Yuan, Wuhan University, China

17/7 08:30 - 10:00 II/3 - Spatial Analysis and Data Mining 3 + ICWG

Session Chair: Yaolin Liu, Wuhan University

Session Co-Chair: Wenbo Chen, Keio University, Nature&Science Consulting

08:30 Development of MATCHED (Migratory Analytical Time Change Easy Detection) method for satellite-tracked migratory birds

Wenbo Chen, Nature&Science Consulting; Keio University, Japan

08:48 Mining co-location patterns from spatial data

Da-Quan Tang, National University of Defense Technology, China

09:06 Researches on visual analysis methods on terrorism events

Wenyue Guo, Institute of Surveying and Mapping, China

09:24 How travel demand affects detection of non-recurrent traffic congestion on urban road networks

Berk Anbarolu, Hacettepe University, Turkey

17/7 08:30 - 10:00 II/ThS 13 - Linked Geospatial Data + ICWG II/IV - Semantic Interoperability and Ontology for Geospatial Information

Session Chair: Mir Abolfazl Mostafavi, Université Laval

08:30 Providing geographic datasets as linked data in sdi

Eero Hietanen, Finnish Geospatial Research Institute (FGI), Finland

08:48 A new ontological perspective for integration of social and physical environments: disability and rehabilitation context

Mir Abolfazl Mostafavi, Laval university, Canada

09:06 Semantic location extraction from crowdsourced data

Saman Koswatte, University of Southern Queensland, Australia

17/7 08:30 - 10:00 III/1- Orientation and Surface Reconstruction 3

Session Chair: Andreas Kuhn, Bundeswehr University Munich

Session Co-Chair: Ronny Haensch, Technische Universität Berlin

08:30 A Median-Based Depthmap Fusion Strategy for the Generation of Oriented Points

Mathias Rothermel, nFrames, Germany

08:48 Revisiting Intrinsic Curves for Efficient Dense Stereo Matching

Mozhdeh Shahbazi, Université de Sherbrooke, Canada

09:06 Towards complete, geo-referenced 3D models from crowd-sourced amateur images

Wilfried Hartmann, ETH Zürich, Switzerland

09:24 A new paradigm for matching UAV- and aerial images

Tobias Koch, Technische Universität München, Germany

09:42 MLPnP - A Real-Time Maximum Likelihood Solution to the Perspective-n-Point Problem

Steffen Urban, Karlsruhe Institute of Technology, Germany

17/7 08:30 - 10:00 IV/SpS 18 - Advancing Geospatial Research into Standards: The ISPRS and OGC Coordination

Session Chair: George Percivall, Open Geospatial Consortium

Session Co-Chair: Songnian Li, Ryerson University

08:30 Standards-Based Services for Big Spatio-Temporal Data

Peter Baumann, Jacobs University, Germany

09:06 Advancements in open geospatial standards for photogrammetry and remote sensing from OGC

George Percivall, Open Geospatial Consortium (OGC), United States of America

09:24 IndoorGML - a standard for indoor spatial modeling

Ki Joune Li, Pusan National University, Korea

17/7 08:30 - 10:00 V/2 - Cultural Heritage Data Acquisition and Processing: Recent survey methods for CH documentation

Session Chair: Tania LANDES, INSA de Strasbourg

Session Co-Chair: Grazia Tucci, University of Florence

08:30 Integrated Survey for Architectural Restoration: A Methodological Comparison of Two Case Studies

Gianfranco Forlani, University of Parma, Italy

08:48 Recording and modeling of fortresses and castles with UAS. some study cases in Jaen (Southern Spain)

Javier Cardenal, University of Jaen, Spain

09:06 Virtual and Physical Re-Composition of Fragmented Ecclesiastical Frescoes Using a Photogrammetric Approach

Dante Abate, The Cyprus Institute, Cyprus

09:24 Evaluating Unmanned Aerial Platforms for Cultural Heritage Large Scale

Mapping

Andreas Georgopoulos, ELKE NTUA, Greece

17/7 08:30 - 10:00 VII/4 - Methods for Image Classification 6

Session Chair: Boris Mikhailovich Shurygin, Moscow Institute of Physics and Technology

Session Co-Chair: Wei Yao, Munich University of Applied Sciences

08:30 Plastic and glass greenhouses detection and delineation from WorldView-2 satellite imagery

Dilek Koc-San, Akdeniz University, Turkey

08:48 Detection and counting of orchards trees from VHR images using a geometrical-optical model and template matching

Philippe Maillard, Universidade Federal de Minas Gerais, Brazil

09:06 A Method to Estimate Temporal Interaction in a Conditional Random Field Based Approach for Crop Recognition

Pedro Diaz, Pontifical Catholic University of Rio de Janeiro, Brazil

09:24 Global land cover classification using MODIS surface reflectance products

Haruhisa Shimoda, Tokai University, Japan

09:42 Rotation Matrix Sampling Scheme for Multidimensional Probability Distribution Transfer

Panu Srestasathien, Geo-informatics and Space Technology Development Agency (GISTDA), Thailand

17/7 08:30 - 10:00 VIII/7 - Forestry, Natural Ecosystems & Biodiversity 1

Session Chair: Guoqing Zhou, Guilin University of Technology

Session Co-Chair: Brian Alan Johnson, Institute for Global Environmental Strategies

08:30 Voxel based representation of airborne full-waveform laser scanner data

Nadine Stelling, Technische Universität Dresden, Germany

08:48 Analysis of the side-lap effect on full-waveform LiDAR data acquisition for the estimation of forest structure variables

Pablo Crespo-Peremarch, Universitat

Politécnica de València, Spain

09:06 Accuracy Assessment of Crown Delineation Methods for Individual Trees of a Golf Course Area

Kuan-Tsung Chang, Ming-hsin University of Science and Technology, Taiwan

09:24 Tree canopy cover mapping using LiDAR in urban barangays of Cebu City, Central Philippines

Jay Alvarina Ejares, University of San Carlos, Philippines

17/7 08:30 - 10:00 Youth Forum 1

Session Chair: Fuan Tsai, National Central University

Session Co-Chair: Ivan Datchev, University of Calgary

08:30 Standalone terrestrial laser scanning for efficiently capturing AEC buildings for as-built BIM

Maarten Bassier, KU Leuven, Belgium

08:48 Statistics for Patch Observations

Kassel Liam Hingee, University of Western Australia, Australia

09:06 Measuring polycentricity of mega-city regions in China based on the intercity migration flows

Xiaoyan MU, HKU, China

09:24 Short-Term Rainfall Probability and Peak Moment Prediction of Strong Convective Weather Using FY Satellite Data in South China: A Case Study of Shenzhen

Jun Liu, Chinese Academy of Science, China

09:42 Field spectroscopy for vegetation evaluation along the nutrient and elevation gradient above the tree line in the Krkonoše Mountains National Park

Lucie Cervena, Charles University in Prague, Czech Republic

17/7 10:30 - 12:00 I/Vb - Unmanned Vehicle Systems (UVS): Sensors and Applications 7

Session Chair: Francesco Nex, University of Twente - ITC Faculty

Session Co-Chair: Görres Jochen
Grenzdröffer, Rostock University

10:30 UAS Topographic Mapping With Velodyne LiDAR Sensor

Grzegorz Jozkow, The Ohio State University, USA; Wrocław University of Environmental and Life Sciences, Poland

10:48 High resolution airborne laser scanning and hyperspectral imaging with a small UAV platform

Michal Gallay, Pavol Jozef Šafárik University in Košice, Slovak Republic

11:06 Evaluation of a novel UAV-borne topo-bathymetric laser profiler

Gottfried Mandlbauer, TU Vienna; Research Forschungsgesellschaft mbH, Austria

11:24 Evaluation of a metric camera system tailored for high precision UAV applications

Thomas Kraft, German Aerospace Center, Germany

17/7 10:30 - 12:00 II/7 - Intelligent Spatial Decision Support

Session Chair: Qing-Quan Li, Shenzhen University

Session Co-Chair: Yang Yue, Shenzhen University

10:30 Application of Machine Learning to Prediction of Vegetation Health

Emily Burchfield, Vanderbilt University, United States of America

10:48 Comparison of urban human movements inferring from multi-source spatial-temporal data

Wei TU, Shenzhen University, China

11:06 Sharing on Web 3D Models of Ancient Theatres. A Methodological Workflow

Andrea Scianna, National Research Council of Italy (CNR), Italy

11:24 Analyzing the structure and variation of traffic interactions in urban transportation networks

Qing-quan Li, Shenzhen University, China

11:42 Real-time visual analytics for speed anomaly detection based on taxi gps data

Yang Yue, Shenzhen University, China

17/7 10:30 - 12:00 III/I - Sensor Modeling for Integrated Orientation and Navigation

Session Chair: Jan Skaloud, EPFL
Session Co-Chair: Michael Cramer, Universität Stuttgart

10:30 Applicability of new approaches of sensor orientation to micro aerial vehicles
Martin Rehak, EPFL TOPO, Switzerland

10:48 GEMMA: A generic, extensible and modular multi-sensor navigation analysis system
José Navarro, CTTC, Spain

11:06 Metric calibration of a focused plenoptic Camera based on a 3D calibration target
Niclas Zeller, Karlsruhe University of Applied Sciences; Technische Universität München, Germany

11:24 Centimeter-level, robust GNSS-Aided inertial post-processing for mobile mapping without local reference stations
Nilesh Gopaul, Trimble - Applanix, Canada

17/7 10:30 - 12:00 IV/ThS 8 - Recent mapping of small planetary satellites, asteroids and comets

Session Chair: Randolph Kirk, U.S. Geological Survey
Session Co-Chair: Cristina Re, INAF

10:30 Geological mapping of Pluto and Charon using New Horizons data
Jeffrey M. Moore, NASA Ames Research Center, USA

10:48 Topographic Mapping of Pluto and Charon Using New Horizons Data
Paul Schenk, Lunar and Planetary Institute, USA

11:06 NASA's planetary geologic mapping program: overview
David Allen Williams, Arizona State University, USA

11:24 EU-FP7-iMARS: analysis of Mars multi-resolution images using auto-coregistration, data mining and crowd source techniques: processed results – a

first look

Jan-Peter Muller, UCL Mullard Space Science Laboratory, United Kingdom

17/7 10:30 - 12:00 V/1 - Vision Metrology 3

Session Chair: Thomas Luhmann, Jade University of Applied Sciences
Session Co-Chair: Stuart Robson, UCL

10:30 Photogrammetric Tracking of Aerodynamic Surfaces and Aerospace Models at NASA Langley Research Center
Mark R. Shortis, RMIT University, Australia

10:48 Object deformations from image silhouettes using a kinematic finite-element beam model
Christian Jepping, Jade University, Germany

11:06 Structural 3D monitoring using a new sinusoidal fitting adjustment
Ivan Detchev, University of Calgary, Canada

11:24 Shape function-based estimation of deformation with moving cameras attached to the deforming body
Henrik Haggrén, Aalto University; Mapvision Ltd., Finland

11:42 Deformation Monitoring of Materials Under Stress in Laboratory Experiments
Dimitrios P. Skarlatos, Cyprus University of Technology, Cyprus

17/7 10:30 - 12:00 VII/4 - Methods for Image Classification 7

Session Chair: Fariba Mohammadimanesh, C-CORE and Memorial University of Newfoundland, Canada
Session Co-Chair: Ribana Roscher, University of Bonn

10:30 Effect Of Pansharpened Image On Some Of Pixel Based And Object Based Classification Accuracy
Pinar Karakus, Selcuk University, Turkey

10:48 Benchmark of machine learning methods for classification of a Sentinel-2 image
Filiz Sunar, Istanbul Technical University, Turkey

11:06 A Kernel Method Based on Topic Modelling for VHRS Remote Sensing Image

Classification

Linmei Wu, Southwest Jiaotong University, China

11:24 Object based agricultural land cover classification of shadowed areas from aerial image and lidar data using support vector machine

Ronaldo T. Alberto., Central Luzon State University, Nueva Ecija

17/7 10:30 - 12:00 VIII/7 - Forestry, Natural Ecosystems & Biodiversity 2

Session Chair: Nadine Stelling, Technische Universität Dresden

Session Co-Chair: Pablo Crespo-Peremarch, Universitat Politècnica de València

10:30 Characteristics of the Earth Observation data used in the proposed UNFCCC REDD+ forest reference emission levels (FRELs)

Brian Alan Johnson, Institute for Global Environmental Strategies, Japan

10:48 Attribution and characterisation of Sclerophyll forested landscapes over large areas

Simon Jones, RMIT, Australia

11:06 Response of Riparian Vegetation in Australia's Largest River Basin to Inter and Intra-Annual Climate Variability and Flooding as Quantified with Landsat and MODIS

Mark Broich, UNSW, Australia

11:24 Ability of Landsat-8 OLI derived texture metrics in estimating aboveground carbon stocks of coppice Oak Forests

Hormoz Sohrabi, TMU, Iran

17/7 10:30 - 12:00 Youth Forum 2

Session Chair: Ursa Kanjir, ZRC SAZU

Session Co-Chair: Hiroyuki Miyazaki, University of Tokyo

10:30 A novel removal method for dense stripes in remote sensing images

Xinxin Liu, Wuhan University, China

10:48 Evaluating the potential of rtk-uav for automatic point cloud generation in 3d rapid mapping

Haidar Fazeli, University of Tehran, Iran

11:06 Research into the collimation and horizontal axis errors influence on the Z+F laser scanner accuracy of verticality measurement

Jan Michał Sawicki, Warsaw University of Technology, Poland

11:24 Monitoring the Surface Heat Island (SHI) effects of industrial enterprises

Alihsan Sekertekin, Bulent Ecevit University, Turkey

11:42 Synergy of Optical and SAR Data for Mapping and Monitoring Mangroves

Sheryl Rose Reyes, University of the Philippines - Diliman, Philippines; Fauna & Flora International; Philippine Council for Industry, Energy and Emerging Technology

17/7 13:30 - 15:00 I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 3

Session Chair: Karsten Jacobsen, Leibniz University Hannover

Session Co-Chair: Pablo d'Angelo, DLR

13:30 Accuracy Validation of Large-scale Block Adjustment without Control of ZY3 Images over China

Bo Yang, Wuhan University, China

13:48 Penalized spline: a general robust trajectory model for ZiYuan-3 satellite

Hongbo Pan, Central South University, China

14:06 Improving semi-global matching: Cost aggregation and confidence measure

Pablo d'Angelo, DLR, Germany

14:24 Geometric and radiometric evaluation of RASAT images

Ali Cam, Bülent Ecevit University, Turkey

17/7 13:30 - 15:00 II/8 - Mobility: Tracking, Analysis and Communication

Session Chair: Monika Sester, Leibniz Universität Hannover

13:30 Analysis of spatio-temporal traffic patterns based on pedestrian trajectories

Steffen Busch, Leibniz Universität Hannover, Germany

13:48 The trade-off between privacy and geographic data resolution. A case of GPS

trajectories combined with social survey.
Katarzyna Sila-Nowicka, University of
Glasgow, United Kingdom

**14:06 Long-term tracking of a specific
vehicle using airborne optical camera
systems**
Franz Kurz, German Aerospace Center,
Germany

**14:24 Efficient and Accurate Indoor
Localization Using Landmark Graphs**
Fuqiang Gu, University of Melbourne, Australia

17/7 13:30 - 15:00 III/1 - Orientation and Surface Reconstruction 4 + III/4 - 3D Scene Analysis 3

Session Chair: Helmut Mayer, Bundeswehr
University Munich

Session Co-Chair: Jan Dirk Wegner, ETH
Zurich

**13:30 Enhancement of generic building
models by recognition and enforcement of
geometric constraints**
Jochen Meidow, Fraunhofer IOSB, Germany

**13:48 Robust low-altitude image matching
based on local region constraint and feature
similarity confidence**
Min Chen, Southwest Jiaotong University,
China

**14:06 Invariant descriptor learning using a
Siamese Convolutional Neural Network**
Lin Chen, Leibniz Universität Hannover,
Germany

**14:24 Rigorous Geometric Modelling of
1960s ARGON Satellite Images for Antarctic
Ice Sheet Stereo Mapping**
Gang Qiao, Tongji University, China

**14:42 A Euclidean Formulation of Interior
Orientation Constraints Imposed by the
Fundamental Matrix**
Ilias Kalisperakis, Technological Educational
Institute of Athens, Greece

17/7 13:30 - 15:00 V/2 - Cultural Heritage Data Acquisition and Processing: UAV and Photogrammetry for CH survey

Session Chair: Pierre Grussenmeyer, INSA

Strasbourg

Session Co-Chair: Robert Alexander Hautb,
Griffith University

**13:30 3D Recording of a 19-Century Ob
River Ship**
Andrei A. Pushkarev, National Research
Tomsk State University, Russian Federation

**13:48 Documentation of historical
underground object in Skorkov village with
selected measuring methods, data analysis
and visualization**
Adam Dlesk, CTU in Prague, Czech Republic

**14:06 Point cloud mapping methods for
documenting cultural landscape features at
the Wormsloe State Historic Site, Savannah,
Georgia, USA**
Thomas Robert Jordan, University of Georgia,
USA

17/7 13:30 - 15:00 VII/5 - Methods for Change Detection and Process Mo- delling 2

Session Chair: Haigang Sui, Wuhan
University

Session Co-Chair: Georg Bareth, University
of Cologne

**13:30 Using label noise robust logistic
regression for automated updating of
topographic geospatial databases**
Alina Elisabeth Maas, Leibniz Universität
Hannover, Germany

**13:48 Change detection with multi-source
defective remote sensing images based on
evidential fusion**
Jing Li, Beijing Normal University; State Key
Laboratory of Earth Surface Processes and
Resource Ecology, China

**14:06 Change detection in UAV video
imagery combining a feature based
approach and extended image differencing**
Günter Saur, Fraunhofer IOSB, Germany

**14:24 An Automatic Optical and SAR Image
Registration Method Using Iterative Multi-
Level and Refinement Model**
Haigang Sui, Wuhan University, China

17/7 13:30 - 15:00 VII/ThS 3 - Sentinel-I Radar

Session Chair: Mattia Crespi, University of Rome La Sapienza

Session Co-Chair: Michele Crosetto, CTTC

13:30 Exploiting Sentinel-1 amplitude data for glacier surface velocity field measurements: feasibility demonstration on Baltoro Glacier

Andrea Nascetti, University of Rome "La Sapienza", Italy

13:48 Potential of Sentinel-1A for nationwide routine updates of active landslide maps

Milan Lazecky, VSB-TUO, Czech Republic

14:06 Comparison between Spectral, Spatial and Polarimetric Classification of Urban and Peri-Urban Landcover Using Temporal Sentinel-1 Images

Koel Roychowdhury, Presidency University, India

14:24 Forest area derivation from Sentinel-1 data

Alena Dostálová, TU Wien, Austria

14:42 Land cover mapping using Sentinel-1 SAR data

Saygin Abdikan, Research Council (CNR), Italy

17/7 13:30 - 15:00 VIII/7 - Forestry, Natural Ecosystems & Biodiversity 3 + ThS 10 - Spatial ecology and ecosystem services mapping using Essential Biodiversity Variables (EBVs)

Session Chair: Matti Tapio Vaaja, Aalto University

Session Co-Chair: Mateusz Karpina, Wrocław University of Environmental and Life Sciences

13:30 Optimal wavelength selection on hyperspectral data with fused lasso for biomass estimation of tropical rain forest

Taichi Takayama, University of Tokyo; Mitsubishi Research Institute, Inc., Japan

13:48 Use of a multispectral UAV photogrammetry for detection and tracking of forest disturbance dynamics

Robert Minařík, Charles University in Prague, Czech Republic

14:06 Deforestation along the maya mountain massif belize-guatemala western border

Santos Daniel Chicas, Nagasaki University, Japan; University of Belize, Belize

14:24 Biodiversity mapping via Natura 2000 conservation status assessment using airborne laser scanning in alkali grasslands

Norbert Pfeifer, Vienna University of Technology, Austria

14:42 New Approach for Segmentation and Extraction of Single Tree from Point Clouds Data and Aerial Images

Amir Saeed Homainejad, Independent Research Group on Geospatial, Iran

17/7 13:30 - 15:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 3

Session Chair: Dimitris Stathakis, University of Thessaly

Session Co-Chair: Ervin Wirth, Budapest University of Technology and Economics

13:30 Crop Species Recognition and Discrimination Paddy Rice Growing Fields from Reaped Fields by the Radar Vegetation Index (RVI) of ALOS-2/PALSAR-2

Yasuharu Yamada, National Agriculture and Food Research Organization, Japan

13:48 Mapping secondary forest succession on abandoned agricultural land in the Polish Carpathians

Natalia Kolečka, Jagiellonian University, Poland

14:06 Urban land cover/use change detection using high resolution spot 5 and spot 6 images and urban atlas nomenclature

Semih Sami Akay, Istanbul Technical University, Turkey

14:24 Identifying Urban Climate Zones from HJ-1B Satellite Data Using Self-Organizing Maps

Chunzhu Wei, University of Salzburg, Austria

14:42 Rice Yield Estimation Through Assimilating Satellite Data Into a Crop Simulation Model

Son Thanh Nguyen, National Central University, Taiwan

17/7 13:30 - 15:00 Youth Forum 3

Session Chair: Krzysztof Sterenczak, Forest Research Institute

Session Co-Chair: Sheryl Rose Reyes, University of the Philippines – Diliman

13:30 Precise Target Geolocation and Tracking Based on UAV Video Imagery

Farzaneh Dadrasjavan, Tehran University, Iran

13:48 Statistic tests aided multi-source DEM fusion

Chao-Yang Fu, National Cheng Kung University, Taiwan

14:06 Pose Estimation of Unmanned Aerial Vehicles Based on A Vision-Aided Multi-Sensor Fusion

Farhad Samadzadegan, University of Tehran, Iran

14:24 Analysis of Jure Landslide Dam, Sindhupalchowk Using GIS and Remote Sensing

Tri Dev Acharya, Kangwon National University, Korea

14:42 The Classical Assumption Test to Driving Factors of Land Cover Change in the Development Region of Northern Part of West Java

Nur Ainiyah, ITB, Indonesia

17/7 15:00 - 16:30 Interactive session

(II/3, II/7, II/8, III/I, VII/4, VIII/8, ThS1, ThS3, ThS13, ThS14, YF)

II/3 - Spatial Analysis and Data Mining

A novel similarity assessment for remote sensing image via fast association rule mining

Jun Liu, Chinese Academy of Science, China

Change semantic constrained online data cleaning method for Real-time observational data stream

Yulin DING, The Chinese University of Hong Kong, China; Southwest Jiaotong University, China

Modelling Biophysical Parameters for Winter Wheat and Maize Using High-Resolution Remote Sensing Time Series

Thorsten Dahms, University of Wuerzburg,

Germany

Future Estimation of Convenience Living Facilities Withdrawal due to Population Decline All over Japan from 2010 to 2040 - Focus on Supermarkets, Convenience Stores and Drugstores

Yuka Nishimoto, The University of Tokyo, Japan

Remote sensing-based detection and spatial pattern analysis for geo-ecological niche modeling of Tillandsia spp. in the Atacama, Chile

Nils Wolf, Heidelberg University of Education, Germany

Using mcda and gis for landfill site selection: central districts of Antalya province, Turkey

Bekir Taner San, Akdeniz University, Turkey

Urban Rain Gauge Sitting Selection Based on GIS-Multicriteria analysis

Changfeng Jing, Beijing University of Civil Engineering and Architecture, China

Spatio-Temporal Analysis of Urban Heat Island in Basin City Based on Remote Sensing Techniques

Hsiao-Tung Chang, Chinese Culture University, Taiwan

Analysis of the pit removal methods in digital terrain models of various resolutions

Sanja Samanovic, Institute of Cartography and Photogrammetry, Croatia

Implementation of kriging methods in mobile GIS to estimate damage to buildings in crisis scenarios

Simon Laun, Karlsruhe Institute of Technology, Germany

The Design and Product of National 1:10 00000 Cartographic Data of Topographic Map

Guizhi WANG, National Geomatics Center of China, China

Determining suitable areas for more efficient hazelnut production

Oguz Gungor, Karadeniz technical University, Turkey

GIS as Decision Support System in geoportal Kielce

Beata Hejmanowska, AGH University of Science and Technology; Kielce University of Technology, Poland

School Mapping and Geospatial Analysis of the Schools: A Case Study of Jasra Development Block, Allahabad, India

Sonam Agrawal, Motilal Nehru National Institute of Technology, India

II/7 - Intelligent Spatial Decision Support

A Geographic Analysis of Optimal Signage Location Selection in Scenic Area

Ling Ruan, Nanjing Normal University; Jiangsu Center for Collaborative Innovation in Geographical Information Resource Development and Application, China

Measure landscape diversity with logical scout agents

György Szabó, Budapest University of Technology and Economics, Hungary

II/8 - Mobility: Tracking, Analysis and Communication

A multidisciplinary analytical framework for studying active mobility patterns

Daniel Orellana, Universidad de Cuenca, Ecuador

Mining Spatio-Temporal Patterns of the Elder's Daily Movement

Cheng-Ru Chen, National Central University, Taiwan

III/I - Sensor Modeling for Integrated Orientation and Navigation

Application of vehicle dynamic modeling in UAVs for precise determination of exterior orientation

Mehran Khaghani, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Hybrid models for trajectory error modelling in urban environments

Eduard Angelats, CTTC; GeoNumerics S. L, Spain

Correction of airborne pushbroom images orientation using bundle adjustment of

frame images

Kévin Barbieux, Ecole Polytechnique Fédérale de Lausanne, Switzerland

VII/4 - Methods for Image Classification

Relationship between HIMAWARI-8-derived overshooting tops and extreme weather events in Southeast Asia

Miae Kim, UNIST, Korea

Interval type-2 fuzzy based neural network for high resolution remote sensing image segmentation

Chunyan Wang, Liaoning Technical University, China

Extracting Urban Ground Object Information from Images and LiDAR Data

Lina Yi, China University of Mining and Technology, China

Cloud detection of optical satellite images using support vector machine

Kuan-Yi Lee, National Chen Kung University, Taiwan

Coupling regular tessellation with RJMCMC algorithm to segment SAR image with unknown number of classes

Yu Wang, Liaoning Technical University, China

Fully automatic approach to VHR satellite image classification

Joanna Pluto-Kossakowska, Warsaw University of Technology, Poland

S-CNN-Based ship detection from high-resolution remote sensing images

Ruiqian Zhang, Wuhan University, China

Mapping tropical forest for sustainable management using spot 5 satellite image

Thi Thanh Huong Nguyen, Tay Nguyen University, Vietnam

Entropy-KL strategy for Fixing Number of Categories

Xuemei Zhao, Liaoning Technical University, China

Object based image classification, earthquake

Zehra Damla Uca Avci, Istanbul Technical University, Turkey

Estimating Wood Volume for Pinus Brutia Trees in Forest Stands from Quickbird-2 Imagery

Petros Patias, The Aristotle University, Greece

Applicability evaluation of objectness detection method to satellite and aerial imageries

Keita Kamiya, the University of Tokyo, Japan

The application of support vector machine (svm) using cielab color model, color intensity, and color constancy as features for ortho image classification of benthic habitats in hinatuan, surigao del sur, philippines

Michelle V. Japitana, Phil-LiDAR 2.B.14 Caraga State University, Philippines

Object-Based Greenhouse Classification From High Resolution Satellite Imagery: A Case Study Antalya-Turkey

Namik Kemal Sonmez, Akdeniz University, Turkey

Assessment of Multiresolution Segmentation for Extracting Greenhouses from Worldview-2 Imagery

Manuel Angel AGUILAR, University of Almeria, Spain

Scene classification based on the semantic-feature fusion fully sparse topic model for high spatial resolution remote sensing imagery

Qi qi Zhu, Wuhan University, China

Analyzing Spectral Characteristics of Shadow Area from ADS-40 High Radiometric Resolution Aerial Images

Yi-Ta Hsieh, National Pingtung University of Science and Technology, Taiwan

Region of interest detection based on histogram segmentation for satellite image

Warinthorn Kiadtikornthaweeyot, Geo-Informatics and Space Technology Development Agency, Thailand

Monitoring of the Riverbeds of Rivers Dniester and Tisza of the Carpathian Region

Khrystyna Burshtynska, Lviv National

Politechnic University, Ukraine

The Generation of Automatic Mapping for Buildings in Bogota Colombia, Using High Spatial Resolution Digital Vertical Aerial Photography

William Barragan, Universidad Distrital, Colombia

VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use

Rice Crop Mapping Using Sentinel-1A Phenological Metrics

Chi-Farn Chen, CSRSR, National Central University, Taiwan

Monitoring Land Use Dynamics of peri-urban Agriculture in Central Kenya with RapidEye Satellite Imagery

Maximilian Willkomm, University of Cologne, Germany

Geospatial Information from Satellite Imagery for Geovisualisation of Smart Cities in India

Madan Mohan, Jawaharlal Nehru University, India

Landsat 8 multispectral and pansharpened imagery processing on the study of civil engineering issues

Aikaterini C. Karagianni, Aristotle University of Thessaloniki, Greece

Remote sensing efficiency for urban analysis of Mecca and surrounds

Ayman Imam, Polytechnic University of Catalonia, Spain; King AbdulAziz University, Kingdom of Saudi Arabia

The Detection of Transport Land-use Data Using Crowdsourcing Taxi Trajectory

Tinghua Ai, Wuhan University, China

Using Landsat 8 image time series for crop mapping in Casa Branca municipality, Brazil

Hugo Bendini, Remote Sensing Division of the National Institute for Space Research, Brazil

Dynamic monitoring and intensity estimation of soil and water losses using remote sensing and gis techniques: a

case study of jialing river, yangtze river, china

Yijin Wu, Central China Normal University, China

Vegetation changes and the relationship with climate variability in the upper and middle reaches of the Nenjiang River Basin, China

Fang Huang, Northeast Normal University, China

Multi-agent based simulation of optimal urban land use allocation in the middle reaches of the Yangtze river, China

Yongnian Zeng, Central South University, China

A study on TerraSAR-X data observation time for the classification of planting condition of paddy fields

Atsushi Kimura, Pasco Corporation, Japan

Prediction of changes in vegetation distribution under climate change scenarios using MODIS dataset.

Hidetake Hirayama, Graduate of Tokyo University of Information Sciences, Japan

Remotely-sensed urban wet-landscapes: an indicator of coupled effects of human impact and climate change

Wei Ji, The University of Missouri - Kansas City, USA

Identification and analysis of urban surface temperature patterns in Wuhan City, China

Hongyuan Huo, Tianjin Normal University, China

Land Use and Land Cover Changes and Urban Sprawl in Riyadh, Saudi Arabia: An Analysis using Multi-Temporal Landsat data and Shannon's Entropy Index

Muhammad Tauhidur Rahman, King Fahd University of Petroleum and Minerals, Saudi Arabia

Using Satellite Data for Environmental Impact Analysis in Economic Growth: The Case of Mongolia

Tungalag Amar, National University of Mongolia; Mongolian Geospatial Association, Mongolia

Automated classification of land cover using Landsat 8 OLI surface reflectance product and spectral pattern analysis concept - case study in Hanoi, Vietnam

Duong Nguyen Dinh, Institute of Geography, Vietnam Academy of Science and technology, Vietnam

A Spatial Analysis on GIS-Hedonic Pricing Model on the Influence of Public Open Space and House Price in Klang Valley, Malaysia

M Zainora Asmawi, International Islamic University Malaysia, Malaysia

Monitoring of in-field variability for site specific crop management through open geospatial information

Tomáš Řezník, Masaryk University, Czech Republic

Object-based classification and change detection of Hokkaido, Japan

Jonggeol Park, Tokyo University of Information Sciences, Japan

Relationship between landcover pattern and surface net radiation in an coastal city

Xiaofeng Zhao, Chinese Academy of Sciences, China

Urban vegetation mapping based on HJ-1A/B NDVI time series

Li Feng, Hohai university, China

Using Multi-Criteria Analysis for the Study of Human Impact on Agro-Forestry-Pastoral Ecosystem in the Region of Khenchela (Algeria)

Bouzekri Abdelhafid, University of Batna, Algeria

The estimate of the spatial-temporal features of vegetation cover of Kazakhstan based on time series satellite indices in 2000-2015

Lev Spivak, Dubna International University for Nature, Society and Man, Russia

Modelling the relationship between land surface temperature and landscape patterns of land use land cover classification using multi linear regression models

Florencio V Puno Campomanes, University of the Philippines Cebu Phil-LiDAR 2, Philippines

Rabi cropped area forecasting of parts of Banaskatha District, Gujarat using MRS RISAT-1 SAR data

Rutu Parekh, CEPT University, India

ThS 1 - Validation and Analyses of Globe Land Cover

A study on producing highly reliable reference data sets for global land cover validation

Noriko Soyama, Tenri University, Japan

ThS 3 - Sentinel-I Radar

Segmentation And Classification Of Nepal Earthquake Induced Landslides Using Sentinel-1 Product

Saket Kunwar, NARMA, Nepal

ThS 13 - Linked Geospatial Data

The potential of strava data to contribute in non-motorised transport (nmt) planning in Johannesburg.

Mmagomoshabane Kadibetso Selala, University of Johannesburg, South Africa

ThS 14 - Recent Developments in Open Data

Big Geo Data Management: An Exploration with Social Media and Telecommunications Open Data

Carolina Arias Munoz, Politecnico di Milano, Italy

Issues on building Kazakhstan Geospatial Portal to implement e-Government

HaeKyong Kang, Korea Research Institute for Human Settlements, Korea

Implementation of Vgi-Based Geoportal for Empowering Citizen's Geospatial Observatories Related to Urban Disaster Management

Sanghoon Lee, National Geographic Information Institute, Korea

An Object-Relational IFC Storage Model Based on Oracle Database

Hang Li, Wuhan university, China

Youth Forum

Statistics for Patch Observations

Kassel Liam Hingee, University of Western Australia, Australia

Assessing 3-D photogrammetry techniques in craniometrics

Moleseng Claude Moshobane, Kirstenbosch Research Centre; Stellenbosch University; University of Pretoria, South Africa

The Potential of GIS as a Management Tool for Avenue Trees Population in Small Communities; A Case Study of Idi-Ishin Community, Ibadan, Nigeria

Oluwayemisi Samuel Olokeogun, Federal College of Forestry, Nigeria

Indoor positioning and navigation by based on control spherical panoramic images

Tsung Che Hunag, National Cheng Kung University, Taiwan

Rescheduled interactive presentations

Accuracy Assesment for Orthoimage Using Smart Camera UAV

Hohyun Jeong, Pukyong National University, Korea

17/7 16:30 - 18:00 I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 4

Session Chair: Peter Reinartz, DLR

Session Co-Chair: Carola Luzia Braun, Bundeswehr Geoinformation Centre

16:30 Satellite Stereo based Digital Surface Model Generation using Semi Global Matching in Object and Image Space

Sajid Ghuffar, Institute of Space Technology, Pakistan

16:48 2D sub-pixel disparity measurement using QPEC / Medicis

Myriam Cournet, CNES, France

17:06 A New Algorithm for Void Filling in a DSM from Stereo Satellite Images in Urban Areas

Zeinab Gharib Bafghi, German Aerospace Center (DLR), Germany

17:24 On-orbit geometric calibration

approach for high-resolution geostationary optical satellite GaoFen-4

Yufeng Cheng, Wuhan University, China

17/7 16:30 - 18:00 II/ThS 14 - Recent Developments in Open Data

Session Chair: Maria Antonia Brovelli, Politecnico di Milano

Session Co-Chair: HaeKyong Kang, Korea Research Institute for Human Settlements

16:30 Do open geodata actually have the quality they declare? The case study of Milan, Italy

Miriam Molteni, Politecnico di Milano, Italy

16:48 Positional accuracy assessment of the OpenStreetMap buildings layer through automatic homologous pairs detection: the method and a case study

Maria Antonia Brovelli, Politecnico di Milano, Italy

17:06 Sensing slow mobility and interesting locations for Lombardy Region (Italy): a case study using pointwise geolocated open data

Daniele Oxoli, Politecnico di Milano, Italy

17:24 Geographic Data as Personal Data in Four EU Member States

Bastiaan van Loenen, Delft University of Technology, the Netherlands

17:42 An Open Science approach to GIS-based paleoenvironment data

Christian Willmes, University of Cologne, Germany

17/7 16:30 - 18:00 IV/SpS 4 - ICA: Image maps- theory, methods, standards

Session Chair: Vít Voženílek, Palacky University Olomouc

Session Co-Chair: Lynn Usery, US Geological Survey

16:30 The Cartographic Concept of the Image Map

Vít Voženílek, Palacky University Olomouc, Czech Republic

16:48 User Preferences in Image Map Using

Alena Vondrakova, Palacky University Olomouc, Czech Republic

17:06 Transformation Methods for Using

Combination of Remotely sensed data and Cadastral Maps

Saziye Ozge Donmez, Istanbul Technical University, Turkey

17:24 Determining the suitability of different digital elevation models and satellite images for fancy maps. An example of Cyprus

Jacek Drachal, Institute of Geodesy and Cartography, Poland

17/7 16:30 - 18:00 V/3 - Terrestrial 3D Imaging and Sensors 3

Session Chair: Francesco Pirotti, University of Padova

Session Co-Chair: Daniel Wujanz, Technische Universität Berlin

16:30 Quality Assessment and Comparison of Smartphone, Airborne and Leica C10 Laser Scanner Based Point Clouds

Roderik Lindenbergh, Delft University of Technology, the Netherlands

16:48 An empirical point error model for TLS derived point clouds

Mustafa Ozendi, Bulent Ecevit University, Turkey

17:06 Crowdsourcing Based 3D Modelling

Arpad Somogyi, Budapest University of Technology and Economics, Hungary

17:24 Assessment of a static multibeam sonar scanner for 3D surveying in confined subaquatic environments

Emmanuel Moisan, Cerema; Cube Laboratory, France

17:42 Comparative Geometrical Investigations of Hand-Held Scanning Systems

Heinz-Juergen Przybilla, Bochum University of Applied Sciences, Germany

17/7 16:30 - 18:00 VII/5 - Methods for Change Detection and Process Modelling 3

Session Chair: Haigang Sui, Wuhan University

Session Co-Chair: Nora Tilly, University of Cologne

16:30 Monitoring of fluvial transport in the mountain river bed using terrestrial laser scanning

Grzegorz Jozkow, Wroclaw University of Environmental and Life Sciences, Poland

16:48 Comparison of C-Band and X-Band Polarimetric SAE Data for River Ice Classification on the Peace River

Helena Łoś, Warsaw University of Technology, Poland

17:06 Irregular ice sheet layering detected by radar echo sounder south to north Greenland EEMian ice drilling station

Siting Xiong, University College London, United Kingdom

17:24 Building change detection in very high resolution satellite stereo image time series

Peter Reinartz, DLR, Germany

17/7 16:30 - 18:00 VIII/7 - Forestry, Natural Ecosystems & Biodiversity 4

Session Chair: Taichi Takayama, University of Tokyo

Session Co-Chair: Robert Minařík, Charles University in Prague, Faculty of Science

16:30 Effect of wind on tree stem parameter estimation using terrestrial laser scanning

Matti Tapio Vaaja, Aalto University, Finland

16:48 UAV-based automatic tree growth measurement for biomass estimation

Mateusz Karpina, Wroclaw University of Environmental and Life Sciences, Poland

17:06 Monitoring Seabirds and Marine Mammals by Georeferenced Aerial Photography

Gerhard Kemper, GGS GmbH, Germany

17:24 Subtropical forest biomass estimation using airborne LiDAR and Hyperspectral data

Yong Pang, Chinese Academy of Forestry, China

17:42 Deriving Empirical Relationship Between Leaf Biomass of Red Pine Forests and Vegetation Index in South Korea Using Landsat-5 TM

Anibal Gusso, Polytechnic School of UNISINOS, Brazil

17/7 16:30 - 18:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 4

Session Chair: Semih Sami Akay, Istanbul Technical University

16:30 Forecasting urban expansion based on lights

Demetris Stathakis, University of Thessaly, Greece

16:48 Potential application of novel hyperspectral lidar for monitoring crops nitrogen stress

Shuo Shi, Wuhan University; Collaborative Innovation Center of Geospatial Technology, China

17:06 Analysis of the Intra-City Variation of Urban Heat Island and its Relation to Land Surface Parameters

Deniz Gerçek, Kocaeli University, Turkey

17:24 Towards a remote sensing based assessment of land susceptibility to degradation: examining seasonal variation in land use-land cover for modelling land degradation in a semi-arid context

Gofamodimo Mashame, Botswana International University of Science and Technology, Botswana

17:42 Measure of landscape heterogeneity by agent-based methodology

Ervin Wirth, Budapest University of Technology and Economics, Hungary

17/7 16:30 - 18:00 VIII/9 - Coastal and Ocean Applications 1

Session Chair: Samantha Jane Lavender, Pixalytics Ltd

Session Co-Chair: Eileen Johnson, Bowdoin College

16:30 Shanghai shoreline evolution interpreted from historical atlas and remote sensing imagery over the past 2,200 years

Huan Mi, Tongji University, China

16:48 Beach volume change using uav photogrammetry in songjung beach, korea

Chang-ill Yoo, Pukyong National University, Korea

17:06 Modelling morphodynamic environments by terrestrial photogrammetry: application to beaches and fluvial systems
Elena Sánchez-García, Polytechnic University of Valencia, Spain

17:24 Use of lidar to assess flood impacts on rural coastal communities in Maine
Eileen Johnson, Bowdoin College, USA

17:42 Monitoring High-frequency Ocean signals using low-cost GNSS/INS buoys
Yu-Lun Huang, National Cheng Kung University, Taiwan

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PROGRAM XXIII ISPRS
MONDAY 18 JULY



Monday, 18 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Congress Hall	Plenary 3
10:30 - 12:00	Club H	I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 5
	Club A	I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 1
	Club D	III/2 - Point Cloud Processing 3
	Club B	V/1 - Vision Metrology 4
	Club C	VI/6 - Technology Transfer and Capacity Development
	Club E	VII/6 - Remote Sensing Data Fusion 3
	Meeting Hall I A	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 5
	Meeting Hall I B	VIII/9 - Coastal and Ocean Applications 2
13:30 - 15:00	Club A	I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 2
	Club H	V/2 - Cultural Heritage Data Acquisition and Processing
	Club B	VII/6 - Remote Sensing Data Fusion 4
	Meeting Hall I A	VIII/7 - Forestry, Natural Ecosystems & Biodiversity 5
	Meeting Hall I B	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 6
	Club C	VIII/SpS 7 - GEO: Earth Observation and Societal Benefits: Global issues and best practices
	Club E	VII/ThS 5 - 3D information extraction from SAR imagery + VII/ThS 4 - TanDEM-X
15:00 - 16:30	Foyer 3rd Floor	Interactive session (I/4, I/Va, VI/6, VII/1, VII/3, VII/6, VII/7, VIII/7, VIII/9, ThS18, SpS8)

16:30 - 18:00	Club A	I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 3
	Club H	V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 4
	Club D	VII/3 - Information Extraction from Hyperspectral Data 2: Hyperspectral applications from Mars to Earth
	Club E	VII/4 - Methods for Image Classification 8
	Meeting Hall I A	VIII/7 - Forestry, Natural Ecosystems & Biodiversity 6
	Meeting Hall I B	VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 7
	Club B	VIII/SpS 15 - URSI: Disaster and Risk Management

Monday 18 July 2016

18/7 08:30 - 10:00 Plenary 3

Session Chair: Marguerite Madden, University of Georgia

Session Co-Chair: Jon Mills, Newcastle University

08:30 A Vision for Spaceborne Synthetic Aperture Radar (SAR)

Alberto Moreira, German Aerospace Center (DLR), Germany

09:00 The M.App of the Future is Now

Mladen Stojic, Hexagon Geospatial

09:30 Sensing the Invisible and Mapping the Future: Use Social Media and Big Data to Monitor Human Dynamics

Tsou Ming-Hsiang, San Diego State University, USA

18/7 10:30 - 12:00 I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors 5

Session Chair: Daniela Poli, Terra Messflug

Session Co-Chair: Karsten Jacobsen, Leibniz University Hannover

10:30 A framework for an automatic seam-line engine

Belai Beshah, North West Geomatics, Calgary; Hexagon Geosystems, Switzerland

10:48 A new control points based geometric correction algorithm for airborne push broom scanner images without on-board data

Pavel Strakhov, Moscow Institute of Physics and Technology, Russian Federation

11:06 Determining stand parameters from uas-based point clouds

Volkan Yilmaz, Karadeniz Technical University, Turkey

11:24 Absolute Radiometric Calibration of KOMPSAT-3A

Hoyong Ahn, Pukyong National University, Korea

18/7 10:30 - 12:00 I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 1

Session Chair: Jonathan Li, University of Waterloo

Session Co-Chair: Jose Alberto Gonçalves, University of Porto

10:30 Monitoring Aircraft Motion at Airports by LiDAR

Charles K Toth, The Ohio State University, USA

10:48 Rapid inspection of pavement markings using mobile lidar point clouds

Ming Cheng, Xiamen University, China

11:06 Refinement of Colored Mobile Mapping Data Using Intensity Images

Toru Yamakawa, The University of Electro-Communications, Japan

11:24 3D Land Cover Classification Based on Multispectral LiDAR Point Clouds

Xiaoliang Zou, University of Waterloo, Canada

11:42 Monitoring capabilities of mobile mapping systems based on navigation qualities

Hao Jing, D Laser Mapping Ltd.; University of Nottingham, United Kingdom

18/7 10:30 - 12:00 III/2 - Point Cloud Processing 3

Session Chair: Bisheng Yang, Wuhan University

Session Co-Chair: Ruisheng Wang, University of Calgary

10:30 Detecting and analyzing corrosion spots on the hull of large marine vessels using colored 3d lidar point clouds

Ahmad Kamal Aijazi, Blaise Pascal University, France

10:48 HELIOS: A Multi-Purpose LiDAR Simulation Framework for Research, Planning and Training of Laser Scanning Operations with Airborne, Ground-Based Mobile and Stationary Platforms

Sebastian Bechtold, Heidelberg University, Germany

11:06 Airborne multispectral LiDAR data for land-cover classification and land/water mapping using different spectral indexes

Salem Morsy, Ryerson University; Teledyne Optech, Canada

11:24 Pole-like street furniture decomposition in mobile laser scanning data

Fashuai Li, University of Twente, Netherlands

11:42 Automatic extraction of building roof planes from airborne lidar data applying an extended 3d randomized hough transform
Evangelos Maltezos, National Technical University of Athens, Greece

18/7 10:30 - 12:00 V/1 - Vision Metrology 4

Session Chair: Stuart Robson, UCL

Session Co-Chair: Thomas Luhmann, Jade University of Applied Sciences

10:30 3D capturing performances of low-cost active range sensors for mass-market applications

Gabriele Guidi, Politecnico di Milano, Italy

10:48 Development of a New Low-Cost Indoor Mapping System – System Design, System Calibration and First Results

Thomas Kersten, HafenCity University Hamburg, Germany

11:06 Boundary Depth Information Using Hopfield Neural Network

Sheng Xu, University of Calgary, Canada

11:24 Optical Triangulation on Instationary Water Surfaces

Christian Mulsow, TU-Dresden; BAW Karlsruhe, Germany

11:42 A novel approach to camera calibration method for smart phones under road environment

Zhou Jian, Wuhan University, China

18/7 10:30 - 12:00 VI/6 - Technology Transfer and Capacity Development

Session Chair: Armin Gruen, ETH Zurich

Session Co-Chair: Huayi Wu, Wuhan University

10:30 Development and evaluation of science and technology education program using interferometric SAR

Yosuke Ito, Naruto University of Education, Japan

10:48 A framework for capacity building in mapping coastal resources using remote sensing in the Philippines

Ayin Tamondong, University of the Philippines, Philippines; Phil-LiDAR 2 CoastMap

11:06 Bridging the gap between NASA Earth observations and decision makers through the NASA DEVELOP National Program

Caren M. Remillard, University of Georgia, Georgia

11:24 Geo-informatics in India: Major Milestones and present scenario

Stutee Gupta, Indian Institute of Remote Sensing, India

18/7 10:30 - 12:00 VII/6 - Remote Sensing Data Fusion 3

Session Chair: Qiming Zhou, Hong Kong Baptist University

Session Co-Chair: Jinghui YANG, Deutsches Zentrum für Luft- und Raumfahrt (DLR)

10:30 Methodology for Orientation and Fusion of Photogrammetric and LiDAR Datas for Multitemporal Studies

Carlos Manuel Colomo Jiménez, University of Jaén, Spain

10:48 Merging Digital Surface Models and Bayesian Approaches

Haval Abduljabbar Sadeq, Salahaddin University-Erbil, Iraq

11:06 Estimation of Regional Forest Aboveground Biomass Combining ICESat-GLAS Waveforms and HJ-1A/HSI Hyperspectral Imageries

Yanqiu Xing, Northeast Forestry University, China

11:24 Classification of croplands through fusion of optical and SAR time series data
Seonyoung Park, Ulsan National Institute of Science and Technology, Korea

11:42 Intergration of lidar data with aerial imagery for estimating rooftop solar photovoltaic potentials in city of Cape Town
Adedayo Kelvin Adeleke, University of Cape Town, South Africa

18/7 10:30 - 12:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 5

Session Chair: Syed M. Irteza, Hong Kong Polytechnic University

Session Co-Chair: Vojtech Lukas, Mendel University in Brno

10:30 Precision viticulture from multitemporal, multispectral very high resolution satellite data
Zacharias Kandylakis, National Technical University of Athens, Greece

10:48 Classification of LISS IV Imagery Using Texture Based Decision Tree Method
Amit Kumar Verma, Indian Institute of Technology Roorkee, India

11:06 Inter-seasonal dynamics of vegetation cover and surface temperature distribution: a case study of Ondo State, Nigeria.
Henry Adeniyi Ibitolu, Onidex Geospatial Solutions, Nigeria

11:24 Non-Trivial Feature Derivation for Intensifying Feature Detection Using LiDAR Datasets Through Allometric Aggregation Data Analysis Applying Diffused Hierarchical Clustering for Discriminating Agricultural Land Cover in Portions of Northern Mindanao, Philippines
Jigg Lomarda Pelayo, CMU Phil-LiDAR 2.B.11, Philippines

11:42 Analysing relationships between urban land use fragmentation metrics and socio-economic variables
Marta Sapena, Polytechnic University of Valencia, Spain

18/7 10:30 - 12:00 VIII/9 - Coastal and Ocean Applications 2

Session Chair: Samantha Jane Lavender, Pixalytics Ltd

Session Co-Chair: Bharat Lohani, IIT Kanpur

10:30 Mapping of Coral Reef Environment In the Arabian Gulf Using Multispectral Remote Sensing
Prashanth Reddy Marpu, Masdar Institute, United Arab Emirates

10:48 An object-based workflow developed to extract aquaculture ponds from airborne LiDAR data: A test case in Central Visayas, Philippines
Regine Añora Loberternos, University of San Carlos, Philippines

11:06 Mapping of seagrass cover along mediterranean coast of turkey using landsat 8 oli images

Tolga Bakirman, Yildiz Technical University, Turkey

11:24 Random forest classification of sediments on exposed intertidal flats using ALOS-2 quad-polarimetric SAR data
Wensheng Wang, University of Chinese Academy of Sciences, China

11:42 Estimating the Amount of Ship Recycling Activity Using Remote Sensing Application
Masanori Watagawa, Pasco corp., Japan

18/7 13:30 - 15:00 I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 2

Session Chair: Antonio Tommaselli, Unesp
Session Co-Chair: Adilson Berveglieri, São Paulo State University - UNESP

13:30 Pole Photogrammetry with an Action Camera for Fast and Accurate Surface Mapping
Jose Alberto Gonçalves, University of Porto, Portugal

13:48 Photogrammetric reconstruction with Bayesian information
Andrea Masiero, University of Padova, Italy

14:06 Advanced tie feature matching for the registration of mobile mapping imaging data and aerial imagery
Phillipp Jende, University of Twente, ITC, the Netherlands

14:24 Enhanced RGB-D mapping method for detailed 3D modeling of large indoor environment
Shengjun Tang, Wuhan University, China; The Hong Kong Polytechnic University, China

14:42 Automatic Feature Detection, Description and Matching from Mobile Laser Scanning Data and Aerial Imagery
Zille Hussnain, ITC, University of Twente, the Netherlands

18/7 13:30 - 15:00 V/2 - Cultural Heritage Data Acquisition and Processing

Session Chair: Francesco Nex, University of Twente - ITC Faculty
Session Co-Chair: Klara Ambrozova, VUGTK, v.v.i.

13:30 A Radical Collaborative Approach: Developing a Model for Learning Theory, Human-Based Computation and Participant Motivation in a Rock-Art Heritage Application

Robert Alexander Haubt, Griffith University, Australia

13:48 Adaptation of industrial hyperspectral line scanner for archaeological applications

Vanja Miljković, Faculty for Geodesy, Croatia

14:06 Automatic Damage Detection for Sensitive Cultural Heritage Sites

Daniele Cerra, DLR, Germany

14:24 Sfm technique and focus stacking for digital documentation of archaeological artifacts

Ludovico Ruggeri, Dica Univpm Marche, Italy

18/7 13:30 - 15:00 VII/6 - Remote Sensing Data Fusion 4

Session Chair: John L. van Genderen, ITC

Session Co-Chair: Yu Zeng, Chinese academy of surveying and mapping

13:30 Enhancement of spatial resolution of the LROC Wide Angle Camera images

Prasun Mahanti, Arizona State University, United States of America

13:48 Hyperspectral transformation from EO-1 ALI imagery using Pseudo-Hyperspectral Image Synthesis Algorithm

Nguyen Tien Hoang, Kyoto University, Japan; Hue University, Vietnam

14:06 Mapping of high value crops through an object-based SVM model using LiDAR data and orthophoto in Agusan del Norte Philippines

Rudolph Joshua Candare, Phil-LiDAR 2 Caraga State University, Philippines

14:24 The Effect of Pansharpening Algorithms on the Resulting Orthoimagery

Panagiotis Agrafiotis, National Technical University of Athens, Greece

18/7 13:30 - 15:00 VIII/7 - Forestry, Natural Ecosystems & Biodiversity 5

Session Chair: Balázs Székely, Loránd Eötvös University, Budapest

Session Co-Chair: Indranil Mondal, Wildlife Institute of India

13:30 TLS field data based intensity correction for forest environments

Johannes Heinzel, WSL Swiss Federal Institute for Forest, Snow and Landscape Research, Switzerland

13:48 Estimating dbh of trees employing multiple linear regression of the best lidar-derived parameter combination automated in python in a natural broadleaf forest in the philippines

Carlyn Ann Gonzales Ibanez, UP Training Center for Applied Geodesy and Photogrammetry, Philippines

14:06 Vegetation disturbance and recovery following a rare windthrow event in the Great Smoky Mountains National Park

Marguerite Madden, University of Georgia, United States of America

14:24 Mapping and change analysis in mangrove forest by using landsat imagery

Dan Thanh Tran, Nagasaki University, Japan; National Central University, Taiwan

18/7 13:30 - 15:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 6

Session Chair: Suryakant Ashok Sawant, Indian Institute of Technology Bombay

Session Co-Chair: Václav Ždímal, Mendel University in Brno

13:30 Landscapes impacted by light

Blanca Arellano, Technical University of Catalonia, Spain

13:48 Forest stress analysis in Hong Kong's forested area using satellite-based fluorescence

Syed M. Irteza, Hong Kong Polytechnic University, China

14:06 Comprehensive evaluation of urban sprawl on ecological environment using multi-source data: a case study of Beijing

Hao Wang, Chinese Academy of Surveying and Mapping, China

14:24 Analysis of relationship between urban heat island effect and land use/cover

type using landsat 7 etm+ and landsat 8 oli images

Nagihan Aslan, Akdeniz University, Turkey

14:42 Monitoring land cover dynamics at varying spatial scales using high to very high resolution optical imagery

Samantha Jane Lavender, Pixalytics Ltd, United Kingdom

18/7 13:30 - 15:00 VIII/SpS 7 - GEO: Earth Observation and Societal Benefits: Global issues and best practices

Session Chair: Barbara Ryan

Session Co-Chair: Petros Patias, The Aristotle University

13:30 Addressing societal challenges through Earth observation: contribution and opportunities arising from Horizon 2020, the EU Framework Programme for research and innovation

Michel Schouppe, European Commission, Directorate-General for Research and Innovation, Belgium

13:48 The european network for observing our changing planet: the ERA-PLANET project

Nicola Pirrone, CNR-Institute of Atmospheric Pollution Research, Italy

14:24 The Benefits and Challenges Having an Open and Free Basis Satellite Data Sharing Platform in Turkey: Gezgin

Husne Seda Deveci, TUBITAK UZAY, Turkey

14:42 Earth observations to inform decision-making for the benefit of society.

Barbara Ryan, GEO Secretariat, Switzerland

18/7 13:30 - 15:00 VII/ThS 5 - 3D information extraction from SAR imagery + VII/ThS 4 - TanDEM-X

Session Chair: Mattia Crespi, University of Rome La Sapienza

Session Co-Chair: Batuhan Osmanoglu, USRA - NASA Goddard Space Flight Center

13:30 Towards a Semantic Interpretation of Urban Areas With Airborne Synthetic Aperture Radar Tomography

Olivier D'Hondt, Technische Universität Berlin, Germany

13:48 Upgrade of FOSS DATE plug-in: implementation of a new radargrammetric DSMs generation capability

Martina Di Rita, "La Sapienza" University of Rome, Italy

14:06 Potential of multitemporal TanDEM-X derived crop surface models for maize growth monitoring

Christoph Hütt, University of Cologne, Germany

14:24 A new high-resolution elevation model of Greenland derived from TanDEM-X

Birgit Wessel, German Aerospace Center (DLR), Germany

14:42 Analysis of TanDEM-X data to extract high resolution-high accuracy DEM and mangrove canopy height

Batuhan Osmanoglu, Biospheric Sciences Laboratory; NASA Goddard Space Flight Center, USA

18/7 15:00 - 16:30 Interactive session

(I/4, I/Va, VI/6, VII/1, VII/3, VII/6, VII/7, VIII/7, VIII/9, ThS18, SpS8)

WG I/4 - Geometric and Radiometric Modeling of Optical Airborne and Spaceborne Sensors

Towards Fast Morphological Mosaicking of High-Resolution Multi-Spectral Products – On Improvements of Seamlines

Thomas Krauß, German Aerospace Center (DLR), Germany

A detail study about digital surface model generation using high resolution satellite stereo imagery

Ke Gong, University of Stuttgart, Germany

Radiometric and Geometric Accuracy Analysis of RASAT Imagery

Sultan Kocaman, Hacettepe University, Turkey

Self-calibration of space linear array camera

Wei Liu, Xi'an Surveying and Mapping Institute, China

Estimation of the atmospheric refraction effect in airborne images using

radiosonde data

Ulrich Beisl, Leica Geosystems, Switzerland

Airborne linear array image geometric rectification method based on unequal segmentation

Mei Zhou, Academy of Opto-Electronics, CAS, China

Automatic texture reconstruction of 3d city model from oblique images

Junhua Kang, Wuhan University, China

Low Frequency Error Analysis And Calibration For High-resolution Optical Satellite's Uncontrolled Geometric Positioning

Chengcheng Fan, Wuhan University, China

Radiometric Cross-calibration of KOMPSAT-3A with Landsat-8

Dongyoon Shin, Pukyong National University, Korea

Anisotropic Scattering Shadow Compensation Method for Remote Sensing Image with Consideration of Terrain

Qiongjie Wang, Wuhan University, China

Accuracy Comparison of VHR Systematic-ortho Satellite Imageries Against VHR Orthorectified Imageries Using GCP

Jali Octariady, Geospatial Information Agency, Indonesia

Research on reef bathymetric survey of UAV stereopair based on two-medium photogrammetry

Dongmei Ye, ZJtoprs, China

I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping

Post-Mission Quality Assurance Procedure for Survey-Grade Mobile Mapping Systems

Ana Paula Kersting, Teledyne Optech, Canada

Robust Parallel Motion Estimation and Mapping with Stereo Cameras in Underground Infrastructures

Zhengning Li, Tongji University, China

Accuracy assessment of mobile mapping point clouds using the existing environment as terrestrial reference

Sabine Hofmann, Leibniz Universität Hannover, Germany

A fast method for measuring the similarity between 3D model and 3D point cloud

Jonathan Li, Xiamen University, China; University of Waterloo, Canada

Image capture with synchronized multiple-cameras for extraction of accurate geometries

Mathieu Koehl, INSA de Strasbourg, France

Road Signs Detection and Recognition Utilizing Images and 3D Point Cloud Acquired by Mobile Mapping System

Yong He Li, PASCO, Japan

Detection and Characterization of Cracks in Paved Road Surface Using Laser Scan Image Data

Jaeyoung Choi, PASCO Corporation, Japan

Comparative evaluation of kernel-based techniques for pavement crack detection in asphalt road images

Michael Hahn, University of Applied Sciences Stuttgart, Germany

Evaluation of driver visibility from mobile LiDAR data and weather conditions

Higinio González-Jorge, Universidad de Vigo, Spain

3D feature point extraction from LiDAR data using a neural network

Yu Feng, Leibniz Universität Hannover, Germany

Systematic Calibration for A Spherical Photogrammetry Imaging System

Giann-Yeou Rau, National Cheng Kung University, Taiwan

Disaster Prevention Coastal Map Production by MMS & C3D

Shuhei HATAKE, Asia Air Survey; Arc Geo Support, Japan

Automatic adjustment of wide-base google street view panoramas

Vassilis Tsironis, National Technical University of Athens, Greece

A method of generating panoramic street strip image map with mobile mapping system

Tianen CHEN, PASCO Corporation, Japan

Automatic Shape-Based Target Extraction for Close-Range Photogrammetry

Yiping Chen, Xiamen University, China

A new automatic system calibration of multi-cameras and LIDAR sensors

Mohamed Fawzy Hassanein, University of Calgary, Canada

Initial tests and accuracy assesment of a compact mobile laser scanning system

Kalev Julge, Tallinn University of Technology, Estonia

VII/6 - Technology Transfer and Capacity Development

Designing Zoning of Remote Sensing Drones for Urban Applications: A Review

Norzailawati Mohd Noor, International Islamic University of Malaysia, Malaysia

RS-based water resource inventory of the Philippines: capacity building efforts for nationwide implementation

Anjillyn Mae C. Perez, University of the Philippines - Diliman, Philippines

National natural resource inventory of the Philippines using LiDAR: strategies, progress, and challenges

Ariel Conferido Blanco, University of the Philippines Diliman, Philippines

VII/1 - Physical Modelling and Signatures in Remote Sensing

Bidirectional Reflectance Modeling of the Geostationary Sensor Himawari-8/AHI Using a Kernel-Driven BRDF Model

Masayuki Matsuoka, Faculty of Agriculture, Kochi University, Japan

Soil Salinity Mapping Using Multitemporal Landsat Data

Anali Azabdaftari, Istanbul Technical University, Turkey

Kernel Feature Cross-Correlation for Unsupervised Quantification of Damage from Windthrow in Forests

Francesco Pirotti, University of Padova, Italy

Image quality assessment for VHSR Remote Sensing Image Classification

Zhipeng Li, Southwest Jiaotong University, China

VII/3 - Information Extraction from Hyperspectral Data

Cirrus Removal in Multispectral Data without 1.38 μ m Spectral Data

Aliaksei Makarau, German Aerospace Center (DLR), Germany

Band Selection for Urban Materials Classification

Arnaud Le Bris, IGN France, France

A simple interpretation of the rice spectral indices space for assessment of heavy metal stress

Ping Wang, Northeast Normal University, China

Bathymetry Mapping Using Hyperspectral Data: A Case Study of Yamada Bay, Northeast Japan

Emiko Ariyasu, Asia Air Survey Co., Ltd, Japan

Target detection

Maliheh Jafari Houdki, Shahid Bahonar University of Kerman, Iran

Feature Analysis for Quantitative Estimation of Cyanobacteria Chlorophyll-A

Yi Lin, College of Surveying and Geoinformatics, Tongji University, China

A study of the impact of insolation on remote sensing-based landcover and landuse data extraction

Kazimierz Becek, Wroclaw University of Technology, Poland

Estimation of leaf area index using an angular vegetation index based on in situ measurements and CHRIS/PROBA data

Lijuan Wang, JIangsu normal university, China

Mineralogical Mapping in a Part of a Gold Prospect Using EO-1 Hyperion Data

Vivek Kumar Sengar, Indian Institute of Remote Sensing, India

VII/6 - Remote Sensing Data Fusion

Geospatial analysis of near surface soil moisture time series data over Indian region

Preeti Berwal, Haryana Space Application Centre, India

A comparison of lidar reflectance and radiometrically calibrated hyperspectral imagery

Andreas Roncat, TU Wien, Austria

Comprehensive spectral signal investigation of larch trees combining ground and satellite-based measurements

Johannes Marian Landmann, University of Innsbruck, Austria

Remote sensing image fusion using ICA and optimization wavelet transform

Volodymyr Volodymyrovich Hnatushenko, Oles Honchar Dnipropetrovsk National University; EOS Data Analytics, Ukraine

Research on the construction method of comprehensive evaluation index of geographic conditions

Zhi Hua Zhang, Qingdao Geotechnical Investigation and Surveying Institute, China

Robust evaluation of high performance pansharpening algorithms on modern satellite imagery

Aristides Vaiopoulos, NTUA, Greece

Differential search algorithm based image fusion and edge detection

Mehmet Akif Günen, Erciyes University, Turkey

VII/7 - Synergy in Radar and LiDAR

Analysis of Scattering Components from Fully Polarimetric SAR Images for Improving Accuracies of Urban Density Estimation

Junichi Susaki, Kyoto University, Japan

Extraction of Coastlines with Fuzzy Approach Using Sentinel-1 SAR Image

Nusret Demir, Akdeniz University, Turkey

Model Accuracy Comparison for High Resolution InSAR Coherence Statistics over Urban Areas

Yue Zhang, University of Chinese Academy

of Sciences, China

VIII/7 - Forestry, Natural Ecosystems & Biodiversity

Estimating carbon stock changes of mangrove forests using satellite imagery and airborne LiDAR data in the South Sumatra state, Indonesia

Yoshiko Maeda, Kokusai Kogyo Co., Ltd, Japan

Mangrove plantation forest assessment using structural attributes derived from light detection and ranging (lidar) data

Regine Anne Gepa Faelga, Phil-LiDAR; Nationwide Detailed Resources Assessment Using LiDAR, Philippines

Light diffusion in a Tropical Dry Forest

Sofia Calvo-Rodriguez, University of Alberta, Canada

Spatiotemporal analysis for wildlife-vehicle-collisions based on accident statistics of the county Straubing-Bogen in Lower Bavaria

Raphaela Pagany, Deggendorf Institute of Technology, Germany

Estimation of stand height and forest volume using digital stereo photography and forest type map

Kyoung Min Kim, National Institute of Forest Science, Korea

Forest Tree Species Distribution Mapping Using Landsat Satellite Imagery and Topographic Variables with the Maximum Entropy Method in Mongolia

Shou-Hao Chiang, National Central University, Taiwan

Derivation of forest inventory parameters for carbon estimation using terrestrial lidar data

Om Prakash Prasad Kalwar, Tribhuvan University, Nepal

Exploring the Connectivity of Ecological Corridors between Low Elevation Mountains and Pingtung Linhousilin Forest Park of Taiwan by Least-Cost Path Method

Ya-Li Huang, National Pingtung University of Science and Technology, Taiwan

Individual tree crown delineation from a lidar derived canopy height model using the slope and curvature method in a coniferous plantation

Reginald Jay Labadisos Argamosa, Phil LIDAR 2, Philippines

Automatic Extraction of Mangrove Vegetation from Optical Satellite Data

Mayank Agrawal, International Institute of Information Technology, India

Wide-area mapping of forests with national airborne laser scanning and field inventory datasets

Jean-Matthieu Monnet, Irstea, France

Evaluation of forest canopy and understory gap fraction derived from terrestrial laser scanning

Kuei-Chia Chen, National Cheng Kung University, Taiwan

Assessing geographical isolation of the Galapagos Islands

Daniel Orellana, Universidad de Cuenca; Fundación Charles Darwin, Ecuador

Assessment of Fire Severity and Post-Fire Regeneration Based on Topographical Features Using Multitemporal Landsat Imagery: A Case Study in Mersin, Turkey

Hasan Tonbul, Gebze Technical University, Turkey

Algorithm for the automatic estimation of agricultural tree geometric parameters using airborne laser scanning data

Edyta Hadaś, Wrocław University of Environmental and Life Sciences, Poland

Vegetation cover mapping based on remote sensing and digital elevation model data

Irina Danilova, Sukachev Institute of Forest Siberian Branch RAS, Russian Federation

An optional threshold with SVM cloud detection algorithm and DSP implementation

Guoqing Zhou, Guilin University of Technology, China

Object-Based Forest Cover Monitoring Using High Resolution Satellite Images

Shiming Li, Chinese Academy of Forestry, China

GIS Based Tool for Seeds Material Collection and Propagation

Krzysztof Stereńczak, Forest Research Institute, Poland

Mapping disturbance dynamics in wet sclerophyll forest using an opensource approach

Andrew Haywood, European Forest Institute, Malaysia

VIII/9 - Coastal and Ocean Applications

Coastline extraction from aerial images based on edge detection

Lemonia Ragia, Technical University of Crete, Greece

Large oil spill classification using SAR images based on spatial histogram

Dan G. Blumberg, Ben-Gurion University of the Negev, Israel

Calibration/validation of Landsat-derived ocean color products in Boston Harbor

Nima Pahlevan, NASA Goddard Space Flight Center, USA

Detection of Coastline Deformation Using Remote Sensing and Geodetic Surveys

Asli Sabuncu, Bogazici University, Turkey

Spatial changes and population movements on the Albanian coastline

Ursa Kanjir, ZRC SAZU, Slovenia

Applying UAS and photogrammetry to monitor the morphological changes along the beach in Penghu islands

Cheng-Hao Lu, National Penghu University of Science and Technology, Taiwan

Contribution of satellite altimetry data in geological structure research in the South China Sea

Dung Tuan Tran, Vietnam Academy of Science and Technology, Vietnam

Costal bathymetry estimation from multispectral image with back propagation neural network

Hsuan Ren, National Central University, Taiwan

Feasibility Study of Landsat-8 Imagery for Retrieving Sea Surface Temperature (Case Study Persian Gulf)

Mahdi Hasanlou, University of Tehran, Iran

Ocean Color Retrieval Using Landsat-8 Imagery in Coastal Case 2 Waters (Case Study Persian and Oman Gulf)

Mahdi Hasanlou, University of Tehran, Iran

Oil spill detection and monitoring of Abu Dhabi coastal zone using kompsat-5 SAR imagery

Hussein Harahsheh, Global Scan Technologies, United Arab Emirates

ThS 18 - GlobeLand30

A knowledge-based approach on Globeland30 incremental updating: a case study of built-up area

Jun Zhang, National Geomatics Center of China, China

High resolution Aerosol Optical Depth mapping of Beijing using Landsat8 imagery

Yan Li, Nanjing University, China

SpS 8 - SSUGIT: Russian session - Advances in PH&RS&SIS in Russia

On the Issues Legal and Technical Regulation of Geodetic, Cartographic and Spatial Data in the Russian Federation

Alexander N. Prusakov, Federal Scientific-Technical Center of Geodesy, Cartography and Spatial Data Infrastructure, Russian Federation

Use of Aerospace Methods – Basis for Improving of State Mapping

Sergey S. Nekhin, Federal Scientific-Technical Center of Geodesy, Cartography and Spatial Data Infrastructure, Russian Federation

18/7 16:30 - 18:00 I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 3

Session Chair: Kai-Wei Chiang, National Cheng Kung University

Session Co-Chair: Stephan Nebiker, FHNW University of Applied Sciences and Arts Northwestern Switzerland

16:30 A feasibility study on use of generic MLS system for detecting asphalt pavement cracks in Ontario, Canada

Jonathan Li, University of Waterloo, Canada

16:48 Pole-like object extraction from mobile LiDAR data

Han Zheng, University of Calgary, Canada

17:06 Lidar-incorporated Traffic Sign Detection from video log images of Mobile Mapping System

Ying Li, Wuhan University, China

17:24 Tunnel Point Cloud Filtering Method Based on Elliptic Cylindrical Model

Ning-ning Zhu, WuHan University, China

17:42 Comparison of ZEB1 and Leica C10 Indoor Laser Scanning Point Clouds

Beril Sirmacek, Delft University of Technology, the Netherlands

18/7 16:30 - 18:00 V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 4

Session Chair: Thomas Dewez, BRGM French Geological Survey

16:30 Cliff collapse hazard from repeated multicopter UAV acquisitions: return on experience

Thomas J.B. Dewez, BRGM French Geological Survey, France

16:48 Accuracy assessment of underwater photogrammetric three dimensional modeling for coral reefs

Tao Guo, ETH Zurich Swiss Federal Institute of Technology, Switzerland

17:06 Monitoring and Deformation Analysis of Groynes Using Terrestrial Laser Scanning at the River Elbe

Felix Tschirschwitz, HafenCity University Hamburg, Germany

17:24 Automatic waterline extraction from smartphone images

Melanie Kröhnert, TU Dresden, Germany

18/7 16:30 - 18:00 VII/3 - Information Extraction from Hyperspectral Data 2: Hyperspectral applications from Mars to Earth

Session Chair: Bogdan Zagajewski, EARSeL
Session Co-Chair: Jan Hanuš, UVGZ AV ČR
- CzechGlobe

16:30 Leaf area index retrieved from thermal hyperspectral data

Elnaz Neinavaz, University of Twente, the Netherlands

16:48 IR spectral mapping of the martian south polar residual cap using CRISM

Jacqueline Campbell, University of Brighton, United Kingdom

17:06 Hyperspectral anomaly detection in urban scenarios

Juan Gregorio Rejas, Technical University of Madrid, Spain

17:24 Comparing broad-band and red edge-based spectral vegetation indices to estimate nitrogen concentration of crops using CASI data

Guijun Yang, Beijing Academy of Agriculture and Forestry Sciences, China

18/7 16:30 - 18:00 VII/4 - Methods for Image Classification 8

Session Chair: Ahmed Shaker, Ryerson University

Session Co-Chair: Haruhisa Shimoda, Tokai University

16:30 Comparison of filters dedicated to speckle suppression from SAR images

Przemysław Kupidura, Warsaw University of Technology, Poland

16:48 An object-based method for Chinese landform types classification

Wufan Zhao, Nanjing Normal University, China

17:06 Testing of land cover classification from multispectral airborne laser scanning data

Krzysztof Bakula, Warsaw University of Technology, Poland

17:24 VHR aerial images classification using invariant color components and multi scale texture

Alessia Movia, University of Udine, Italy

17:42 Combining spectral and texture features using random forests: extracting impervious surface area in Wuhan

Zhenfeng Shao, Wuhan University, China

18/7 16:30 - 18:00 VIII/7 - Forestry, Natural Ecosystems & Biodiversity 6

Session Chair: Johannes Heinzel

Session Co-Chair: Dan Thanh Tran, Nagasaki University

16:30 Evaluation of vertical lacunarity profiles in forested areas using Airborne Laser Scanning point clouds

Balázs Székely, Loránd Eötvös University, Hungary; TU Bergakademie Freiberg, Germany; Vienna University of Technology, Austria

16:48 Modelling fine scale movement corridors for the Tricarinate Hill Turtle

Indranil Mondal, Wildlife Institute of India, India

17:06 Impacts of tree height-dbh allometry on lidar-based tree aboveground biomass modeling

Rong Fang, Oregon State University, USA

17:24 Comparison of very near infrared (VNIR) wavelength from EO-1 Hyperion and Worldview-2 images for saltmarsh classification

Sidkar Mohammad Marnes Rasel, Macquarie University, Australia

18/7 16:30 - 18:00 VIII/8 - Land Cover and its Dynamics, Including Agricultural & Urban Land Use 7

Session Chair: Blanca Arellano, Technical University of Catalonia

Session Co-Chair: Nagihan ASLAN, Akdeniz university

16:30 Forestry Expansion during the Last Decades in the Paraíba Do Sul Basin - Brazil

Felix Carriello, Universidade Federal Fluminense, Brazil

16:48 The combination of UAV survey and LANDSAT imagery for monitoring of crop vigor in precision agriculture

Vojtech Lukas, Mendel University in Brno, Czech Republic

17:06 Time series analysis of remote sensing observations for citrus crop growth stage and evapotranspiration estimation

Suryakant Sawant, Indian Institute of
Technology Bombay, India

17:24 Changes in Scattered Greenery in
Selected Area in the Czech Republic from
1853 to 2014

Václav Ždímal, Mendel University in Brno,
Czech Republic

17:42 Geotechnologies for the
Characterization of Specialty Coffee
Environments of Mantiqueira De Minas in
Brazil

Helena Maria Ramos Alves, EMBRAPA, Brazil

18/7 16:30 - 18:00 VIII/SpS 15 - URSI:
Disaster and Risk Management

Session Chair: Tullio Joseph Tanzi, Institut
Mines-Telecom - Telecom ParisTech

Session Co-Chair: Ralph Kiefl, German
Aerospace Center (DLR)

16:30 Using airborne remote sensing to
increase situational awareness in civil
protection and humanitarian relief - the
importance of user involvement

Kiefl Ralph, German Aerospace Center (DLR),
Germany

16:48 Towards “drone-borne” disaster
management

Madhu Chandra, Chemnitz University of
Technology, Germany

17:06 Rapid Exposure Assessment of
Nationwide River Flood for Disaster Risk
Reduction

Youngjoo Kwak, ICHARM-UNESCO-PWRI,
Japan

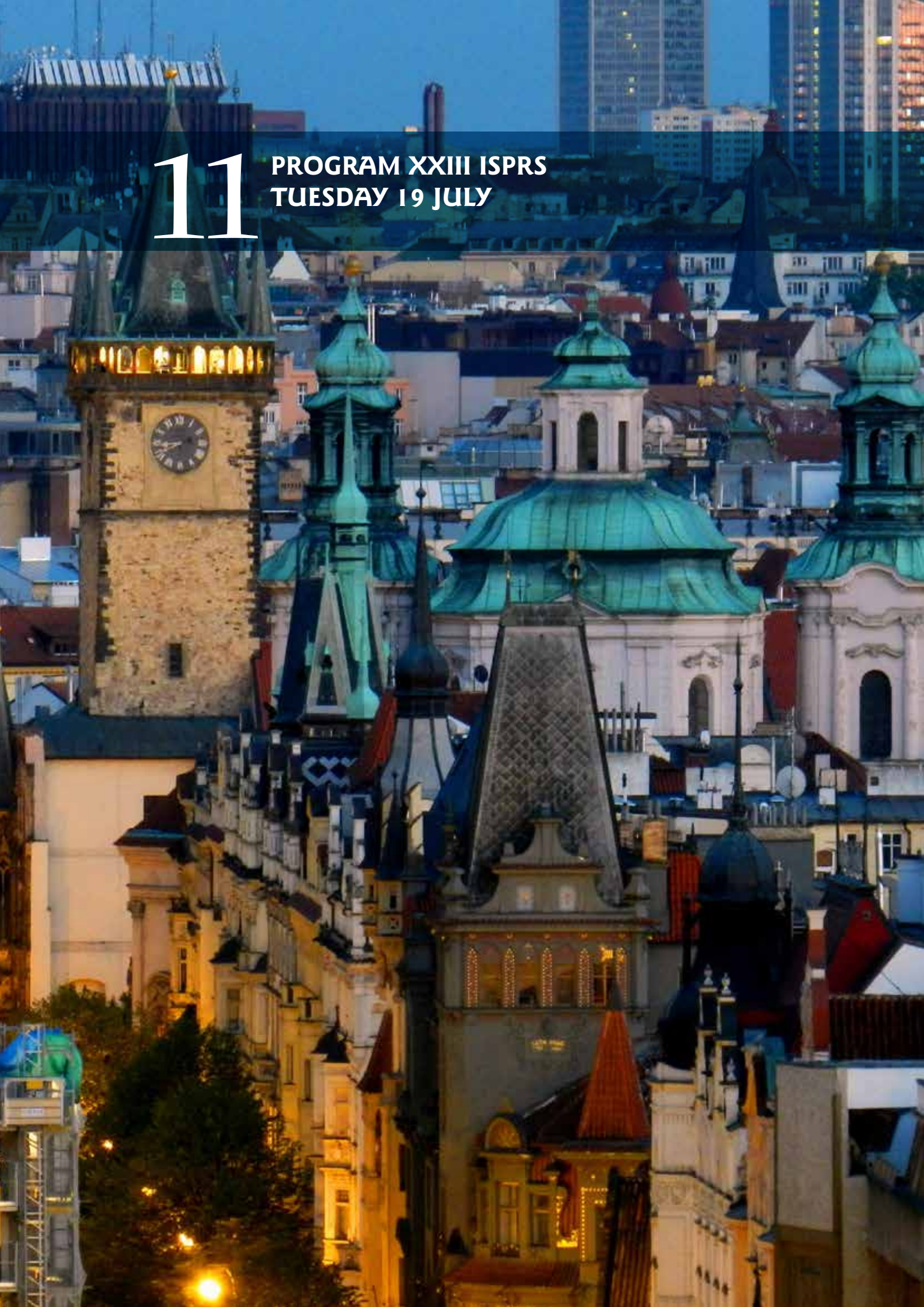
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An aerial night photograph of a city, likely Prague, showing a dense cluster of historic buildings with ornate facades and green-patina copper domes. A prominent stone clock tower with a large clock face is on the left. In the background, modern glass skyscrapers are visible against a dark blue twilight sky. A semi-transparent dark blue banner is at the top, containing the text '11 PROGRAM XXIII ISPRS TUESDAY 19 JULY'.

11

PROGRAM XXIII ISPRS
TUESDAY 19 JULY

Tuesday, 19 July, 2016

TIME	LOCATION	SESSION
08:30 - 10:00	Club H	I/5 - Satellite Systems for Earth Observation 2
	Club E	I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 4
	Club A	V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 5
	Club B	VI/SpS8 - SSUGIT: Russian session - Advances in PH&RS&SIS in Russia 1
	Club C	VII/SpS 10 - FOSS4G: FOSS4G Session (coorganized with OSGeo) 1
	Club D	VIII/SpS 17 - GEO: Earth Observation from Global Land to Urban Systems
10:30 - 12:00	Club B	VI/SpS 8 - SSUGIT: Russian session - Advances in PH&RS&SIS in Russia 2
	Club C	VII/5 - Methods for Change Detection and Process Modelling 4
	Club A	VII/SpS 10 - FOSS4G: FOSS4G Session (coorganized with OSGeo) 2
	Club D	VIII/ThS 18 - GlobeLand30
13:30 - 15:30	Congress Hall	Closing Ceremony

Tuesday 19 July 2016

19/7 08:30 - 10:00 I/5 - Satellite Systems for Earth Observation 2

Session Chair: Ralf Reulke, Humboldt-Universität zu Berlin
Session Co-Chair: Mi Wang, Wuhan University

08:30 A study of the impact of vegetation on radar backscatter on multilayer multiscale rough surfaces.

Ibtissem Hosni, ENIT, Tunisia

08:48 Automated FORMOSAT image processing system for rapid response to international disasters

Ming-Chih Cheng, National Space Organization, Taiwan

09:06 Beidou singal-in-space anomalies in the last three years

Yun Wu, School of Geodesy and Geomatics, China

09:24 Tsunami lead wave reconstruction based on noisy sea surface height measurements

Kegen Yu, Wuhan University, China

19/7 08:30 - 10:00 I/Va - Mobile Scanning and Imaging Systems for 3D Surveying and Mapping 4

Session Chair: Alberto Guarnieri, University of Padova

Session Co-Chair: Bisheng Yang, Wuhan University

08:30 A systematic comparison of direct and image-based georeferencing in challenging urban areas

Stefan Cavegn, FHNW University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

08:48 A Method for the positioning and orientation of rail-bound vehicles in GNSS-free environments

Raymond Hung, The Hong Kong Polytechnic University, China

09:06 Vehicle localization by LiDAR point correlation improved by change detection

Alexander Schlichting, Leibniz Universität

Hannover, Germany

09:24 The Performance of a Tight INS/GNSS/Photogrammetric Integration Scheme for Land Based MMS Applications in GNSS Denied Environments

Chu Chien-Hsun, National Cheng Kung University, Taiwan

09:42 A light-weight laser scanner for UAV applications

Antonio Tommaselli, Univ Estadual Paulista, Brazil

19/7 08:30 - 10:00 V/5 - Close-range Measurements for Biomedical Sciences and Geosciences 5

Session Chair: Thomas Dewez, BRGM French Geological Survey

08:30 Close Range Digital Photogrammetry Applied to Topography and Landslide Measurements

Wen-Cheng Liu, National United University, Taiwan

08:48 3D Central Line Extraction of Fossil Oyster Shells

Ana Djuricic, Vienna University of Technology, Austria

09:06 FACETS : a CloudCompare plugin to extract geological planes from unstructured 3D point clouds

Thomas J.B. Dewe, BRGM French Geological Survey, France

09:24 An automatic algorithm for minimizing anomalies and discrepancies in point clouds acquired by laser scanning technique

Fabiane Bordin, University of Vale do Rio dos Sinos, Brazil

09:42 Brute force matching from real images to synthetic images from point clouds

Richard Boerner, Technische Universität Dresden, Germany

19/7 08:30 - 10:00 VI/SpS8 - SSUGIT: Russian session - Advances in PH&RS&SIS in Russia 1

Session Chair: Alexander Karpik

Session Co-Chair: Leonard Yablonskiy, Center of Geodesy, Cartography and SDI

8:30 Research and practical trends in geospatial sciences

Igor A. Musikhin, Siberian State University of Geosystems and Technologies, Russian Federation

08:48 Models for photogrammetric processing of information from “Resource-P” satellites

Aleksey Evgenyevich Kuznetsov, Ryazan State Radio Engineering University, Russian Federation

09:06 Application Satellite Data Terra-MODIS to Environmental Monitoring in Western Siberia

Tatiana Olegovna Peremitina, Russian Academy of Sciences, Russian Federation

09:24 Algorithms for relative radiometric correction in Earth observing systems “Resource-P” and “Canopus-V”

Viktor Alekseevich Zenin, Ryazan State Radio Engineering University, Russian Federation

09:42 Monitoring of the undermined territories of Karaganda coal basin on the basis of satellite radar interferometry

Svetlana Ozhigina, Karaganda state technical university, Kazakhstan

10:00 Mesoscale Diffractive Photonics in Geosciences

Igor V. Minin, Siberian State University of Geosystems and Technologies, Russian Federation

19/7 08:30 - 10:00 VII/SpS 10 - FOSS4G: FOSS4G Session (coorganized with OSGeo) 1

Session Chair: Maria Antonia Brovelli, Politecnico di Milano

Session Co-Chair: Helena Mitasova, North Carolina State University

08:30 Open source approach to urban growth simulation

Anna Petrasova, NCSU, USA

08:48 A plugin to interface openModeller from QGIS for species’ potential distribution modelling

Daniel Becker, University of Cologne, Germany

09:06 Harvesting, integrating and distributing large Open Geospatial Datasets using Open-Source Software

Ricardo Oliveira, University of Colorado at Denver, USA

09:24 Development of Open source-based Automatic shooting and processing UAS imagery for Orthoimage Using Smart Camera UAV.

Jinwoo Park, Pukyong National University, Korea

09:42 Geospatial data stream processing in python using foss4g components

Graeme Andrew McFerren, CSIR, South Africa

19/7 08:30 - 10:00 VIII/SpS 17 - GEO: Earth Observation from Global Land to Urban Systems

Session Chair: Qihao Weng, Indiana State University

Session Co-Chair: Jamal Jokar Arsanjani, University of Heidelberg

08:30 Development of time-series human settlement mapping system using historical Landsat archive

Hiroyuki Miyazaki, University of Tokyo, Japan

08:48 Towards consistent mapping of urban structures – Global Human Settlement Layer and Local Climate Zones

Benjamin Bechtel, University of Hamburg, Germany

09:06 Earth Observation-Supported Service Platform for the Development and Provision of Thematic Information on the Built Environment – the TEP-Urban Project

Jakub Balhar, German Aerospace Center, Germany

19/7 10:30 - 12:00 VI/SpS 8 - SSUGIT: Russian session - Advances in PH&RS&-SIS in Russia 2

Session Chair: Alexander Karpik

Session Co-Chair: Leonard Yablonskiy, Center of Geodesy, Cartography and SDI

10:30 Prelaunch photogrammetric calibration of Russian satellite Elektro-L

imagery instruments

Andrey Mihaylovich Kochergin, Ryazan State Radio Engineering University, Russian Federation

10:48 UAV aerial survey: accuracy estimation for automatically generated dense digital surface model and orthophoto plan

Maksim Aleksandrovich Altyntsev, Siberian State University of Geosystems and Technology, Russian Federation

11:06 Development of Mapping Applications for Mobile Devices

Pavel Kikin, Siberian State University of Geosystems and Technologies, Russian Federation

11:24 English for specific purposes: teaching English for science and technology

Igor Musikhin, Siberian State University of Geosystems and Technologies, Russian Federation

11:42 Research and technology development for construction of

Tatyana Aleksandrovna Khlebnikova, Siberian State University of Geosystems and Technologies, Russian Federation

19/7 10:30 - 12:00 VII/5 - Methods for Change Detection and Process Modelling 4

Session Chair: Shiran Havivi, Ben Gurion university of the Negev

Session Co-Chair: Sebastian Brocks, University of Cologne

10:30 A New Method for Determining the Deformation Monitorable Indicator of Point Cloud

Wei Xuan, Wuhan University, China

10:48 Utilizing SAR and multispectral integrated data for emergency response

Shiran Havivi, Ben-Gurion University of the Negev, Israel

11:06 Interactive change detection of high resolution remote sensing images based on active learning with gaussian processes

Hui Ru, Wuhan University, China

11:24 Nationwide hybrid change detection of buildings

Vojtěch Hron, Czech Technical University in Prague, Faculty of Civil Engineering, Czech Republic

19/7 10:30 - 12:00 VII/SpS 10 - FOSS4G: FOSS4G Session (coorganized with OSGeo) 2

Session Chair: Rafael Moreno, University of Colorado Denver

Session Co-Chair: Helena Mitasova, North Carolina State University

10:30 An automated GRASS-based procedure to assess the geometrical accuracy of the OpenStreetMap Paris road network

Marco Minghini, Politecnico di Milano, Italy

10:48 New implementation of OGC Web Processing Service in Python programming language. PyWPS-4 and issues we are facing with processing of large raster data using OGC WPS.

Jachym Cepicky, OpenGeoLabs, Czech Republic

11:06 Processing UAV and lidar point clouds in GRASS GIS

Vaclav Petras, North Carolina State University, USA

11:24 Land cover maps of Europe: a WebGIS platform

Monia Elisa Molinari, Politecnico di Milano, Italy

11:42 Design of a free and open source data processing, archiving, and distribution subsystem for the ground receiving station of the Philippine scientific earth observation micro-satellite

Romer Kristi Danduan Aranas, University of the Philippines, Philippines; Hokkaido University, Japan

19/7 10:30 - 12:00 VIII/ThS 18 - Globe-Land30

Session Chair: Fuan Tsai, National Central University

Session Co-Chair: Kuo-Hsin (Steven) Tseng, National Central University

10:30 Uncertainty assessment of
GlobeLand30 land cover dataset over
Central Asia

Bo Sun, Shenzhen Institutes of Advanced
Technology, Chinese Academy of Sciences,
China

10:48 A Service Composition Method for
Land Cover services based on Pragmatics
Web

Hao Wu, Nation Geomatics Center of China,
China

11:06 Visual tools for crowd-sourcing data
validation within the globeland30 geoportal
Ekaterina Chuprikova, Technische Universität
München, Germany

11:24 Modeling the distribution of African
Savanna Elephants in Kruger National Park:
An application of multi-scale GlobeLand30
data

Wenjing Xu, University of Georgia, USA

11:42 Improving GlobalLand 30 Artificial type
extraction accuracy in low-density residents

Ling Zhu, Beijing University of Civil
Engineering and Architecture, China
ISPRS 2016 Congress Scientific Program

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PROGRAM XXIII ISPRS
BUSINESS MEETINGS



BUSINESS MEETINGS

Monday 11 July

17:00 - 18:00 Meeting Hall II

Council, outgoing TCPs

18:00 - 19:00 Meeting Hall II

Council, outgoing. TCPs, LOC

Tuesday 12 July

9:30 - 16:00 Forum Hall

General Assembly

16:30 - 18:30 Congress Hall

Opening Ceremony

18:30 - 19:00 Meeting Hall II

Press Conference (only by invitation)

19:00 - 21:00 Zoom restaurant

Welcome Reception

Wednesday 13 July

8:30 - 10:10 Congress Hall

Plenary Session I

10:30 - 13:00 Meeting Hall II

Joint Board of Geospatial Information Societies (only by invitation)

12:00 - 14:00 Meeting Room 2.2

ISAC

12:30 - 13:30 Club D

Meeting with StM

13:00 - 13:30 Foyer

Opening of the Technical Exhibition

13:30 - 18:00 Forum Hall

General Assembly

14:00 - 16:00 Meeting Room 2.2

IPAC

15:30 - 17:00 Meeting Hall II

IIAC

18:00 - 19:30 Foyer

Exhibitor Reception

Thursday 14 July

12:30 - 13:30 Club A

Open Meeting 1 of Technical Commission TC I/I

12:30 - 13:30 Club B

Open Meeting 1 of Technical Commission TC II/(III+V)

12:30 - 13:30 Club C

Open Meeting 1 of Technical Commission TC III/(II+IV)

12:30 - 13:30 Club D

Open Meeting 1 of Technical Commission TC IV/(VII+VIII)

12:30 - 13:30 Club E

Open Meeting 1 of Technical Commission TC V/(VI)

12:30 - 13:30 Club H

Meeting with potential OdM (only by invitation)

13:30 - 15:00 Meeting Hall II

IJGI Editorial Board (only by invitation)

17:00 - 18:30 Zoom Restaurant

Forum Night + Brock Award Reception (only by invitation)

Friday 15 July

12:30 - 13:30 Club A

Open Meeting 2 of Technical Commission TC I/I

12:30 - 13:30 Club B

Open Meeting 2 of Technical Commission TC II/(III+V)

12:30 - 13:30 Club C

Open Meeting 2 of Technical Commission TC III/(II+IV)

12:30 - 13:30 Club D

Open Meeting 2 of Technical Commission

TC IV/(VII+VIII)

12:30 - 13:30 Club E

Open Meeting 2 of Technical Commission
TC V/(VI)

13:30 - 15:00 Meeting Hall II

IJRS Editorial Board Meeting (only by
invitation)

Saturday 16 July

8:30 - 10:10 Congress Hall

Plenary II

10:30 - 12:00 Foyer 2nd Floor

Visit of Exhibitors

13:30 - 18:00 Forum Hall

General Assembly

Sunday 17 July

9:00 - 18:00 Meeting Room 2.2

CIPA (only by invitation)

10:30 - 12:00 Meeting Hall II

EuroSDR+new TCPs (only by invitation)

12:00 - 13:30 Meeting Hall II

Hand-over Old + new TCP, Old + new
Council (only by invitation)

14:00 - 15:30 Meeting Hall II

Incoming TCP Hand-over meeting (only
by invitation)

16:00 - 18:00 Meeting Hall II

Foundation (TIF) Board meeting (only by
invitation)

19:00 - 22:00 Dancing House

Foundation (TIF) Fundraising Dinner

Monday 18 July

8:30 - 10:10 Congress Hall

Plenary Session III

13:00 - 18:00 Forum Hall

General Assembly

20:00 - 24:00 Žofín Palace

Congress Gala Dinner

Tuesday 19 July

7:30 - 8:30 Holiday Inn

Breakfast Meeting Incoming - Outgoing
Council

8:30 - 10:00 Meeting Hall II

Meeting of the Incoming TCPs with
Regional Reps and Sister Societies (only
by invitation)

13:30 - 15:30 Congress Hall

Closing Ceremony

19:30 - 21:30 Congress Hall

Dinner of those who ever have been
Council and HM

Wednesday 20 July

9:00 - 17:30 Holiday Inn

Joint Meeting of the New Council and
TCPs

SOCIAL PROGRAM

FUN RUN

Place: Vyšehrad, Next to the Prague Congress Centre

Date & Time: Friday, July 12 , starts at 12:30

WELCOME RECEPTION

Place: Prague Congress Centre, Restaurant ZOOM

Date & Time: Tuesday, July 12, 18.30 – 20.30

EXHIBITOR RECEPTION

Place: Prague Congress Centre, Foyer on the 2nd floor

Date & Time: Wednesday, July 13, 18.00 – 19.30

CONCERT – “CZECH MUSIC”

Place: Bethlehem Chapel, Prague

Date & Time: Thursday, July 14, 20:00 – 22:00

ISPRS SOCCER CUP

Place: Děkanka, Prague

Date & Time: Friday, July 15 , 18:00 – 20:00

YOUTH MEETING ICE-BREAKER PARTY

Place: Vagon Music Club, Prague

Date & Time: Friday, July 15 , starts at 21:00

BOAT TRIP + DINNER

Place: Vltava River, Prague

Date & Time: Saturday, July 16, 20:00 – 22:00

THEATRE

Place: Image Black Light Theatre, Prague

Date & Time: Sunday, July 17, 19:30 – 21:30

CONGRESS GALA DINNER

Place: Žofín Palace

Date & Time: Monday, July 18, 19:30 – 01:00

Registration Desk Hours

11 July	13:00 - 17:30
12 July	08:00 - 20:00
13 July	08:00 - 19:00
14 July	08:00 - 18:00
15 July	08:00 - 18:00
16 July	08:00 - 18:00
17 July	08:00 - 18:00
18 July	08:00 - 18:00
19 July	08:00 - 15:30

Exhibition Hours

12 July	14:00 - 20:30
13 July	8:30 - 21:00
14 July	8:30 - 18:30
15 July	8:30 - 18:30
16 July	8:30 - 16:00

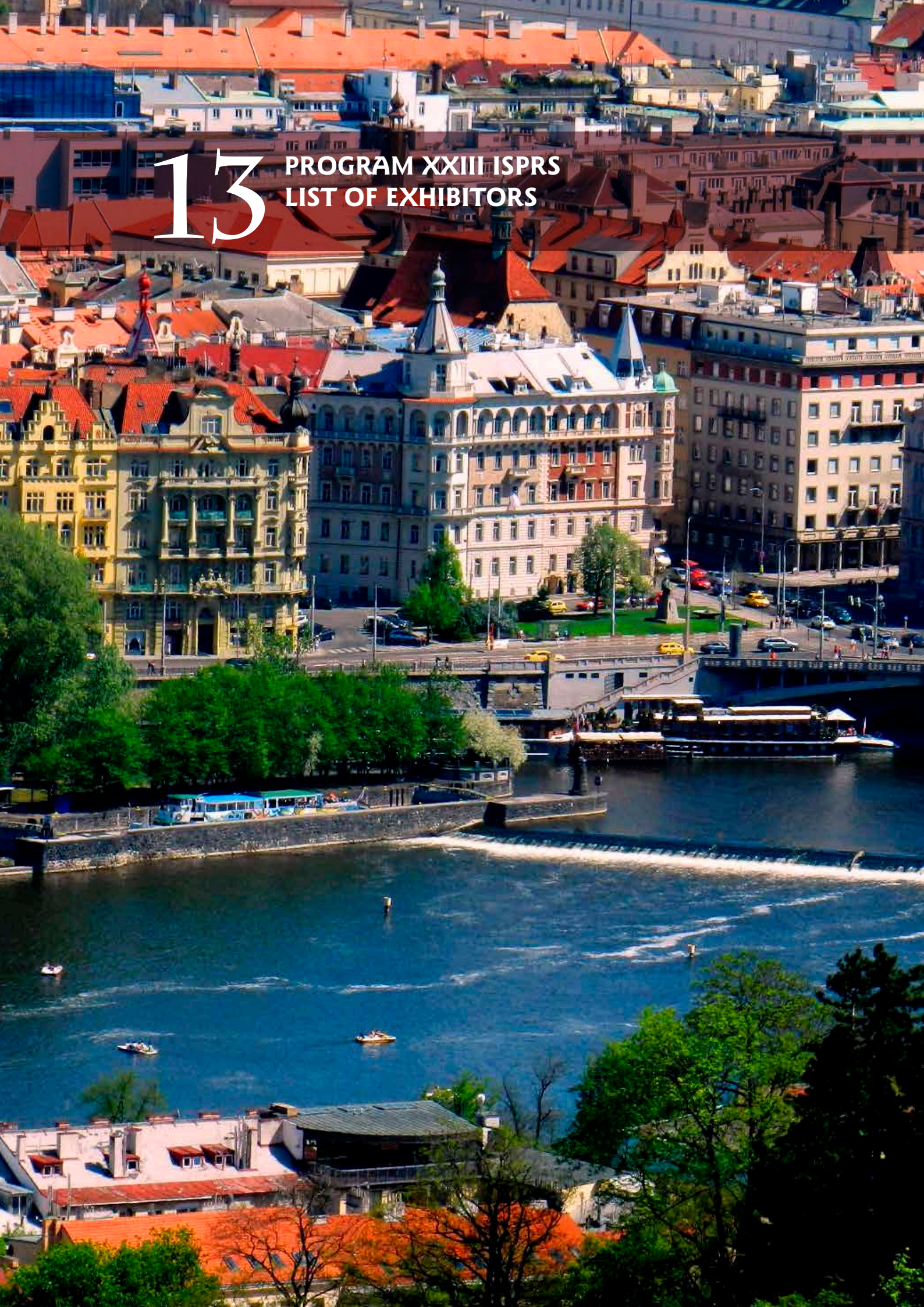
LIST OF RESERVED BOOTHS AT XXIII ISPRS CONGRESS

Booth Company

1	National Administration of Surveying, Mapping and Geoinformation of China (NASG) Heilongjiang Seasky Geomatics Technology Co., Ltd. Sichuan Administration of Surveying, Mapping and Geoinformation Chinese Academy of Surveying and Mapping National Geomatics Center of China Beijing Satimage Information Technology Co., Ltd. Beijing Geo-Vision Information Technology Co., Ltd. Map World (Tianjin) Co., Ltd. Beijing Geoway Software Co., Ltd. Leador Spatial Information Technology Co., Ltd.
6	Airbus
7	GEOGIS
8	nFrames GmbH
9	Asia Air Survey
17	Sphere Optics
18	Geodyn Technology
19	BIMTAS
20	MosaicMill Oy / Rikola Oy
21	Avenza
22	Blue Marble Geographics
25	Atlas Ltd, TopoL Software
26	Atlas Ltd, TopoL Software
27	Riegl
28	DATEM
30	PCI Geomatics Enterprises Inc.
32	Zeměměřický Úřad
33	Lead'Air, Inc.
34	MOMRA
36	Phase One
42	Hexagon
50	Vexcel
52	RACURS
53	SBG-SYSTEMS
54	IGI
56	ESRI
57	CompassData, Inc.
58	Pix4D
59	AccuEarth

60	Twenty First Century Aerospace Technology
61	Canadian Institute of Geomatics
62	ITRES Research Limited
63	MESCIOĞLU MÜHENDİSLİK VE MÜŞAVİRLİK A.Ş.
64	Meixner
65	Google
69	Dubai Municipality
73	Studio 727
77	PRIMIS
78	InSpace
79	Geometry Factory
81	Visionmap
82	Bentley
83	Trimble Germany
85	SimActive
87	HERE
89	SI Imaging Services
92	Panalytical
97	ISPRS Journal
98	Elsevier
99	Student Consortium, ISPRS Book Series
101	Geosense
102	Media Partners





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PROGRAM XXIII ISPRS LIST OF EXHIBITORS

ACCUEARTH (Booth 59)

Website:	http://accuearth.eu/
Address:	Sokolovská 49, 186 00, Praha 8, Czech Republic
Contact:	Paul Soares
Email:	info@accuearth.eu
Telephone:	+420 722 614 197



From our base in the heart of Europe, AccuEarth provides highly accurate GCPs and GIS products to our customers worldwide.

AccuEarth's global network of skilled professionals is continually collecting GCPs

around the world to provide accurate coordinate data for an increasing variety of applications. We utilize accuracy and topo analyst map accuracy software to verify and validate the spatial accuracy of aerial and satellite data as well as verify the accuracy of any pre-existing geospatial data sets.

Our guaranteed and consistent quality of GCPs ensure that you can produce the most accurate enhanced imagery and GIS data sets for your projects.

AERIAL PHOTOGRAMMETRY AND REMOTE SENSING GROUP CO., LTD. (Booth 1)

Website:	www.arscmh.com	
Address:	Jianxijie 3 Xi'an Shaanxi Province	
Contact:	Mr. Fang Jushan	Ms. Zhang Yan
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Telephone:	+86-13609248392	+86-13259413365



(ARSC) remains a client focused geospatial services company, committed to producing quality, tailored products while providing cost-effective solutions. As the leading enterprise in China's geospatial industry, ARSC, the member unit of ISPRS committee, pays

Established in 1965, Aerial Photogrammetry and Remote Sensing Group Co., LTD of China National Administration of Coal Geology

attention to technical quality, hand-picking personnel with high academic and professional credentials, and investing heavily in new technology, with total employees 1340. Our services range from Aerial Photography, Digital Surveying and Mapping, Application and Research of Remote Sensing, GIS Research and Construction, Underground Pipeline Networks Detection, to Development of Computer Information Technology. And our services involves in the fields of city planning, transportation construction, real estates, web map, energy, telecom, mineral resource development geological survey, environmental monitoring, etc.

AIRBUS DEFENCE AND SPACE (Booth 6)

Website:	www.intelligence-airbusds.com
Address:	Claude-Dornier-Str., 88090, Immenstaad, Germany
Contact:	Dr. George Vozikis
Email:	george.vozikis@airbus.com
Telephone:	+49 7545 8-2845



The Intelligence Business Cluster of Airbus Defence and Space is the supplier of choice for commercial satellite imagery, C2ISR systems and related services. Airbus Defence and Space has unrivalled expertise in satellite imagery acquisition, data processing, fusion, dissemination and intelligence extraction allied

to significant command and control capabilities. The company is able to create a comprehensive situational awareness picture and deliver sophisticated end-to-end solutions across all commercial, institutional and defence markets. Based upon exclusive commercial access to Pléiades, SPOT, TerraSAR-X and TanDEM-X satellites, combined with broad applications experience, the company delivers an extensive portfolio spanning the entire geo-information value chain.

ASIA AIR SURVEY CO., LTD. (Booth 9)

Website:	http://www.ajiko.co.jp/en/
Address:	Shinyuri 21 Building, 1-2-2 Manpukuji, Asao-ku, Kawasaki-shi, Kanagawa Prefecture 215-0004, Japan
Contact:	Mr. Has Baator
Email:	has.baator@ajiko.co.jp
Telephone:	+81-44-967-6302 (direct), +81-44-967-6303, +81-80-2337-3219 (cell phone)



Asia Air Survey Co., Ltd. (AAS) is an engineering and consulting company specializing in geo-spatial data acquisition, data processing and system development, as well as providing services for disaster prevention & mitigation and environment. The company's main clients are governments and the private sectors as

well as multisectoral international funded projects.

The headquarters of the company is located in Tokyo, has 45 local offices across Japan and two flight Centres in Tokyo and Osaka. More recently, addition to its joint company in Beijing, AAS established a regional office in Yangon, Myanmar. AAS has been operating since 1965, and as such has the experience to offer geospatial solutions and services to global clients.

ATLAS LTD. (Booth 25)

Website:	www.atlasltd.cz
Address:	Na Krivce 50, 101 00 Praha 10, Czech Republic

Contact:	Petr Krizek
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Telephone:	+420 272 766 085



ATLAS Ltd. was founded in 1990. It is a private company, based in Prague, with the main focus on developing a graphical software for 3D modeling and visualisation.

The software Atlas DMT (Digital Terrain Model)

can be used for creating terrain surface models from very large elevation data sets. The models are based on a triangulated irregular network and the system includes a graphical environment that offers CAD tools as well as specialized application modules.

ATLAS Ltd. is also an authorized distributor of Gemalto/SafeNet products (digital rights management).

AVENZA SYSTEMS (Booth 21)

Website:	Avenza Systems Inc.
Address:	124 Merton Street Suite 400, Toronto M4S2Z2 Canada
Contact:	Ted Florence
Email:	ted@avenza.com
Telephone:	(416) 487-5116



Avenza is the producer of geospatial add-ons for Adobe Creative products, which add GIS functionality to the popular and widely-used Adobe environment, as well as the Avenza PDF Maps mobile application for mobile mapping on smart phones and tablets. MAPublisher provides a complete GIS and

cartographic suite of tools and data format support for Adobe Illustrator to create great maps from GIS data. Geographic Imager adds powerful spatial imaging and geospatial data support to Adobe Photoshop. Avenza PDF Maps is a geospatial PDF, GeoPDF and GeoTIFF reader for smartphones and tablets with an imbedded in-app iTunes-like distribution system that allows your GIS-made maps to be truly mobile and merchandised for offline use.

BEIJING GEO-VISION TECH.CO., LTD. (Booth 1)

Website:	http://www.jx4.com/en/
Address:	Building 19, Block 11, ABP, No.188 NanSiHuanXiLu, Fengtai District, Beijing 100070, P.R.CHINA
Contact:	Mr. Gang Zhang
Email:	geovision@foxmail.com
Telephone:	86-10-6822107986-13001278880



Founded in March 1989, Beijing Geo-Vision Tech.co.,Ltd is a high-tech and software enterprise and a part of Chinese Academy of Surveying and mapping. The company is committed to develop modern high-tech production of surveying and mapping, provide the entire solution of the data acquisition,

processing, application and display. According to the requirements of users, Beijing Geo-Vision Information has developed series of products with wide adaptability and domestic independent intellectual property rights. A number of products filled in domestic gaps of surveying and mapping technology, won the "National Science and Technology Progress Award" four times, and greatly promoted the development of surveying and mapping technologies in China.

BEIJING GEOWAY SOFTWARE CO., LTD. (Booth 1)

Website:	http://english.geoway.com.cn/
Address:	F16 Wanshang Plaza, 22 Shijingshan RD, 100043, Beijing, China
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Email:	shaoyuanzheng@geoway.com.cn
Telephone:	+86-18801013271

GEOWAY

The way of geomatics

GEOWAY is the leading provider of geomatic solutions in China, with a long history of research and development in the areas of multi-source remote sensing image processing and integrated geospatial information services.

Excellent in software development, system integration, data processing and information services, and integrated business applications, GEOWAY's line of products include GIS, image processing and digital photogrammetry software, as well as core technologies of image matching and map production, providing solutions to urban, land and other important areas.

BENTLEY SYSTEMS (Booth 82)

Website:	www.bentley.com
Address:	Bentley Systems Polska sp. z o.o., Ul. Nowogrodzka 68, 02-014 Warszawa, Polska
Contact:	Mirosław Pawelec
Email:	miroslaw.pawelec@bentley.com
Telephone:	+48 693807107



Bentley Systems is a global leader in providing architects, engineers, geospatial professionals, constructors, and owner-operators with comprehensive software solutions for advancing the design, construction, and

operations of infrastructure. Bentley users leverage information mobility across disciplines and throughout the infrastructure lifecycle to deliver better-performing projects and assets. Bentley solutions encompass MicroStation applications for information modeling, ProjectWise collaboration services to deliver integrated projects, and AssetWise operations services to achieve intelligent

infrastructure– complemented by worldwide managed services.
professional services and comprehensive

BIMTAS (Booth 19)

Website:	www.bimtas.istanbul
Address:	BIMTAS Inc., Evliya Celebi Mah., Mesrutiyet Cad. Eski, Tuyap Binasi No:50, Beyoglu, Istanbul / Turkey
Contact:	Dr. Gurcan Buyuksalih
Email:	gb@bimtas.istanbul
Telephone:	+90 212 2459900 ext. 1190



BIMTAS has been providing engineering, consultancy and project services to affiliates of Istanbul Metropolitan Municipality, district municipalities, public and private institutions for the realization of infrastructure and superstructure investments as a matter of planned and healthy urbanization since 1997. Having accomplished several studies that changes the face of Istanbul, a city progressing rapidly to be a global center, BIMTAS has been meeting the demands of local governments and private sector by providing services both domestically and abroad such as feasibility, surveying, project and consultancy in all aspects of life ranging from stream rehabilitation to marine structures, energy, metro systems, industrial facilities, cultural centers, sports complexes, park and garden arrangements. In addition, the use of Laser Scanning Technologies with the aim

of recording architectural cultural heritage and generating technical drawing, restitution and restoration projects, BIMTAS has been giving services to public and private sectors in converting 3D laser point clouds into the accurate and detailed 3D CAD drawings and solid models. It has the feature of being the only center in our country providing service in “3D Mapping and generating city model at different levels by using Airborne Laser Scanning” which is another application area of Laser Scanning Technologies. 3D Mapping and City Modeling work which has been generated for the first time in Turkey has been specific to Istanbul and been presented for the use of Metropolitan Municipality. Finally, Bimtas is now dealing with the smart city applications. It aims to generate first 3D platform of Istanbul to integrate and visualize the databases of municipal functionalities like, public transportation, water system, natural gas services etc. Such a platform can ease the life of people and give a way to apply smart apps from mobile and web-based platform.

BLUE MARBLE GEOGRAPHICS (Booth 22)

Website:	www.bluemarblegeo.com
Address:	22 Carriage Ln, Hallowell, Maine 04347, USA
Contact:	Myles LaBonte
Email:	marketing@bluemarblegeo.com
Telephone:	(800) 616-2725



Since the early 1990s, Blue Marble Geographics has been a pioneer in the development of powerful and innovative geospatial software. Widely regarded for

its expertise in coordinate conversion and file format support, Blue Marble's products include Geographic Calculator, the paradigm for highly accurate spatial data conversion and advanced projection management; Global Mapper, a fully-functional and inexpensive GIS application; and the Global Mapper LiDAR Module, a suite of powerful point cloud processing tools.

CANADIAN INSTITUTE OF GEOMATICS & CANADIAN REMOTE SENSING SOCIETY (Booth 61)

Website:	http://www.cig-acsg.ca	www.crss-sct.ca
Address:	100 D – 900 Dynes Road, Ottawa, Ontario Canada K2C 3L6	Regina, Saskatchewan, Canada
Contact:	Alex Giannelia, B.A.A, President	Prof. Joe Piwowar
Email:	admindig@magma.ca	treasurer@crss-sct.ca
Telephone:	+1.613.224.9851	+1.306.585.5273



The Canadian Institute of Geomatics – Association canadienne des sciences géomatiques (CIG-ACSG) has evolved to be a non-profit scientific and technical association and represents the largest and most influential geospatial knowledge network in Canada. Over 50% of its members are senior managers and researchers in government, private sector,

academic and NGO organizations. The CIG has long been an active and the representing Canadian member of the ISPRS, ICA and the FIG.

The genesis of remote sensing activities that led to the formation of the Canadian Remote Sensing Society – Société canadienne de télédétection (CRSS-SCT) began in the 1960's. These activities encompassed government, industry, and educational institutions. Since 1972 the CRSS-SCT has been running the world's oldest on-going national symposium dedicated to remote sensing.

COMPASSDATA INC. (Booth 57)

Website:	http://www.compassdatainc.com/
Address:	12353 East Easter Avenue, Suite 200, Centennial, Co 80112
Contact:	LoAnn Crane
Email:	Marketing@compassholdingsinc.com
Telephone:	Office 303-999-3035 Cell 720-257-1787



CompassData, Inc., located in Centennial, Colorado, is the industry leader and supplier of

current, accurate GPS based data collection and ground control survey. Since 1994, CompassData's capacity to effectively perform work in locations ranging from dense urban settings to remote environments comes from

experience addressing logistical and safety considerations inherent to survey situations. As the industry leader, CompassData has standardized, industry-accepted processes for collection, analysis and delivery of timely,

concise, and user-friendly data. CompassData maintains the largest commercially available Ground Control Point archive in the world with over 40,000 points available today, and growing daily.

CZECH OFFICE FOR SURVEYING, MAPPING AND CADASTRE (ÚZK) (Booth 32)

Website:	http://www.cuzk.cz/
Address:	Pod sídlištěm 1800/9, 182 11 Praha 8
Contact:	Office team
Email:	cuzk@cuzk.cz
Telephone:	+420 284 041 111



Czech Office for Surveying, Mapping and Cadastre (ÚZK) manages state administration of the cadastre of real estate in the Czech Republic and ensures performance of surveying activities in the public interest given by the law. The main tasks are:

- Complete administration of the cadastre of real estate
- Maintenance of geodetic control

- State mapping of the Czech Republic
- Creation and actualization of the Fundamental Base of Geographic Data
- Maintenance and documentation of the state border
- Development and maintenance of the Information System of Surveying, Mapping and Cadastre
- Standardization of geographical names
- Administration of the Central Archive of Surveying and Cadastre

DAT/EM SYSTEMS INTERNATIONAL (Booth 28)

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DAT/EM Systems International develops software for the photogrammetric, engineering and GIS industries that enables the extraction of 3D vector features from stereo imagery and

point clouds.

DAT/EM's suite of software solutions includes Summit Evolution™ photogrammetric workstation, LandScape™ point cloud viewing and editing toolkit, and complementary components Capture™, MapEditor™, Ortho+Mosaic™, Airfield3DTM and Contour Creator™. New to the DAT/EM

Photogrammetric Suite, Summit UASTM provides a set of tools to easily analyze or compare UAS data by viewing, editing and defining features in stereo.

Visit DAT/EM at geospatial events worldwide for a demo, or contact our worldwide network of resellers to learn more.

DUBAI MUNICIPALITY (Booth 69) - GOLD SPONZOR

Website:	www.dm.gov.ae
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The origin of Dubai Municipality was founded in 1954, commencing its activities with a cadre of seven employees undertaking simple tasks in cleaning the city. The first decree establishing the Municipality was on February 28, 1957, whereby 23 municipal council members had been appointed from the elders of the country and traders with limited powers, the most important of which was to take care of health and architectural affairs of the city as well as to organize construction and beautification of the city and provide constructive suggestions to the government. Dubai Municipality is regarded as one of the

largest governmental institutions in terms of services rendered and projects executed. Thus the municipality is the leading driver of growth and evolution of the Emirate of Dubai. Dubai Municipality is the custodian of geospatial data for the Emirate of Dubai and has been instrumental in ensuring the application of these technologies across various government departments in Dubai. The Municipality also organizes the GIS and Remote Sensing Annual Scientific Forum (GRASF) in association with the Middle East Geospatial Forum. The Forum, which is held every year in Dubai, has quickly become the most sought after congregation of geospatial professionals in the region and addresses various challenges faced by the technology implementers from across the region.

EUCLIDEON EUROPE (Booth 64)

Website:	www.euclidean.com
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Email:	office@meixnerimaging.com
Telephone:	+43 1 587 96 16



Geoverse software, designed for users to

Euclidean Europe offer a range of products, including its ready-made

instantly and effortlessly visualise 3D point cloud data in its geospatial context; its conversion software, which allows users to compress their point-cloud data down to 5-20% of its original size for effortless storage, streaming and use in Geoverse;

SOLIDSCAN converts a laser scan into a

solid, photo-realistic representation of the real world. There is no upper limit to the detail that can be reproduced using SOLIDSCAN. Incredibly, Euclidean's SOLIDSCAN removes moving objects and 90% of the background noise from laser scanned data – only static

objects remain. Reflective surfaces like whiteboards and mirrors can now be laser scanned with photo-realistic results. SOLIDSCAN technology creates many new opportunities for scanning organizations.

ESRI (Booth 56)

Website:	http://www.esri.com/industries/mapping-statistics-imagery/imagery-3d
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Esri, the leader in GIS

technology, offers innovative solutions for enterprise imagery management and web GIS. The amount of high resolution remotely sensed data and elevation data is expanding,

while the cost is falling. The Esri ArcGIS platform provides the tools and capabilities to make imagery, lidar and elevation data relevant and valuable. Esri technology includes tools, workflows, and applications that can be quickly implemented within an organization to help you see your project, find the patterns and share the results with others.

GEODYN (Booth 18)

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Geodyn has been set up with the leading personal from the former Maps Geosystems. They are those who have devised procedures that turned into standard operations in the mapping industry.

GeoDyn today concentrates on aspects such as the introduction of temporal data attributes into GIS, and defining the relevance of applicable data layers. This leads to minimize data acquisition requirements which in turn shortens planning operations and reduces

cost substantially.

GeoDyn believes that there is an imminent requirement for the analogue/Digital conversion of aerial photography and this not only to safeguard a country's heritage, but to be able to reappraise predictions made previously and corresponding corrective measures taken at the time, if any.

In view of the above GeoDyn developed an Analogue to Digital conversion procedure that is by a magnitude faster than conventional procedures, thereby making important data accessible to a larger user community.

GEOGIS (Booth 7)

Website:	http://www.geogis.com.tr/Default_eng.aspx
Address:	Mutlukent Mah. 1920 Cad. No: 69 Umitkoy / Cankaya / Ankara / TURKEY
Contact:	Tuncer Ozerbil
Email:	tozerbil@geogis.com.tr
Telephone:	+90 312 236 4260



GEOGIS is a mapping company established in Ankara/TURKEY in 1997. The company has more than 60 engineers, consisting of surveyors, civil engineers, city planners, agriculture engineers, geologists, and that number reaches to 200 considering the technicians and field workers.

GEOGIS implements photogrammetric projects by using its own airplane and 2 aerial cameras. Besides photogrammetric projects GEOGIS is one of the lead mapping company in Turkey at areas of core expertise below.

- Geodetic and Photogrammetric Map Production
- 3D City Modelling - Geographic Information Systems
- Transportation Projects - Digital Map Production
- Application of Development Plans
- Infrastructural Services
- Pipe Line Projects
- Urban Information Systems
- Supervision and Consultancy Services
- Hydro Electric Projects
- Real Estate Appraisal Services

GEOMETRY FACTORY (Booth 79)

Website:	www.geometryfactory.com
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Telephone:	+33 492.954.912



GeometryFactory provides flexible and robust geometric software components as well as expertise in geometric computing to more than 300 customers worldwide. We give development teams a head-start on building applications that solve business problems, increasing productivity and the ability to deliver products on time.

We offer field-proven C++ components, which are part of CGAL, the Computational Geometry Algorithms Library.

Our customers in the application area photogrammetry and GIS use 3D triangulations, Boolean operations on polygons and surface meshes, polyline simplification, and surface reconstruction from point clouds, to name but a few.

GGG GMBH (Booth 26)

Website:	www.ggs-speyer.de / www.aerotopol.de
Address:	GGG - Geotechnik, Geoinformatik & Service GmbH, Kaemmererstr. 14, 67346, Speyer, Germany
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Email:	kemper@ggs-speyer.de
Telephone:	+49 6232 629271, Mobile: +49 171 3588546



GGG GmbH is a medium sized company that was founded in 1988. Since 2004, the main focus is on the aerial surveying market. Having 6 employees, GGG develops, integrates and supports systems for various aerial data acquisition. Aerial cameras as single or multi-sensor setups, oblique imager, thermal sensors, hyper-spectral scanners and Lidar

are the sensors in our portfolio. Our additional instruments as gyro stabilized mounts, GNSS-INS, power-supplies, onboard PC, pilot screens and shock mountings support a proper installation of the sensors. We also offer mission planning and flight management software designed for a perfect interfacing with all of our components. That way we are able to deliver turnkey solutions. We assist in installation and offer onsite training. Besides that, we also integrate existing equipment and do user specific integration.

GOOGLE EARTH ENGINE (Booth 65)

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Telephone:	303-385-4953



Earth Engine is Google's cloud platform for petabyte-scale analysis of satellite imagery and other geospatial data. Originally conceived in

2009 as a platform for global forest monitoring, today scientists, governments, and NGOs around the world are using Earth Engine in areas ranging from food and water security to disaster risk management, public health, biodiversity, and climate change adaptation.

HEILONGJIANG SEASKY GEOMATICS TECHNOLOGY CO., LTD. (Booth 1)

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Heilongjiang Seasky Geomatics Technology Co.,Ltd.

founded in 2004, is a professional company for Photogrammetry and Remote Sensing. Affiliated to Heilongjiang Administration of Surveying, Mapping and Geoinformation, Seasky has national Grade A qualifications for Photogrammetry and Remote Sensing, Geographical Information System Engineering, Engineering Surveying, Real Estate Surveying and Mapping, Cartography. In 2012, Seasky passed the ISO 9001:2008 standard quality

management system certifications. As an outsourcing service provider, Seasky is one of the largest production bases for international geo-informatic data processing in China. For aerial images, satellite images, LiDAR data and other multiple-source data, Seasky develops different technical solutions for data compilation, image processing, GIS database construction and application, 3D landscape products, thematic mapping products etc.

HERE (Booth 87)

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HERE is a leader in mapping and location technology backed by a consortium of leading automotive companies Audi, BMW and Daimler. HERE has been mapping the world for 30 years, helping people and companies around the world answer the pressing questions they have. Every time you use the map in your car; every

time you get a package delivered; every time you create an event map on your favorite social network, chances are HERE is behind it.

Our mapping technology powers leading services on six continents. Today, we're helping people in 1,000 cities catch their trains; we're helping millions of people in 50 countries beat traffic; and we're helping companies better route their fleets.

HEXAGON (Booth 42) - PLATINUM SPONSOR

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HEXAGON

Hexagon Geospatial helps you make sense of the dynamically changing world. Known globally as a maker of leading-edge technology, we enable our customers to

easily transform their data into actionable information, shortening the lifecycle from the moment of change to action. Hexagon Geospatial provides the software products and platforms to a large variety of customers through direct sales, channel partners, and Hexagon businesses. For more information, visit hexagongeospatial.com or contact us at marketing@hexagongeospatial.com.

Geospatial is part of Hexagon, a leading global provider of information technologies that drive productivity and quality across geospatial and industrial enterprise applications. Hexagon's solutions integrate sensors, software, domain knowledge and customer workflows into intelligent information ecosystems that deliver

actionable information. They are used in a broad range of vital industries. Hexagon (Nasdaq Stockholm: HEXA B) has more than 16,000 employees in 46 countries and net sales of approximately 3.4bn USD. Learn more at hexagon.com and follow us @HexagonAB.

IGI (Booth 54)

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mechanics, software development, and

IGI covers a wide variety of expertise in optics, electronics,

analytics through a team of highly qualified scientists, engineers and technicians. With more than 35 years of experience, IGI not only offers integration of various sensors, but also complete sensor systems for airborne + terrestrial survey missions.

INSPACE CO., LTD. (Booth 78)

Website:	www.inspace.re.kr
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Telephone:	+82 42 862 2735



specialized in research and development,

InSpace Co., Ltd. is a venture company

spun off from the Korea Aerospace Research Institute (KARI) to keep up with the current trends of the convergence between Space Technology (ST) and Information Communication Technology (ICT).

ITRES (Booth 62)

Website:	www.itres.com
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Telephone:	+1 403-250-9944



ITRES provides

(1979) airborne

hyperspectral and thermal remote sensing imagers and surveys. Our custom sensors are

used for applications in mineral & geology, heat loss, fire mapping, search and rescue, coastlines, water quality, and target detection among others.

The TSR-1800 system features in-flight geocorrection and automated thermal anomaly detection, with high spatial/thermal resolution. Fly fast (up to 170-300kts), with resolutions ranging from 5cm to 1 m and

0.05°C thermal resolution.

New to our performance hyperspectral sensor lineup are the integrated CASI-1500H (VNIR) and wide-swath SASI-1000A (200 channel, 1000 x-track imaging pixel SWIR imager). We have also launched our new UAV/Ground sensors: the μ VNIR-1920, the μ TIR-640 and the μ SWIR-384.

LEADOR SPATIAL INFORMATION TECHNOLOGY CO., LTD. (Booth 1)

Website:	www.leador.com.cn	
Address:	Bldg.12, HUST Science Park Innovation Base, No33, Tangxunhu North Road, East Lake Dev. Zone, Wuhan, Hubei, China	
Contact:	Kai Sun	Ms. Wang Xiaohui
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Leador Spatial Information Technology Co., Ltd was founded in

September 1999. The company is committed to promoting industrial upgrading and facilitating the use of geographic information by taking advantage of mobile mapping technology. The company currently employs more than 400 people, 30% of them have master or doctoral degree. The R & D

department, excellent at Multi-disciplinary design and complex systems integration, has technical talents from fields of optical, electronic, mechanical, automatic control, mapping, remote sensing, visual images, Internet, etc. Through years of efforts and hard work, Leador has pioneered the concept of 3D image GIS and become the leading manufacturer of land-based Mobile Mapping Systems (MMS) in China, which is now widely used in digital city, city management, public security, emergency response, digital highway, digital railroad, LBS, etc.

LEICA GEOSYSTEMS (Booth 42) - Platinum Sponsor

Website:	Leica Geosystems AG
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With close to 200 years of pioneering solutions to measure the world, Leica Geosystems products

and services are trusted by professionals worldwide to help them capture, analyze, and present spatial information. Leica Geosystems is best known for its broad array of products that capture accurately, model quickly, analyze

easily, and visualize and present spatial information.

Those who use Leica Geosystems products every day trust them for their dependability, the value they deliver, and the superior customer support. Based in Heerbrugg, Switzerland,

Leica Geosystems is a global company with tens of thousands of customers supported by more than 3,500 employees in 28 countries and hundreds of partners located in more than 120 countries around the world. Leica Geosystems is part of Hexagon, Sweden.

MAP WORLD (TIANJIN) CO., LTD. (Booth 1)

Website:	http://www.map tj.cn/guid/first.htm
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Tianjin Binhai Geoinformation Innovation Park & Mapworld Global Data Service Base, is located in Tianjin High-Tech Area (also the National Innovation Demonstration Area), assembling Mapworld Tianjin National Data

Base, Mapworld International Communication Centre, Mapworld Information Science Institute, Mapworld Zhongchuang Space Incubator, Mapworld International Conference Exhibition Centre, Map world(Tianjin) Co.,Ltd., Tiandi Beidou (Tianjin) Navigation Technology Co.,Ltd., and Mapworld Data & Multi-Language Manufacturing Base, etc.

MEIXNER IMAGING (Booth 64)

Website:	www.meixnerimaging.com
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Telephone:	+43 1 587 96 16



products.

Geoverse MDM and UnlimitedOrtho are revolutionary new geospatial software solutions that enable users to visualize, manipulate and interact with image and point cloud data – regardless of size – without loading times. This technology is able to handle the vast amounts of data and link it with external databases in a way previously

MEIXNER IMAGING is the exclusive distributor for Euclidean's ready-made Geoverse

unimaginable on normal computers and stream it over the web.

Our latest solution SolidsScan converts a laser scan into a solid, photo-realistic representation of the real world, with the same accuracy as LiDAR. SolidsScan does not natively "interpolate" points – instead, SolidsScan uses a new, patented technique to produce solid photo-realistic point clouds with no holes.

In combination with udWeb customer are able to share all their data with clients and partners around the world on e.g. their website.

MESCIOĞLU MÜHENDİŞLİK VE MÜŞAVİRLİK A.Ş. (Booth 63)

Website:	www.mescioglu.com.tr
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Email:	monder@mescioglu.com.tr
Telephone:	+90 312 235 20 00/137 Ext.



MESCOLU ENGINEERING was founded by Ayhan Faruk MESC in 1984 and has been offering services in mapping, engineering, surveying, photogrammetry and supervision and consultancy of infrastructural projects including railways and highways for more than 30 years in Turkey. Moreover, Mesciolu has

also carried out transportation master planning and water resources management projects which are essential necessities of our country. 80% of the workforce in photogrammetry services in Turkey has been undertaken by Mesciolu as of December 2015. As being the leading firm in the sector with our technical capabilities in our services, quality procedures and our corporate culture based on trust, our aim is to continue to accelerate our client satisfaction.

MINISTRY OF MUNICIPAL AND RURAL AFFAIRS OF SAUDI ARABIA (MOMRA) (Booth 34) - BRONZE SPONSOR

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Ministry for Municipal and Rural Affairs
Kingdom of Saudi Arabia

The Ministry of Municipal and Rural Affairs (MOMRA) is a government organization in the Kingdom of Saudi Arabia, established

by Royal Decree in October, 1975 and assigned the responsibility for planning and developing urban and rural areas and the administrative oversight of the management of more than 300 municipalities throughout the Kingdom of Saudi Arabia.

MOSAICMILL (Booth 20)

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MosaicMill

MosaicMill is developer of EnsoMOSAIC aerial survey system which comes with hyperspectral, multispectral or thermal cameras. MosaicMill is specialized in forestry

and precision agriculture - EnsoMOSAIC Agri is a complete package with high-resolution NDVI sensor, reflectance targets and software for generation of NDVI and prescription maps. MosaicMill is also distributor of GeoDrone UAS and Terra software for automatic point cloud classification and vectorization.

NATIONAL ADMINISTRATION OF SURVEYING, MAPPING AND GEOINFORMATION OF CHINA (NASG) (Booth 1)

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Established in 1956, National Administration of Surveying, Mapping and Geoinformation of China (NASG) is a central government agency responsible for surveying, mapping and geoinformation of the country. NASG has 18 sub-institutions and the total staff member accounts for more than 8,000, local surveying, mapping and geoinformation administrations were established in all China's 31 provinces, autonomous regions and municipalities. In recent years, surveying, mapping and

geoinformation developed rapidly and series of achievements were witnessed. On June 1, 2015, the Outline of Medium and Long-term Planning of National Fundamental Surveying and Mapping (2015-2030) was approved by the State Council, which was an important decision deployment of strengthening and promoting surveying, mapping and geoinformation in China and will better serve socio-economic development and people's daily life in the future.

NATIONAL ENGINEERING RESEARCH CENTER OF SURVEYING AND MAPPING (Booth 1)

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National Engineering Research Center of Surveying and Mapping was established in 2009, and passed the acceptance test of the Ministry of Science and Technology of China in 2013. The Center is a sub-division of the Chinese Academy of Surveying and Mapping and under the supervision of National Administration of Surveying, Mapping and Geoinformation of China (NASG). The aim of

the center is to establish an industrialization research, development and service entity for surveying and mapping technology. Its main tasks include surveying and mapping industrialization application and engineering technology research, transformation of achievements, open services, and international cooperation.

NATIONAL GEOMATICS CENTER OF CHINA (Booth 1)

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国家基础地理信息中心 NGCC National Geomatics Center of China

National Geomatics Center of China (NGCC), also functioned as National Archives for Surveying and Mapping, is a government agency subordinated to National Administration of Surveying, Mapping and Geoinformation of China (NASG). The staff

team consists of 150 members from 17 departments. NGCC fulfills the missions to construct, manage and distribute national fundamental data and archives; plan, design, organize and execute national major surveying and mapping projects; maintain surveying and mapping networks in China; develop applications of national fundamental geoinformation.

NFRAMES (Booth 8)

Website:	www.nframes.com
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nFrames is a company developing software for 3D surface reconstruction from images. The core software product SURE is designed

for professional mapping production.

It is particularly focused on the derivation of precise point clouds, DSMs, True Orthophotos and textured meshes for projects with large scale such as country-wide airborne image datasets.

PANALYTICAL, ASD INC. (Booth 92)

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As a part of PANalytical, ASD Inc. is the world's leading supplier of precision field portable, full-

range (350-2500 nm) spectrometers and spectroradiometers. ASD's ruggedized analytical instruments provide the freedom to rapidly collect high-quality spectra in the field for real-time lab quality results. When accuracy matters and success is measured in manometers, see why the world's leading

research institutions depend on ASD for data that can be trusted. For more information

please visit www.asdi.com.

PCI GEOMATICS (Booth 30)

Website:	www.pcigeomatics.com
Address:	90 Allstate Parkway, Suite 501, Markham, ON, L3R 6H3
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Email:	info@pcigeomatics.com
Telephone:	905-764-0614



PCI Geomatics, founded in 1982, is the world

leader in geo-imaging products and solutions. PCI Geomatics has set the standard in remote sensing and image processing tools offering customized solutions to the geomatics community in over 135 countries.

PCI Geomatics is the developer of Geomatica®- a complete and integrated desktop software that features tools for remote sensing, digital photogrammetry, geospatial analysis, map production, mosaicking and

more. Geomatica® software enables users to apply imagery in support of a wide range of applications such as the environment, agriculture, security and intelligence, defense, as well as in the oil and gas industries.

PCI Geomatics is also the developer of the Geolmaging Accelerator (GXL), an automated, high performance, Graphics Processor (GPU) system for processing terabytes of imagery data. PCI Geomatics is a privately held Canadian corporation headquartered in Toronto, Ontario and Gatineau, Quebec with worldwide facilities located in the United States; Arlington and Beijing, China

PHASE ONE (Booth 73)

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Phase One Industrial is dedicated to research, development and manufacturing of medium format, metric cameras for aerial photography. Phase One cameras are known for their image quality, accuracy and easy integration with leading flight management systems, IMU/GNSS receivers and all popular LIDAR systems.

Phase One's flagship camera series, the iXU

1000, incorporate a 100 MP CMOS sensor and offers large format coverage at medium format size and price. These cameras are distinguished by their high resolution, wide ISO range and fast capture rate.

With a wide choice of lenses, Phase One offers solutions for everything from small UAVs up to large manned aircraft.

PIX4D (Booth 58)

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Pix4D is the developer and producer of Pix4Dmapper, a software based on computer vision and photogrammetry. Pix4Dmapper automatically processes both terrestrial and

drone/aircraft-acquired imagery, converting it into highly accurate orthomosaics, surface models, point clouds, textured 3D and simplified CAD models. Pix4D, rapidly expanding since its founding in 2011, is headquartered in Lausanne, Switzerland, with local offices in Shanghai and San Francisco.

PRIMIS (Booth 77)

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Email:	patrik.meixner@primis.cz/ marta.meixnerova@primis.cz
Telephone:	+420 724 013 013 / +420 733 188 823



PRIMIS – Professional Imaging and Mapping Solutions. Though we are still rather newly established company (2014) we benefit from the vast experience in the field of photogrammetry and remote sensing amassed by our key staff

during past 23 years. Our services encompass flight planning, data acquisition by aerial sensors, photogrammetric data processing up to delivery of products in various forms and formats both of contemporary and historical data. Our sophisticated workflow ensures keeping the strictest quality control measures in order to satisfy the needs of our customers from diverse corners of the world.

RIEGL (Booth 27)

Website:	www.riegl.com
Address:	Riedenburgstrasse 48, 3580 Horn, Austria
Contact:	Sales team
Email:	sales@riegl.com, office@riegl.com
Telephone:	+43 2982 4211



RIEGL based in Austria is a performance

leader in research, development and production of terrestrial, industrial, mobile, bathymetric, airborne and UAS-based laser scanning systems. RIEGL's innovative hardware and software provides powerful solutions for

most application fields in surveying.

Worldwide sales, training, support and services are delivered from RIEGL's Austrian headquarters and its offices in Vienna, Salzburg, and Styria, main offices in the USA,

Japan, and in China, and by a worldwide network of representatives covering Europe, North and South America, Asia, Australia and Africa.

For more information, visit www.riegl.com.

SENOP OY (Booth 20)

Website:	www.rikola.fi
Address:	Kultarikontie 1, Vantaa 01300, Finland
Contact:	Jussi Soukkamaki
Email:	Jussi@rikola.fi
Telephone:	+358503583516



Senop OY offers a lightweight

hyperspectral camera for UAVs. This product is a snapshot spectral system providing only true image pixels for up to 380 bands. No interpolation is used in image formation. The frame based approach enables an easy image

stitching for the mosaics with high resolution images. The solution doesn't need IMU for its operations, which makes the system low cost and low weight. In addition, the camera enables handheld use with computers in laboratories, fields etc. Senop OY offers also OEM multichannel and LED-modules as well as miniature spectrometers.

SATELLITE SURVEYING AND MAPPING APPLICATION CENTER, NASG (Booth 1)

Website:	http://en.nasg.gov.cn
Address:	28 Lianhuachixi Road, Haidian District, Beijing 100830, China
Contact:	Hao Minghui
Email:	mhhao1228@hotmail.com
Telephone:	+86 10 63881902



and Geoinformation of China. SASMAC is mainly responsible for development plans of satellite surveying and mapping application, surveying and mapping satellite application

Satellite Surveying and Mapping Application Center (SASMAC) is a technical institution under the National Administration of Surveying Mapping

and operation system, and related scientific research. Presently, SASMAC is mainly engaged in the construction of application system of ZY-3 satellite, China's first civilian stereo mapping satellite, research on key technology of satellite surveying and mapping application, application policies and specifications of ZY-3 satellite data, and development strategies and plans of surveying and mapping satellites, satellite application and emergency mapping.

SBG SYSTEMS (Booth 53)

Website:	www.sbg-systems.com
Address:	3bis chemin de la jonchère, 92500 Rueil-Malmaison, France
Contact:	Thibault Bonnevie
Email:	sales@sbg-systems.com
Telephone:	+33 1 80 88 45 00



SBG Systems is a supplier of miniature, high performance, and cost-effective motion

sensors. It offers a complete line including Attitude and Heading Reference System (AHRS) and Inertial Navigation Systems with embedded GNSS receiver (INS/GNSS), etc.

Our sensors are ideal for mobile mapping and remote sensing applications, for camera/LiDAR stabilization and data georeferencing.

SI IMAGING SERVICES (SIIS) (Booth 89)

Website:	www.si-imaging.com
Address:	SI Imaging Services, 441 expo-ro, Yuseong-gu, Daejeon, 305-714, Republic of Korea
Contact:	Sales team
Email:	sales@si-imaging.com
Telephone:	+82-42-341-0401



(SI) with the mission of "Fair Access to Space". SIIS, which is specialized company in satellite imaging services, is exclusive distributor of

SI Imaging Services (SIIS) was founded in April 2014 as a subsidiary of Satrec Initiative

KOMPSAT-2 (1.0m optical), KOMPSAT-3 (0.55m optical), and KOMPSAT-5 (0.85m SAR) satellites imagery. SIIS has the global business network with more than 80 resellers and partners. In the capability of providing both optical and radar imagery as well as the collaborative business with worldwide network, SIIS offers better and fair imaging services to customers.

SICHUAN BUREAU OF SURVEYING, MAPPING AND GEOINFORMATION (Booth 1)

Website:	www.scgis.org, http://www.scbsm.com/
Address:	ChengDu, JiuXing Road 7#, SiChuan Province
Contact:	Sun JingJie
Email:	153566140@qq.com
Telephone:	+86 13808202787



**SICHUAN ADMINISTRATION OF SURVEYING,
MAPPING AND GEOINFORMATION**
四川测绘地理信息局

Sichuan Bureau of Surveying, Mapping and Geoinformation, founded in 1960, is affiliated to National Administration of Surveying, Mapping and Geoinformation of China (NASG), and is the competent administrative department of Surveying, Mapping and Geoinformation in Sichuan. Sichuan Bureau undertakes national basic and major surveying and mapping missions assigned by NASG,

and fulfills the duty of provincial surveying and mapping management given by Sichuan provincial government. It has formed an integrated surveying and mapping service system that consists of geodetic surveying, photogrammetry and remote sensing, geoinformation system, underground pipeline surveying, engineering surveying, cadastral surveying, map compiling and publishing, surveying and mapping results management and supply, surveying and mapping products control and inspection, surveying and mapping technology education and training.

SIMACTIVE (Booth 85)

Website:	http://www.simactive.com/
Address:	465 St-Jean, Suite 701, Montreal (Quebec) H2Y 2R6 Canada
Contact:	Abdaal Mazhar Shafi
Email:	amazhar@simactive.com
Telephone:	+1 514-288-2666

simactive

SimActive is the developer of Correlator3DTM software, a patented end-to-end photogrammetry solution for the generation of high-quality geospatial data from satellite and aerial imagery, including UAVs. Correlator3DTM performs aerial triangulation(AT) and produces dense digital surface models (DSM), digital terrain models (DTM), point clouds,

orthomosaics and vectorized 3D features. Powered by GPU technology and multi-core CPUs, Correlator3DTM ensures matchless processing speed to support rapid production of large datasets. SimActive has been selling Correlator3DTM to leading mapping firms and government organizations around the world, offering cutting-edge photogrammetry software backed by exceptional customer support.

SPHEREOPTICS GMBH (Booth 17)

Website:	www.sphereoptics.de
Address:	Gewerbestr. 13, 82211 Herrsching, Germany
Contact:	Dr. Andreas Eisele
Email:	aeisele@sphereoptics.de
Telephone:	+49 1755 210 994



SphereOptics

Since our formation in 2003, our goal has been to be much more than just a supplier of advanced equipment. Our mission is

to SERVE BETTER. Our technical experts are always standing-by when it comes to discussing standard or customer specific solutions in the areas of lighting technology, optical measurements service and remote sensing.

STUDIO 727, S.R.O. (Booth 73-76)

Website:	www.727.sk
Address:	Elektrarenska 1, 831 04 Bratislava, Slovakia
Contact:	Ladislav Dedik
Email:	laco@727.sk
Telephone:	mobile: 00421 905624540, tel: 00421 249107111



Specialises in digitization and digital objects post production. In a short span of only 2

years, they have successfully captured more than 20 million pictures and scans and digitised more than 100000 objects of national cultural heritage, ranging from small jewellery up to castles and whole historic city districts.

TERRA MESSFLUG (Booth 77)

Website:	?
Address:	?
Contact:	?
Email:	?
Telephone:	?



We are a leading company in the field of aerial survey and photogrammetry with more than 25 years of experience. Our services encompass consulting, flight planning, flight conduction and the production of a large variety of geodata.

We are a leading company in the field of aerial survey and photogrammetry

Our workflows and data processing chains are perfectly organised. As a result, customers' orders are completed efficiently and with highest quality. All our customers (e.g. national and regional authorities, municipalities, infrastructure providers, energy suppliers, ski resorts and universities) benefit from our reliability and prompt data delivery.

TOPOL SOFTWARE (Booth 25)

Website:	www.topol.eu
Address:	Na Zlíchově 18, 152 00 Prague 5, Czech Republic
Contact:	Aleš Limpouch
Email:	topol@topol.cz
Telephone:	+420 251 563 003, +420 603 877 999



TopoL Software, founded in 1999, is an independent developer of geospatial software technologies. We offer general desktop and mobile GIS software, digital photogrammetric workstation and custom solutions for our

TopoL Software, founded in 1999, is an independent developer of geospatial software

partners and customers around the world.

TopoL Software is the developer of PhoTopoL, a powerful photogrammetric workstation to process photogrammetric and GIS data. It supports data input and management, digital aerial triangulation, stereo editing, orthophoto rectification and mosaicking with colour

balancing.

TopoL Software also develops TopoL xT, a fully-functional general desktop GIS software, which enables users to collect, update,

manage, analyze and print spatial data in many industry-standard formats, and TopoL Mobile, an inexpensive mobile GIS solution for field data collection and navigation.

TRACK'AIR BV, LEAD'AIR INC (Booth 33)

Website:	www.trackair.com
Address:	Lead'Air, Inc., 113 S Hoagland Blvd., Kissimmee, FL, 34741-4529, USA
Contact:	Rudi Fischer
Email:	rudi@trackair.com
Telephone:	+1 407-343-7571



For over 20 years Lead'Air Inc./Track'Air BV has been at the vanguard of innovation in Professional Flight Management Systems and Oblique Imaging Systems. Over a decade has passed since the inception of the highly touted MIDAS 5 Camera Oblique/ Vertical Mapping System and literally 10's of millions of images

have been captured with more systems in operation than any other in the world.

We offer a complete line of Flight Management Systems, IMU controlled Large and Small camera mounts for aerial LiDAR and Digital Acquisition as well as innovative new concept UAV Camera and Sensor Systems designed for all phases of professional photogrammetric applications.

TRIMBLE (Booth 83)

Website:	www.trimble.com
Address:	Am Prime Parc 11, 65479 Raunheim, Germany
Contact:	Office team
Email:	geospatial@trimble.com
Telephone:	-



Trimble applies technology to make field and mobile workers in businesses and government more productive. Solutions are focused on applications requiring position or location—including surveying, construction, agriculture, fleet and asset management, utilities, public

safety and mapping. In addition to utilizing positioning technologies, such as GPS, lasers and optics, Trimble solutions include software content specific to the needs of the user. Wireless technologies are utilized to deliver the solution to the user and to ensure a tight coupling of the field and the back office. Founded in 1978, Trimble is headquartered in Sunnyvale, California and has offices around the world.

TWENTY FIRST CENTURY AEROSPACE TECHNOLOGY CO., LTD. (Booth 60)

Website:	www.21at.com.cn/en/
Address:	No. 26 Jiancaicheng East Road, Haidian District, Beijing, China 100096
Contact:	Mr. Yin Hu
Email:	huyin@21at.sg
Telephone:	0086 10 62929966-8004

Twenty First Century Aerospace Technology Co., Ltd. (21AT) is the only commercial EO satellite operator based in Beijing, China and has more than 300 employees. Since 2001, the company has been providing EO data and value added service in China. The company has the following EO satellite resources: 4m Beijing-1, launched in 2005 and three 1m

identical satellite constellation--TripleSat Constellation, launched on 10 July 2015. 21AT had been providing Beijing-1 data to international customer through Disaster Monitoring Constellation (DMC) and disaster response through International Charter; and is providing TripleSat Constellation daily imaging service to worldwide customers.

VEXCEL IMAGING (Booth 50)

Website:	iFlyUltrCam.com
Address:	Anzengrbergasse 8, Graz 8010, Austria
Contact:	Silke Kemmer
Email:	i-sikemm@microsoft.com
Telephone:	+43316849066



Vexcel Imaging, based in Graz (Austria), taps into more than two decades of photogrammetry expertise offering state-of-the-art digital sensor systems based on the latest and most-advanced technology. The comprehensive aerial camera portfolio provides a wide range of imaging capabilities from wide-area mapping (UltraCam Condor)

to nadir (UltraCam Eagle & UltraCam Falcon) and oblique (UltraCam Osprey product line) camera systems. On the terrestrial side are the car-based mobile mapping system UltraCam Mustang and the UltraCam Panther portable 3D reality capture system (currently under redesign). The system family is complemented by the fully integrated processing software UltraMap delivering exceptional quality point clouds, DSMs and ortho imagery.

VISIONMAP (Booth 81)

Website:	www.visionmap.com
Address:	19D Habarzel St., Tel Aviv, Israel 6971025
Contact:	Dr. Yuri Raizman
Email:	info@visionmap.com
Telephone:	+972-3-6091042



Founded in 2004, VisionMap is a leading manufacturer of state-of-the-art digital mapping systems. VisionMap's innovative data acquisition and automatic processing systems set a new standard for productivity in geospatial data production.

Thanks to VisionMap's proprietary imaging technology, the cameras are able to collect vertical and oblique imagery of an area simultaneously, and quickly cover vast areas in extremely high resolution. VisionMap's systems support extremely large-scale projects thanks to their fast turnaround time.

VisionMap's systems collect complementary color and thermal images, and provide final products such as aerial triangulation, DSM, Orthophoto mosaic, stereo models and geo-referenced oblique images in a seamless workflow.

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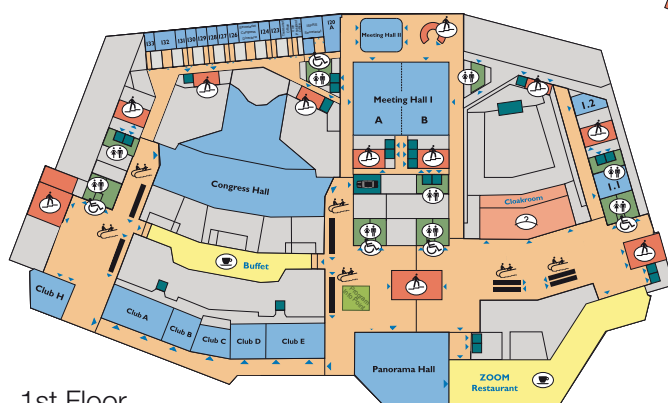
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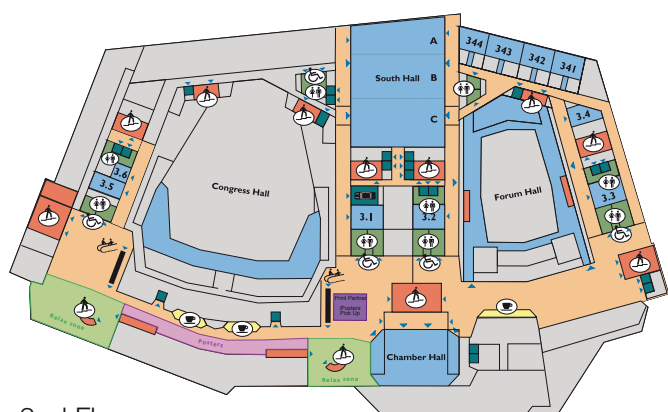
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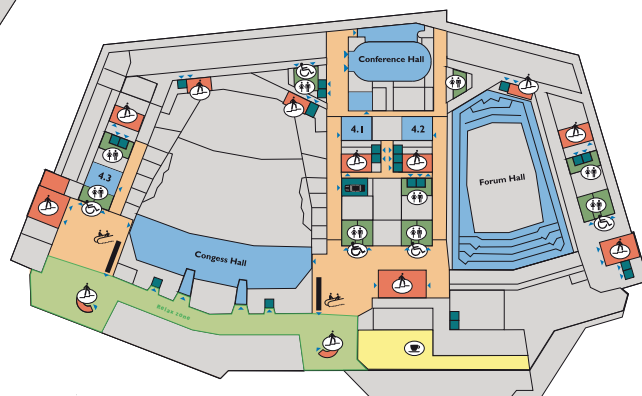
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3rd Floor



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Topics covered:

- | | | | |
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| ✓ 3D Visualisation/Modelling | ✓ DTM - Digital Terrain Model | ✓ Hyperspectral Imaging | ✓ Radio Navigation |
| ✓ Addressing Technology | ✓ Dynamic Mapping | ✓ Image Analysis | ✓ Remote Sensing |
| ✓ Aerial Imagery/Photography | ✓ Earth Observation | ✓ INSPIRE | ✓ Risk Management |
| ✓ Asset Management | ✓ Emergency Services | ✓ Integration | ✓ RTK (Real Time Kinematic) Surveying |
| ✓ Bathymetry | ✓ ENC - Electronic Navigation Chart | ✓ Interoperability & Open Standards | ✓ Satellite Imagery/Navigation |
| ✓ Big Data | ✓ Environmental Monitoring | ✓ Land Information Systems | ✓ Scanning Technology |
| ✓ Business Geographics/ Analytics | ✓ Galileo | ✓ Laser Scanning | ✓ SDI - Spatial Data Infrastructures |
| ✓ Cadastral Mapping | ✓ Geo-ICT | ✓ LBS | ✓ Smart Grids |
| ✓ Cartography | ✓ Geodesy | ✓ LiDAR | ✓ Software |
| ✓ Climate Change | ✓ Georeferencing | ✓ Mapping Software | ✓ Surveying Instrumentation |
| ✓ Computing in the Cloud | ✓ Geosciences | ✓ Marine Tracking & Navigation | ✓ Surveying Technology Sensor |
| ✓ Crime Mapping/ Modelling | ✓ Geospatial Image Processing | ✓ Mobile GIS/Mapping | ✓ Telematics |
| ✓ Data Capture/Collection | ✓ GIS | ✓ Municipal GIS | ✓ Topographic Mapping |
| ✓ DEM- Digital Elevation Model | ✓ GIS in Agriculture & Forestry | ✓ Navigation | ✓ Total Station |
| ✓ DGPS - Differential GPS | ✓ GLONASS | ✓ Network Topology | ✓ Tracking & Route Planning |
| ✓ Digital City Models | ✓ GMES | ✓ NSDI | ✓ Transport |
| ✓ Digital Mapping | ✓ GNSS | ✓ Open GIS | ✓ Utilities GIS |
| ✓ Digital Rights Management | ✓ GPS | ✓ Photogrammetric | ✓ Vehicle Tracking & Navigation |
| ✓ Disaster Management/ Monitoring | ✓ GSDI | ✓ Photogrammetry | ✓ VRS - Virtual Reference Station |
| ✓ DSM - Digital Surface Model | ✓ Hardware | ✓ Point Clouds | ✓ Web Mapping |
| | ✓ Hydrography | ✓ Property Information Systems | |

Sectors covered:

- | | | | |
|-------------------------------------|----------------------------|-------------------------------|------------------------------|
| ✓ Aerospace | ✓ Defence | ✓ Healthcare | ✓ Public Safety/Works |
| ✓ Agriculture | ✓ Education | ✓ Infrastructure Protection | ✓ Retail |
| ✓ Archaeology & Heritage | ✓ Emergency Services | ✓ Insurance | ✓ Shipping |
| ✓ Architecture | ✓ Energy Utility | ✓ Manufacturing | ✓ Software Development |
| ✓ Biosecurity | ✓ Engineering | ✓ Marine | ✓ Technical Services |
| ✓ Business Security/Service | ✓ Environmental Management | ✓ Military | ✓ Telecommunications |
| ✓ Central/Local/Regional Government | ✓ Environmental Monitoring | ✓ Mining | ✓ Tourism/Travel |
| ✓ Construction | ✓ Financial Services | ✓ Natural Resource Management | ✓ Training |
| ✓ Consulting Services | ✓ Fisheries | ✓ Oil & Gas | ✓ Transport |
| ✓ Cyber Security | ✓ Forestry Management | ✓ Property | ✓ Utilities (Energy & Water) |
| | ✓ Geosciences | | |

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GENERAL INFORMATION

Accommodation

For any queries about Accommodation, please, contact our Accommodation Partner C-IN:

C-IN, s.r.o.

Prague Congress Centre

5. května 65

140 21 Prague 4

Czech Republic

Tel.: +420 261 174 301

Email: hotels.isprs2016-prague@c-in.eu

Airport

Vaclav Havel Airport Prague is located around 45 minutes by car from the Prague Congress Centre.

There are two ways how to get to the Prague Congress Center by public transport (Metro station Vysehrad):

1) You can take bus number 119 from the Vaclav Havel Airport and go to Nadrazi Veleslavin metro station (green line). Then you take the metro to Muzeum metro station where you have to change the line for the red one. You have to go in the direction of Haje and get off in Vysehrad metro station where the Prague Congress Center is located.

2) You can take the Airport Express bus to Hlavni nadrazi (Prague main station) and then just take the metro (red line, direction Haje) and get off in Vysehrad.

There will be two stands of ISPRS Congress at the airport from 10.7. to 12. 7. 2016 (in the arrival hall of Terminal 1, as well as in Terminal 2) where you can ask for any information needed.

ATM

An ATM is located between the entrances No. 5 and 6 of the Congress Center. There is

also another ATM right next to the entrance of metro station Vysehrad

Badge

Along with your registration, you will be given your own badge that must be worn when attending all the sessions in Prague Congress Centre. Delegates without the badge will not be allowed to enter the Prague Congress Centre. In case of loss of your badge, you can ask for a new badge that will be given to you for a handling fee of 10 euros. Your original badge will be blocked.

Certificate of Attendance

All registered delegates are entitled to receive a Certificate of Attendance. You can also ask for it after the Congress by sending a request to info@isprs2016-prague.com

Cloakroom

A cloakroom is located on the ground floor of the Congress Center. This service is free of charge for all participants.

Congress Application

Download the "ISPRS 2016 Prague Attendee App" from your store, available for Android, iOS, Windows and Blackberry. This official Congress Application will keep you organized during the congress. Within the app, you can view the entire program, plan your own schedule and make direct contact with colleagues at the congress.

Currency

Currency of the Czech Republic is the Czech Crown (CZK). However, Euro is accepted in many restaurants, hotels and shops. Payment with credit card is always a

solution. Exchange rates are approximately 27 CZK/EUR and 24 CZK/USD. For more detailed information, please check the actual exchange rates. Czech banknotes are issued in the following denominations: 100/200/500/1000/2000/5000 CZK. Coins are denominated: 1/2/5/10/20/50 CZK.

Electricity

The voltage is 220 V with frequency of 50 KHz.

Emergency calls

Fire Department	150
General Emergency	112
Medical Services	155
Police	158

First Aid

First Aid station is located on the ground floor of the Venue.

The nearest clinic is Poliklinika Budejovicka which is located at the Budejovicka metro station (red line).

www.poliklinika-budejovicka.cz

Poliklinika Budějovická
Antala Staška 1670/80
140 00 Praha 4

Reception desk: + 420 261 006 111

Gala dinner

Gala dinner will be held in Zofin Palace. Black tie dress code is required.

Zofin Palace Address:

Slovanský ostrov 226

11000 Prague

You can take the metro from Vysehrad metro station (red line) to I. P. Pavlova metro station (in the direction of Letnany). You should change the metro for the tram nb. 22 to Narodni divadlo (National theatre). Zofin Palace is situated about 200 meters from the tram stop.

Information about Prague

For more information about Prague or Czech Republic, please, visit these websites:

www.prague.cz

www.prague-czechrepublic.com

www.czechtourism.com

www.praguemorning.cz

www.czech.cz/en/Home-en

Insurance

We strongly recommend participants to carry travel and health insurance.

Insurance is not included in the Congress fee.

Language

The official language of the Event is English. No simultaneous translation is provided.

Liability Disclaimer

ISPRS Prague 2016 Organizers have taken all reasonable care in making arrangements for the Congress. In the event of unforeseen disruptions, neither ISPRS neither SFDP nor their agents can be held responsible for any losses or damages incurred by delegates. The program is correct at the time of printing, but organizers reserve the right to alter the program if and when deemed necessary. ISPRS Prague 2016 Organizers shall in no event be liable for acts or omissions in the event of injury, damage, loss, accident, delay or irregularity of any kind whatsoever during arrangements organized through contractors or by the employees of such contractors. Delegates should make their own arrangements with respect to personal insurance. ISPRS Prague 2016 Organizers reserve the right to make changes as and when deemed necessary without prior notice to the parties concerned. All disputes are subject to resolution under Czech Law.

Parking

An underground parking space is available in the Congress Centre; however, the parking fee is not included in the registration fee.

Pharmacy

The nearest pharmacy is located in the shopping center Arkady Pankrac – 2 underground stations from Vysehrad metro station.

For more information go to: www.lekarnapankrac.cz

Prague Congress Centre

Address of the venue:

5. května 65
140 21 Prague 4, Czech Republic
630 80 249

Metro station: Vysehrad (red line, C)

Prague public transport

All delegates will be given a free public transport ticket valid for the period of the whole event (12-19 July 2016). Available at registration desk.

Metro/Underground

The Metro operates daily from 05:00 to 24:00. It is the fastest way of moving around the city. The Metro network consists of 3 lines: A-green color, B – yellow color, C – red color.

Trams and Buses

Trams and buses operate 24 hours a day.

Night trams and buses operate from 00:30 – 4:30 with traffic intervals of approximately 30 minutes.

For more information go to: www.dpp.cz

Preparation of Presentations

Please hand in your presentation 2 hours in advance in the Speakers preview room on the second floor in the Meeting room 2.1.

Registration Fee Entitlements

Basic

Entry to all sessions
Attendance at Welcome Reception
Copy of Final Program
Digital Copy of Proceedings
Entry to the Exhibition
Morning and Afternoon Coffee&Tea
Attendance at the Exhibitor's Reception
Public transport ticket

Standard

Basic Registration Fee + Lunch Each Day of the Congress

Full

Standard Registration Fee + Attendance at the Congress Gala Dinner

Day registration

Entry to all sessions on the day of registration
Copy of Final Program
Entry to the Exhibition
Morning and Afternoon Coffee&Tea for one day
Attendance at the Exhibitors' Reception
Public transport ticket

Accompanying persons

Access to the Exhibition
Attendance at the Welcome Reception
Attendance at the Opening Ceremony
Attendance at the Closing Ceremony
Attendance at the Exhibitor's Reception
Morning and Afternoon Coffee&Tea

Safety

Prague is one of the safest destinations in Europe. Nevertheless, we strongly recommend you to pay a special attention to all your personal belongings.

Smoking Policy

Please note that smoking is not permitted anywhere within the Prague Congress Center. It is also usually forbidden to smoke in restaurants between 12 and 14 pm.

Taxi

It is very easy to get a Taxi in the city center. However, we recommend you to use hotel taxis or obtain taxis by phone through the taxi services:

AAA + 420 14 014

City taxi + 420 257 257 257

Nejlevnější taxi + 420 226 000 226

Boarding charge is approximately 30 CZK. Please be careful to fraudulent taxi services and always ask in advance about the boarding charge.

Time

Czech time is GMT +1 hour, in summer GMT + 2 (summer time).

Tipping

In all restaurants and bars tips are welcome. If you consider the service good enough to leave a tip, suggested level is around 10 %.

Wi-Fi

Free Wi-Fi internet connection is available in the Prague Congress Center building.

Official Congress Phone Number

+ 420 773 877 074

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