ISPRS GEOSPATIAL WEEK 2023

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The ISPRS 2023 Geospatial Week
(Egypt GSW'2023)

Remote Sensing For Better Future

Cairo, Egypt, September 2-7, 2023

www.gsw2023.com

Date: Sunday, 03/Sept/2023

8:30am - 10:00am CLEOPATRA	**KS-1: Keynotes Session 1** Location: **CLEOPATRA**
10:30am - 12:00pm CLEOPATRA	**IS - 1: Industry Session 1** Location: **CLEOPATRA**
1:30pm - 3:00pm CLEOPATRA	**00-Satellite Remote Sensing 00: Machine Learning Applications in Environmental Monitoring and Disaster Management(1)** Location: **CLEOPATRA**
1:30pm - 3:00pm hall1	**1-Cultural Heritage: Cultural Heritage Visualization and Virtual Restoration 1** Location: **hall1**
1:30pm - 3:00pm hall4	**1-Indoor 3D 1: Indoor 3D 1** Location: **hall4**
1:30pm - 3:00pm hall5	**1-Mobile Mapping Technologies 1: Mobile Mapping Technologies and HD Maps 1** Location: **hall5**
1:30pm - 3:00pm hall6	**1-Precision GNSS 1: Precision GNSS 1** Location: **hall6**
1:30pm - 3:00pm hall7	**1-Robotics for Mapping 1: Robotics for Mapping 1** Location: **hall7**
1:30pm - 3:00pm MORGANA	**1-SARcon 2023 1: SARcon 2023 1** Location: **MORGANA**
1:30pm - 3:00pm hall3	**1-Underwater Mapping 1: Underwater Mapping1** Location: **hall3**
1:30pm - 3:00pm hall2	**3DS - 1: 3D Sensing for Smart Cities 1** Location: **hall2**
3:30pm - 5:00pm CLEOPATRA	**1-Satellite Remote Sensing 1: Remote Sensing Applications in Agricultural Monitoring and Crop Analysis (2)** Location: **CLEOPATRA**
3:30pm - 5:00pm hall3	**2-Cultural Heritage: Cultural Heritage Visualization and Virtual Restoration 2** Location: **hall3**
3:30pm - 5:00pm hall4	**2-Indoor 3D 2: Indoor 3D 2** Location: **hall4**
3:30pm - 5:00pm hall5	**2-Mobile Mapping Technologies 2: Mobile Mapping Technologies and HD Maps 2** Location: **hall5**
3:30pm - 5:00pm hall6	**2-Precision GNSS 2: Precision GNSS 2** Location: **hall6**
3:30pm - 5:00pm hall7	**2-Robotics for Mapping 2: Robotics for Mapping 2** Location: **hall7**
3:30pm - 5:00pm MORGANA	**2-SARcon 2023 2: SARcon 2023 2** Location: **MORGANA**
3:30pm - 5:00pm BLUENILE	**2-Satellite Remote Sensing 2: Deep Learning for Remote Sensing Image Analysis and Land Cover Classification(2)** Location: **BLUENILE**
3:30pm - 5:00pm hall2	**3DS - 2: 3D Sensing for Smart Cities 2** Location: **hall2**

Date: Monday, 04/Sept/2023

8:30am - 10:00am	

MORGANA	**1-Crowdsourcing 1: Crowdsourcing for Global Mapping (Crowdsourcing Data Analysis and Mapping Techniques1** Location: **MORGANA**
8:30am - 10:00am CLEOPATRA	**1-Digital Construction 1: Reality Capture & 3D printing 1** Location: **CLEOPATRA**
8:30am - 10:00am hall1	**1-Geospatial Data Analytics 1: Geospatial data Analytics 1** Location: **hall1**
8:30am - 10:00am hall4	**1-Openness in Geospatial 1: Openness in Geospatial and Remote Sensing 1** Location: **hall4**
8:30am - 10:00am hall5	**1-PhotoGA 2023 1: PhotoGA 2023 1** Location: **hall5**
8:30am - 10:00am hall6	**3-Precision GNSS 3: Precision GNSS 3** Location: **hall6**
8:30am - 10:00am BLUENILE	**3-Satellite Remote Sensing 3: Advancements in Remote Sensing for Climate and Environmental Monitoring (Session 1) 3** Location: **BLUENILE**
8:30am - 10:00am hall2	**3DS - 3: 3D Sensing for Smart Cities 3** Location: **hall2**
10:30am - 12:00pm MORGANA	**2-Crowdsourcing 2: Crowdsourcing for Global Mapping (Crowdsourcing for Environmental Monitoring)2** Location: **MORGANA**
10:30am - 12:00pm CLEOPATRA	**2-Digital Construction 2: Automated Inspection 2** Location: **CLEOPATRA**
10:30am - 12:00pm hall1	**2-Geospatial Data Analytics 2: Airpollution, Health and Society 2** Location: **hall1**
10:30am - 12:00pm hall4	**2-Openness in Geospatial 2: Openness in Geospatial and Remote Sensing 2** Location: **hall4**
10:30am - 12:00pm hall5	**2-PhotoGA 2023 2: PhotoGA 2023 2** Location: **hall5**
10:30am - 12:00pm hall2	**3DS - 4: 3D Sensing for Smart Cities 4** Location: **hall2**
10:30am - 12:00pm hall6	**4-Precision GNSS 4: Precision GNSS 4** Location: **hall6**
10:30am - 12:00pm BLUENILE	**4-Satellite Remote Sensing 4: Advancements in Remote Sensing for Climate and Environmental Monitoring (Session 2) 4** Location: **BLUENILE**
1:30pm - 3:00pm hall2	**1-UAV-based mapping 1: Data Acquisition, Georeferencing, and Mapping (1)** Location: **hall2**
1:30pm - 3:00pm MORGANA	**3-Crowdsourcing 3: Crowdsourcing for Global Mapping (Crowdsourcing for Urban Spatial Analysis)3** Location: **MORGANA**
1:30pm - 3:00pm CLEOPATRA	**3-Digital Construction 3: BIM application 3** Location: **CLEOPATRA**
1:30pm - 3:00pm hall1	**3-Geospatial Data Analytics 3: Disaster management and Agriculture 3** Location: **hall1**
1:30pm - 3:00pm hall5	**3-Mobile Mapping Technologies 3: Mobile Mapping Technologies and HD Maps 3** Location: **hall5**

1:30pm - 3:00pm hall7	**3-SARcon 2023 3: SARcon 2023 3** Location: **hall7**
1:30pm - 3:00pm hall6	**5-Precision GNSS 5: Precision GNSS 5** Location: **hall6**
1:30pm - 3:00pm BLUENILE	**5-Satellite Remote Sensing 5: Satellite Remote Sensing for Natural Disaster Monitoring and Risk Assessment 5** Location: **BLUENILE**
1:30pm - 3:00pm hall3	**ADP - 1: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 1** Location: **hall3**
3:30pm - 5:00pm hall2	**2-UAV-based mapping 2: Data Acquisition, Georeferencing, and Mapping (2)** Location: **hall2**
3:30pm - 5:00pm hall1	**4-Geospatial Data Analytics 4: Water and Environmental Management 4** Location: **hall1**
3:30pm - 5:00pm hall5	**4-Mobile Mapping Technologies 4: Mobile Mapping Technologies and HD Maps 4** Location: **hall5**
3:30pm - 5:00pm BLUENILE	**6-Satellite Remote Sensing 6: Remote Sensing for Vegetation and Forest Monitoring 6** Location: **BLUENILE**
3:30pm - 5:00pm CLEOPATRA	**7-Satellite Remote Sensing 7: High-resolution Satellite Image Processing 7** Location: **CLEOPATRA**
3:30pm - 5:00pm hall3	**ADP - 2: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 2** Location: **hall3**
Date: Tuesday, 05/Sept/2023	
8:30am - 10:00am hall6	**1-ISSDQ2023 1: ISSDQ2023 1** Location: **hall6**
8:30am - 10:00am hall5	**1-Navigation, Guidance 1: Navigation, Guidance and Control of Autonomous Vehicles 1** Location: **hall5**
8:30am - 10:00am hall4	**1-Smart Forests 1: Deep Learning for large-scale forest monitoring 1** Location: **hall4**
8:30am - 10:00am hall7	**1-Youth Presentation Forum: Youth Presentation Forum** Location: **hall7**
8:30am - 10:00am hall2	**3-UAV-based mapping 3: Data Acquisition, Georeferencing, and Mapping (3)** Location: **hall2**
8:30am - 10:00am MORGANA	**4-SARcon 2023 4: SARcon 2023 4** Location: **MORGANA**
8:30am - 10:00am hall1	**5-Geospatial Data Analytics 5: Land and Environmental Management 5** Location: **hall1**
8:30am - 10:00am BLUENILE	**8-Satellite Remote Sensing 8: Hyperspectral Image Processing and Uncertainty Modeling 8** Location: **BLUENILE**
8:30am - 10:00am hall3	**ADP - 3: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 3** Location: **hall3**
10:30am - 12:00pm hall6	**2-ISSDQ2023 2: ISSDQ2023 2** Location: **hall6**
10:30am - 12:00pm	

hall5	**2-Navigation, Guidance 2: Navigation, Guidance and Control of Autonomous Vehicles 2** Location: **hall5**
10:30am - 12:00pm hall4	**2-Smart Forests 2: Systems and methods at different scales 2** Location: **hall4**
10:30am - 12:00pm BLUENILE	**9-Satellite Remote Sensing 9: Land-Use Land-Cover Classification** Location: **BLUENILE**
10:30am - 12:00pm hall3	**ADP - 4: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 4** Location: **hall3**
1:30pm - 3:00pm CLEOPATRA	**PS -1: Plenary Session - 1** Location: **CLEOPATRA**
3:30pm - 5:00pm Poster Hall	**Poster Session - 1: Poster Session - 1** Location: **Poster Hall**
Date: Wednesday, 06/Sept/2023	
8:30am - 10:00am hall7	**1-GeoHB 2023 1: GeoHB 2023 1** Location: **hall7**
8:30am - 10:00am hall6	**1-IAMS 1: Real-time infrastructure monitoring with drones 1** Location: **hall6**
8:30am - 10:00am hall1	**1-Laser Scanning 2023 1: Forestry** Location: **hall1**
8:30am - 10:00am CLEOPATRA	**1-Semantic 3D 1: Matching and 3D reconstruction** Location: **CLEOPATRA**
8:30am - 10:00am BLUENILE	**10-Satellite Remote Sensing 10: Imaging Technologies and Quality Assessment in Remote Sensing 10** Location: **BLUENILE**
8:30am - 10:00am hall5	**3-Navigation, Guidance 3: Navigation, Guidance and Control of Autonomous Vehicles 3** Location: **hall5**
8:30am - 10:00am hall4	**3-Smart Forests 3: Close range sensing I : sensors and solutions 3** Location: **hall4**
8:30am - 10:00am hall2	**4-UAV-based mapping 4: UAV Application in Agriculture and Forestry (1)** Location: **hall2**
10:30am - 12:00pm BLUENILE	**11-Satellite Remote Sensing 11: SAR (Synthetic Aperture Radar) and InSAR Techniques for Environmental Monitoring and Disaster Assessment 11** Location: **BLUENILE**
10:30am - 12:00pm hall7	**2-GeoHB 2023 2: GeoHB 2023 2** Location: **hall7**
10:30am - 12:00pm hall6	**2-IAMS 2: Autonomous drones and 3D mapping in complex environments 2** Location: **hall6**
10:30am - 12:00pm hall1	**2-Laser Scanning 2023 2: Vegetation & Terrain** Location: **hall1**
10:30am - 12:00pm CLEOPATRA	**2-Semantic 3D 2: Semantic segmentation and satellite image time series 2** Location: **CLEOPATRA**
10:30am - 12:00pm hall5	**4-Navigation, Guidance 4: Navigation, Guidance and Control of Autonomous Vehicles 4** Location: **hall5**
10:30am - 12:00pm	

hall4	**4-Smart Forests 4: Close range sensing II: Tree-wise analysis and modeling 4** Location: **hall4**
1:30pm - 3:00pm hall3	**1-GI4SDGS 1: SDGs and Land Cover/Land Use (1)** Location: **hall3**
1:30pm - 3:00pm BLUENILE	**12-Satellite Remote Sensing 12: Remote Sensing for Urban Thermal Environment Monitoring and Analysis 12** Location: **BLUENILE**
1:30pm - 3:00pm hall7	**3-GeoHB 2023 3: GeoHB 2023 3** Location: **hall7**
1:30pm - 3:00pm hall6	**3-Laser Scanning 2023 3: Registration & Close-Range Applications 3** Location: **hall6**
1:30pm - 3:00pm CLEOPATRA	**3-Semantic 3D 3: Buildings, roads, and segmentation 3** Location: **CLEOPATRA**
1:30pm - 3:00pm hall4	**5-Smart Forests 5: Forest monitoring and carbon assessments 5** Location: **hall4**
1:30pm - 3:00pm hall2	**5-UAV-based mapping 5: UAV Application in Agriculture and Forestry (2)** Location: **hall2**
1:30pm - 3:00pm hall1	**AI-PC - 1: AI-Based Point Cloud and Image Understanding 1** Location: **hall1**
3:30pm - 5:00pm BLUENILE	**13-Satellite Remote Sensing 13: Space Missions and Earth Observation Technologies for Planetary and Environmental Studies 13** Location: **BLUENILE**
3:30pm - 5:00pm hall3	**2-GI4SDGS 2: SDGs and Geospatial Information 1 (2)** Location: **hall3**
3:30pm - 5:00pm CLEOPATRA	**4-Semantic 3D 4: Close range and tracking 4** Location: **CLEOPATRA**
3:30pm - 5:00pm hall1	**AI-PC - 2: AI-PC: AI-Based Point Cloud and Image Understanding 2** Location: **hall1**
Date: Thursday, 07/Sept/2023	
8:30am - 10:00am hall6	**1-Sensor orientation 1: Sensor orientation and calibration for mapping and navigation purposes 1** Location: **hall6**
8:30am - 10:00am MORGANA	**1-SPACE 1: SPACE - Spectral Remote Sensing in the era of AI, Cloud and Edge Computing 1** Location: **MORGANA**
8:30am - 10:00am BLUENILE	**14-Satellite Remote Sensing 14: Geospatial Techniques for Urban Planning and Environmental Sustainability 14** Location: **BLUENILE**
8:30am - 10:00am hall4	**3-GI4SDGS 3: SDGs and Geospatial Information 2 (3)** Location: **hall4**
8:30am - 10:00am hall3	**4-Laser Scanning 2023 4: Object Detection & Segmentation 4** Location: **hall3**
8:30am - 10:00am hall1	**AI-PC - 3: AI-PC: AI-Based Point Cloud and Image Understanding 3** Location: **hall1**
10:30am - 12:00pm BLUENILE	**15-Satellite Remote Sensing 15: Remote Sensing and Mapping Technologies for Urban Studies and Infrastructure Development 15** Location: **BLUENILE**
10:30am - 12:00pm	

CLEOPATRA	**16-Satellite Remote Sensing 16: Water Quality and Aquatic Ecosystem Monitoring 16** Location: **CLEOPATRA**
10:30am - 12:00pm MORGANA	**2-SPACE 2: SPACE - Spectral Remote Sensing in the era of AI, Cloud and Edge Computing 2** Location: **MORGANA**
10:30am - 12:00pm hall1	**AI-PC - 4: AI-PC: AI-Based Point Cloud and Image Understanding 4** Location: **hall1**

Presentations

00-Satellite Remote Sensing 00: Machine Learning Applications in Environmental Monitoring and Disaster Management(1)

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* CLEOPATRA

Estimation of high resolution carbon flux in urban vegetation ecosystems using multi-satellite data based on machine learning

Bokyung Son[1], Jungho Im[1], Taejun Sung[1], Yeonsu Lee[1], Jongho Kim[2], Sujong Jeong[2]

[1]Ulsan National Institute of Science and Technology, Korea, Republic of (South Korea); [2]Seoul National University, Korea, Republic of (South Korea)

UNDERSTANDING THE IMPACTS OF CROP DIVERSIFICATION IN THE CONTEXT OF CLIMATE CHANGE: A MACHINE LEARNING APPROACH

Georgios Giannarakis[1], Ilias Tsoumas[1,4], Stelios Neophytides[2], Christiana Papoutsa[2], Charalampos Kontoes[1], Diofantos Hadjimitsis[2,3]

[1]BEYOND Centre, IAASARS, National Observatory of Athens, Greece; [2]ERATOSTHENES Centre of Excellence, Cyprus; [3]Cyprus University of Technology, Cyprus; [4]Wageningen University & Research, The Netherlands

Awareness for the Masses: A Novel Approach in Oil Spill Detection, Identification, and Classification via Multisource Technologies and Artificial Intelligence

Tom Avikasis Cohen

University of Haifa, Israel

Comparison and evaluation of machine-learning-based spatial downscaling approaches on satellite-derived precipitation data

Honglin ZHU, Qiming ZHOU, Aihong CUI

Hong Kong Baptist University, Hong Kong S.A.R. (China)

MONITORING OIL SPILL PROGRESSION AND OIL SPILL VOLUME USING SATELLITE IMAGES

Roel de la Cruz, Paul Leonard Atchong Hilario

Philippine Space Agency, Philippines

1-Cultural Heritage: Cultural Heritage Visualization and Virtual Restoration 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall1

Reconstruction of Architectural Heritage with Symmetrical Components

Harshit _[1], Kamal Jain[1], Sisi Zlatanova[2], Dyutisree Halder[1]

[1]Geomatics Group, Department of Civil Engineering, Indian Institute of Technology Roorkee, India; [2]University of New South Wales, School of Built Environment, GRID, Sydney, Australia

VIRTUAL RESTORATION OF STONE INSCRIPTIONS BASED ON IMAGE ENHANCEMENT AND EDGE DETECTION

Chenxi Sun, Miaole Hou

Beijing University of Civil Engineering and Architecture, China, People's Republic of

EXTRACTION OF PAINT LOSS IN ANCIENT MURALS BASED ON 3D RESIDUAL NEURAL NETWORK

Shuyang Li[1,2], Miaole Hou[1,2], Penghui Cao[3], Shuqiang Lyu[1,2]

[1]School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, No.15 Yongyuan Road, Daxing District, Beijing, China; [2]Beijing Key Laboratory for Architectural Heritage Fine Reconstruction & Health Monitoring; [3]Shenzhen Feima Robotics Technology Co.,LTD., No.8 Heiquan Road, Haidian Distruct, Beijing, China

Point-Region Merge of Point Cloud on Fractured Objects for 3D Fragment Reassembly

Anni Wang, Penglin Zhang, Jiangping Chen, Yuqi Tang

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

Addressing class imbalance for training a multi-task classifier in the context of silk heritage

Mareike Dorozynski

Leibniz Universität Hannover, Germany

1-Indoor 3D 1: Indoor 3D 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall4

A

LTERNATIVE LIDAR TECHNOLOGIES FOR STOCKPILE MONITORING AND REPORTING

Yerassyl Koshan, Raja Manish, Mina Joseph, Ayman Habib
Purdue University, United States of America

A Camera-LiDAR Calibration Method Assisted by Indoor Spatial Structure

Chenming YE[1,2,3], Zhizhong* Kang[1,2,3], Xiaoyu Guo[1,2,3]
[1]China University of Geosciences, Beijing, China, People's Republic of; [2]Research Center of Lunar and Planetary Remote Sensing Exploration, China University of Geosciences (Beijing); [3]Subcenter of International Cooperation and Research on Lunar and Planetary Exploration, Center of Space Exploration, Ministry of Education of The People's Republic of China

MR-MD:Multi-Robot Mapping with Manhattan Descriptor

Haiyang Wu[1,2,3], Ruofei Zhong[1,2,3], Donghai Xie[1,2,3], Chi Chen[4,5,6], Jie Tang[1,2,3], Chaohong Wu[1,2,3], Xingyu Qi[1,2,3]
[1]Key Laboratory of 3D Information Acquisition and Application, MOE, Capital Normal University, Beijing 100048, China; [2]Base of the State Key Laboratory of Urban Environmental Process and Digital Modeling, Capital Normal University, Beijing 100048, China; [3]College of Resource Environment and Tourism, Capital Normal University, Beijing 100048, China; [4]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan 430072, China; [5]Engineering Research Center of Space-Time Data Capturing and Smart Application, the Ministry of Education of P.R.C., Wuhan 430072, China; [6]Institute of Geospatial Intelligence, Wuhan University, Wuhan 430072, China

Reverse domain adaptation for indoor camera pose regression

Debaditya Acharya[1], Kourosh Khoshelham[2]
[1]RMIT University, Australia; [2]The University of Melbourne

Texture-based separation to refine building meshes

Jelle Vermandere, Maarten Bassier, Maarten Vergauwen
KU Leuven, Belgium

ANALYSIS OF THE SPATIOTEMPORAL HETEROGENEITY OF DRIVERS ON PROVINCE-LEVEL SYNERGY OF AIR POLLUTION CONTROL AND CARBON MITIGATION IN CHINA

Man Guo[1], Nicholas Hamm[1], Baozhang Chen[2]
[1]School of Geographical Sciences, Faculty of Science and Engineering, University of Nottingham Ningbo China; [2]State Key Laboratory of Resources and Environment Information System, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China

1-Mobile Mapping Technologies 1: Mobile Mapping Technologies and HD Maps 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall5

LiDAR Matching Strategies For HD Point Cloud Map Generation In Urban Area

Jou-An Chen, Surachet Srinara, Yu-Ting Chiu, Kai-Wei Chiang
National Cheng Kung University, Taiwan

Strategy on High-Definition Point Cloud Map Creation for Autonomous Driving in Highway Environments

Surachet Srinara[1], Yu-Ting Chiu[1], Jou-An Chen[1], Kai-Wei Chiang[1], Meng-Lun Tsai[1,2], Naser El-Sheimy[3]
[1]Dept. of Geomatics, National Cheng Kung University, Taiwan; [2]High Definition Map Research Center, National Cheng Kung University, Taiwan; [3]Dept. of Geomatics Engineering, University of Calgary, Canada

Alternative GCP Sources for Accurate HD Map Production

Meng-Lun Tsai, Kai-Wei Chiang, Chih-Yun Hsieh, Sean Lin, Surachet Srinara, Yu-Ting Chiu
National Cheng Kung University, Taiwan

Establishment of HD Maps Verification and Validation Procedure with OpenDRIVE and Autoware (Lanelet2) Formats

Kai-Wei Chiang[1], Meng-Lun Tsai[1], Sean Lin[1], Yen-En Huang[1], Jhih-Cing Zeng[1], Yi-Feng Chang[1], Jou-An Chen[1], Yung-Chieh Huang[2], Chin-Sung Yang[1], Jyh-Ching Juang[3], Chi-Kuei Wang[1], Ching-Fu Lin[3], Jeffrey Lee[4], Hatem Darweesh[5], Pei-Ling Li[6]
[1]Department of Geomatics, National Cheng Kung University, Taiwan; [2]XIANG CHENG ELECTRONIC CO., LTD.; [3]Department of Electrical Engineering, National Cheng Kung University, Taiwan; [4]MSC Software Taiwan, Taiwan; [5]Graduate School of Informatics, Nagoya University, Japan; [6]Department of Resources Engineering, National Cheng Kung University, Taiwan

The Development of a Camera/HD Maps/INS/GNSS Fusion Scheme for Lane Level Vehicular Navigation Applications in Urban Area

Tung-Hua Yeh[1], Kai-Wei Chiang[1], Syun Tsai[1], Pei-Ru Lu[1], Pei-Ling Li[2]
[1]National Cheng Kung University, Taiwan; [2]High Definition Map Research Center, Dept. of Geomatics, National Cheng Kung University, Taiwan

1-Precision GNSS 1: Precision GNSS 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall6

Assessment of STEC Estimation quality using GNSS PPP Fixed.

Joao Francisco Galera Monico[1], Paulo Sergio De Oliveira Junior[2], Vinicius Stuani Amadeo Pereira[3], Brian Leite Machado[1], André Luiz Almeida Silva[4]

[1]Universidade Estadual Paulista - Unesp, Brazil; [2]Universidade Federal do Paraná - UFPR; [3]Universidade Tecnica Federal do Paraná - UTFPR; [4]Instituto Tecnológico da Aeronáutica - ITA

Ionospheric irregularities measured by ground-based and satellite-embedded receivers: analysis of S4 index in a low latitude region

Daniele Barroca Marra Alves[1], Gabriel Oliveira Jerez[1], Raphael Silva Nespolo[1], Manuel Hernández-Pajares[2], João Francisco Galera Monico[1]

[1]São Paulo State University - UNESP, Brazil; [2]Universitat Politècnica de Catalunya (UPC), Department of Mathematics

IONOSPHERIC TEMPORAL-SPATIAL CORRELATION ANALYSIS USING GNSS NETWORKS OVER CHINA

Yan Xiang[1], Zhongqi Li[1], Ningbo Wang[2], Ling Pei[1], Wenxian Yu[1]

[1]Shanghai Jiaotong University, China; [2]Aerospace Information Research Institute (AIR), Chinese Academy of Sciences

ZTD QUALITY ASSESSMENT FOR GNSS STATIONS IN BRAZIL

Viviane Aparecida santos, AFONSO MARQUES ALBUQUERQUE, TAYNÁ APARECIDA FERREIRA GOUVEIA, DANIELE BARROCA MARRA ALVES

UNESP, Brazil

Comparative Analysis of the Accuracy of Classical Tropospheric Models Based on Measured Meteorological Elements

Qinglan Zhang[1,2], Peng Zhang[1], Jun Chang[4], Zhanyi Sun[1], Xianbing Liang*[3], Fan Wang*[5]

[1]National Geomatics Center of China, People's Republic of China; [2]WuHan University , People's Republic of China; [3]Chongqing institute of Surveying and Mapping ,MNR; [4]The First Geodetic Surveying Brigade of MNR,Xi'an, China; [5]China Dayou Positioning Intelligence (Anqing) Co., Ltd.

1-Robotics for Mapping 1: Robotics for Mapping 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall7

4D radar/IMU/GNSS integrated positioning and mapping for large-scale harsh environments

Binliang Wang[1], Yuan Zhuang[1], NASHWA EL-BENDARY[2]
[1]Wuhan University, China; [2]Arab Academy for Science, Technology, and Maritime Transport (AASTMT), ASWAN-EGYPT

EVALUATION OF INTEL REALSENSE D455 CAMERA DEPTH ESTIMATION FOR INDOOR SLAM APPLICATIONS

Patrick Hübner, Jiwei Hou, Dorota Iwaszczuk
Technical University of Darmstadt, Germany

RESEARCH ON LIDAR SLAM METHOD WITH FUSED POINT CLOUD INTENSITY INFORAMATION

He Huang, Ren zhong Wang, Junxing Yang, Chaowei Ma, Tian jiao Wang
Beijing University of Civil Engineering of Architecture, China, People's Republic of

A test on collaborative vision and UWB-based positioning

Mert Gurturk[1], Andrea Masiero[2], Charles Toth[3], Paolo Dabove[4], Vincenzo Di Pietra[4], Antonio Vettore[5], Alberto Guarnieri[5], Irene Cortesi[2], Eugenio Pellis[2], Metin Soycan[1]
[1]Yildiz Technical University, Istanbul, Turkey; [2]University of Florence, Italy; [3]The Ohio State University, US; [4]Polytechnic of Turin, Italy; [5]University of Padua, Italy

1-SARcon 2023 1: SARcon 2023 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* MORGANA

Advanced analysis tools for the European Ground Motion Service data

Michele Crosetto[1], Saeedeh Shahbazi[1], María Cuevas-González[1], José Navarro[1], Marek Mróz[2]
[1]CTTC, Spain; [2]University of Warmia and Mazury, Poland

GROUND DEFORMATION PREDICTION USING SAR IMAGES AND MACHINE LEARNING

Yuka Teranishi, Junichi Susaki, Hitomu Kotani
Kyoto University, Japan

Benchmark Dataset for Building Segmentation and Height Estimation from Single SAR Imagery

Yao Sun[1], Lichao Mou[1], Yi Wang[2], Chenying Liu[2], Conrad Albrecht[2], Xiao Xiang Zhu[1]
[1]Data Science in Earth Observation, Technical University of Munich, Germany; [2]Remote Sensing Technology Institute, German Aerospace Center (DLR), Germany

A Fully Connected Change Detection Method of SAR Images Fusing Original Image Features and Change Detection Results

Zhentao Sun[1], Fuzhou Duan[1,2], Hongliang Guan[1,2], Fan Yang[1], Yanhui Wang[1], Wenji Zhao[1]
[1]College of Resources Environment and Tourism, Capital Normal University; [2]Engineering Research Center of the Ministry of Education of Space Information Technology

1-Underwater Mapping 1: Underwater Mapping1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall3

INTRODUCTION AND VALIDATION OF A NOVEL CALIBRATION FRAME

Alaa Anas Mufti[1,2], Petra Helmholz[1], Iain Parnum[1], David Belton[1]
[1]Curtin University, School of Earth and Planetary Sciences, Australia; [2]King Abdulaziz University, Saudi Arabia

An open-source, data logging device for marine-based surveys

Alaa Anas Mufti[1,2], Petra Helmholz[1], Iain Parnum[1], David Belton[1]
[1]Curtin Universiy, Perth WA 6845 Australia; [2]King Abdulaziz University, Rabigh 25732, Saudi Arabia

A DECADE OF PROGRESS IN TOPO-BATHYMETRIC LASER SCANNING EXEMPLIFIED BY THE PIELACH RIVER DATASET

Gottfried Mandlburger[1], Martin Pfennigbauer[2], Roland Schwarz[2], Florian Pöppl[1]
[1]TU Wien, Department of Geodesy and Geoinformation, Austria; [2]RIEGL Laser Measurement Systems GmbH, Austria

Investigation of the Challenges of Underwater-Visual-Monocular-SLAM

Michele Grimaldi[1,3], David Nakath[1,2], Mengkun She[1,2], Kevin Köser[1,2]
[1]Oceanic Machine Vision, GEOMAR Helmholtz Centre for Ocean Research Kiel, Wischhofstrasse 1-3, 24148 Kiel, Germany; [2]Marine Data Science, Department of Computer Science, Christian-Albrechts-Universität zu Kiel, 24118 Kiel, Germany; [3]Computer Vision and Robotics Research Institute (VICOROB), University of Girona, 17003 Girona, Spain

3D Mapping of Benthic Habitat Using XGBoost and Structure from Motion Photogrammetry

Salem Morsy[1,2], Ana-Belén Yánez S.[1,3], Katleen Robert[1]
[1]School of Ocean Technology, Fisheries and Marine Institute, Memorial University of Newfoundland, Canada; [2]Public Works Department, Faculty of Engineering, Cairo University; [3]School of Fisheries, Fisheries and Marine Institute, Memorial University of Newfoundland, Canada

3DS - 1: 3D Sensing for Smart Cities 1

Time: Sunday, 03/Sept/2023: 1:30pm - 3:00pm · *Location:* hall2

DEVELOPING COMPLETE URBAN DIGITAL TWINS IN BUSY ENVIRONMENTS: A FRAMEWORK FOR FACILITATING 3D MODEL GENERATION FROM MULTI-SOURCE POINT CLOUD DATA

Mohamed Ismail, Ahmed Shaker, Songnian Li
Department of Civil Engineering, Toronto Metropolitan University, 350 Victoria Street, Toronto, Ontario, M5B2K3 Canada

The use of breaklines of hydrographic objects in three-dimensional modeling of cities

Polina Kuklina, Sergey Tyurin, Olga Artemyeva
Saint Petersburg State University, Russian Federation

3D MODELING OF ROAD INFRASTRUCTURES ACCORDING TO CITYGML 3.0 AND ITS CITYJSON ENCODING

Anass Yarroudh[1], Gilles-Antoine Nys[1], Rafika Hajji[2]
[1]Geomatics Unit, University of Liège; [2]College of Geomatic Sciences and Surveying Engineering, Institute of Agronomy and Veterinary Medicine

1-Satellite Remote Sensing 1: Remote Sensing Applications in Agricultural Monitoring and Crop Analysis (2)

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* CLEOPATRA

SATELLITE REMOTE SENSING FOR ASSESSING THE SPATIAL-TEMPORAL CHANGES OF THE ECOLOGICAL STATE OF THE AGRICULTURAL LANDS IN ARMENIA

Grigor Ayvazyan, Shushanik Asmaryan
Center for Ecological-Noosphere Studies National Academy of Sciences, RA, Armenia

GRASS COVER, TREE DENSITY, AND CROP DEVELOPMENT OF MEDITERRANEAN ORCHARDS FROM HIGH RESOLUTION DATA

Dominique COURAULT, Pierre ROUAULT, Guillaume POUGET, Fabrice FLAMAIN
INRAE, France

Impact of UAV and Sentinel-2A Imagery Fusion on Vegetation Indices Performance

Ayyappa Reddy Allu, Shashi Mesapam
National Institute of Technology Warangal, India

ESTIMATION OF WHEAT KERNEL MOISTURE CONTENT IN-FIELD BASED ON PLANETSCOPE AND SENTINEL-2 SATELLITE IMAGES

Junhan Luo[1], Zhaocong Wu[1,2,3], Keyi Rao[1], Haoyu Lin[1], Siqing Zhang[1], Zhixiong Dai[1], Weihua Lin[1], Yixian Yue[1]
[1]School of Remote Sensing and Information Engineering, Wuhan University, Wuhan, China; [2]Hubei Luojia Laboratory, China; [3]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China

2-Cultural Heritage: Cultural Heritage Visualization and Virtual Restoration 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* hall3

EEI-NET: EDGE-ENHANCED INTERPOLATION NETWORK FOR SEMANTIC SEGMENTATION OF HISTORICAL BUILDING POINT CLOUDS

YaQian Xue[1], RuiJu Zhang[1,2,3], Jian Wang[1,4], JiangHong Zhao[1,2,3], Lei Pang[1]

[1]School of Geomantic and Urban Information, Beijing University of Civil Engineering and Architecture, Beijing 102616, China; [2]Engineering Research Center of Representative Building and Architectural Heritage Database, Ministry of Education, Beijing 102616, China; [3]Beijing Key Laboratory for Architectural Heritage Fine Reconstruction & Health Monitoring, Beijing 102616, China; [4]Institute of Science and Technology Development, Beijing University of Civil Engineering and Architecture, Beijing 100044, China

A REVIEW OF POINT CLOUD SEGMENTATION OF ARCHITECTURAL CULTURAL HERITAGE

Jianghong Zhao, Xinnan Hua, Jia Yang, Lisha Yin, Xin Wang, ZiLin Liu

School of Geomantic and Urban Information, Beijing University of Civil Engineering and Architecture, Beijing 102616, China

The Role of Artificial Intelligence and Machine Learning in preserving Cultural Heritage and Art Works via Virtual Restoration

Jomana Ahmed Gaber, Prof. Dr. Sherin Moustafa Youssef, Dr. Karma Mohamed Fathalla

Arab Academy for Science, Technology and Maritime Transport, Egypt

i-blueCulture: A novel system of real-time underwater image transmission in a VR environment, as a new managerial approach for Underwater Cultural Heritage

Apostolos Vlachos[1], Stelios Krinidis[1], Kimon Papadimitriou[2], Angelos Manglis[3], Anastasia Fourkiotou[4], Dimitrios Tzovaras[1]

[1]Information Technologies Institute Centre for Research and Technology Hellas; [2]Aristotle University of Thessaloniki, Faculty of Engineering, School of Rural and Surveying Engineering; [3]Skopelos Dive Center; [4]Atlantis Consulting S.A.

Comparison of iPhone 13 Pro's Camera and LiDAR Sensor to UAS Photogrammetric Model of the Great Pyramid of Giza

Rami Tamimi, Charles Toth

The Ohio State University, United States of America

2-Indoor 3D 2: Indoor 3D 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* hall4

A benchmark of synthetic labeling point clouds derived from as-built BIM for indoor scene understanding

Shengjun Tang, Hongsheng Huang, Yunjie Zhang, Renzhong Guo, Baoding Zhou, Weixi Wang, Jiasong Zhu
Shenzhen University

Interactive capture and labelling of point clouds with HoloLens 2 for semantic segmentation

Veracruz González, Jesús Balado, Antonio Fernández, Lucía Díaz-Vilariño
CINTECX, Universidade de Vigo, GeoTECH group, 36310 Vigo, Spain

TOWARDS PEDESTRIAN ACCESSIBILITY ANALYSIS IN INDOOR ENVIRONMENTS WITH CROWDS

Liu Liu[1], Sisi Zlatanova[2]
[1]College of Architecture and Urban Planning, Tongji University, Shanghai, P.R. China; [2]Faculty of Built Environment, UNSW Sydney, Red Centre, Sydney, New South Wales, Australia

Needle in a haystack: feasibility of identifying small safety assets from point clouds using deep learning

Geethanjali Anjanappa[1], Shayan Nikoohemat[1], Sander Oude Elberink[1], Robert Voute[2], Ville Lehtola[1]
[1]University of Twente, Netherlands; [2]CGI Inc, Netherlands

Construction of a dual-task model for indoor scene recognition and semantic segmentation based on point clouds

Jiang Jianwu[1,2], Kang Zhizhong[1], Li Jingwen[2]
[1]China University of Geosciences, Beijing 100083, China; [2]Guilin University of Technology, Guilin 541004, China

Automatic generation of routing graphs for indoor-outdoor transitional space to support seamless navigation

Zhiyong Wang[1], Sisi Zlatanova[2], Mir Abolfazl Mostafavi[3], Kourosh Khoshelham[4], Lucía Díaz-Vilariño[5], Ki-Joune Li[6]
[1]South China University of Technology, China, People's Republic of; [2]University of South Wales; [3]Université Laval; [4]University of Melbourne; [5]Universidade de Vigo; [6]Pusan National University

2-Mobile Mapping Technologies 2: Mobile Mapping Technologies and HD Maps 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* hall5

Mapping speed bumps from MLS point clouds data

Hongchao Fan[1], Yiping Chen[2]
[1]Norwegian University of Science and Technology, Norway; [2]Sun Yat-Sen University

Vehicle Occlusion Removal from Single Aerial Images Using Generative Adversarial Networks

Meijie Xiang[1], Seyedmajid Azimi[2], Reza Bahmanyar[2], Uwe Sörgel[1], Peter Reinartz[2]
[1]University of Stuttgart, Germany; [2]German Aerospace Center, Germany

VANISHING POINT AIDED LANE DETECTION USING A MULTI-SENSOR SYSTEM

Zifan Zhang, Gyoungmin Kang, Mengchi Ai, Naser El-Shiemy
University of Calgary, Canada

LIDAR-INERTIAL LOCALIZATION WITH GROUND CONSTRAINT IN A POINT CLOUD MAP

Mengchi Ai[1], Ilyar Asl Sabbaghian Hokmabadi[1], Mohamed Elhabiby[2], Mohamed Moussa[2], Ahmed Zekry[2], Ahmed Mohamed[1], Naser El-Sheimy[1]
[1]University of Calgary, Canada; [2]Micro Engineering Tech. Inc.

LINE AND POLYGON TOPOLOGY IN OPENDRIVE MODELLING

Janos Mate Logo, Arpad Dr. Barsi
Budapest University of Technology and Economics, Hungary

2-Precision GNSS 2: Precision GNSS 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* hall6

Investigation of the Lithosphere-Atmosphere-Ionosphere Coupling during the 2020 Beirut Explosion By Geodetic and Seismological Data

Mohamed Freeshah[1,2], Erman Şentürk[3], Xiaohong Zhang[1], Hamdullah Livaoğlu[4], Xiaodong Ren[1], Reda Fekry[2], Nahed Osama[5]

[1]School of Geodesy and Geomatics, Wuhan University, 129 Luoyu Road, Wuhan 430079, China; [2]Geomatics Engineering Department, Faculty of Engineering at Shoubra, Benha University, 108 Shoubra St., Cairo 11629, Egypt; [3]Department of Geomatics Engineering, Kocaeli University, Turkey; [4]Department of Geophysical Engineering, Kocaeli University, Turkey; [5]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, 129 Luoyu Road, Wuhan 430079, China

PRECISION TRIANGULAR ELEVATION MEASUREMENT OF LARGE BRIDGES IN UNSTABLE ENVIRONMENTS

Xuewei Zhang[1], Keliang Ding[1], Haigang Meng[2], Zhiheng He[1], Xi Zhang[1]

[1]School of Geomatics and Urban Spatial Information, Beijing University of Civil Engineering and Architecture; [2]Beijing Urban Rural Construction Group Co, Ltd

Seismo-Ionospheric Anomalies Prior to Two-Successive Earthquakes Mw 6.6 and 7.1 Taitung, Taiwan: Pre Results

Mohamed Freeshah[1,2], Erman Şentürk[3], Xiaohong Zhang[1], Ahmed Abdelaziz[4], Nahed Osama[4]

[1]School of Geodesy and Geomatics, Wuhan University, China; [2]Geomatics Engineering Department, Faculty of Engineering at Shoubra, Benha University, Egypt; [3]Department of Geomatics Engineering, Kocaeli University, Turkey; [4]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China

GNSS Real-time Early Warning Technology for Expansive Soil Landslide

Zi Chen, Guanwen Huang, Le Wang

Chang'an University, China, People's Republic of

Investigation of precursor ionospheric anomalies associated with two M > 7 Earthquakes using a new machine-learning technique

Mohamed Freeshah[1,5], Mohd Saqib[2], Erman Şentürk[3], Muhammad Arqim Adil[4], Xiaohong Zhang[1]

[1]Wuhan University, China, People's Republic of; [2]Department of Mathematics and Computing, Indian Institute of Technology (ISM), Dhanbad, Jharkhand, India; [3]Department of Geomatics, Kocaeli University, Kocaeli, Turkey; [4]Department of Global Navigation Satellite Systems, Institute of Space Technology, Islamabad, Pakistan; [5]Geomatics Engineering Department, Faculty of Engineering at Shoubra, Benha University, Cairo, Egypt

2-Robotics for Mapping 2: Robotics for Mapping 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* hall7

Research on Sensor Fusion-Based Calibration and Real-Time Point Cloud Mapping Methods for Laser Radar and IMU

He Huang, Xin Zhang, Junxing Yang, Yao Fu, Junyang Bian
Beijing University of Civil Engineering and Architecture

PMLIO: Panoramic Tightly-Coupled Multi-LiDAR-Inertial Odometry and Mapping

Yuhang Xu[1,2,3], Chi Chen[1,2,3], Zhiye Wang[1,2,3], Bisheng Yang[1,2,3], Weitong Wu[1,2,3], Liuchun Li[4], Jiayu Wu[1,2,3], LeYi Zhao[1,2,3]
[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan UniversityWuhan, China; [2]Engineering Research Center for Spatio-temporal Data Smart Acquisition and Application, Ministry of Education of China, Wuhan University, Wuhan, China; [3]Institute of Artificial Intelligence in Geomatics, Wuhan University, Wuhan, China; [4]Institute of Artificial Intelligence, School of Computer Science. Wuhan University

BACKPACK SYSTEM FOR CAPTURING 3D POINT CLOUDS OF FORESTS

Mona Goebel, Dorota Iwaszczuk
Technical University of Darmstadt, Remote Sensing and Image Analysis, Germany

RESEARCH ON LIDAR SLAM METHOD WITH FUSED POINT CLOUD INTENSITY INFORAMATION

He Huang, ren zhong wang, Junxing Yang, Chaowei Ma, Tian jiao Wang
Beijing University of Civil Engineering of Architecture, China, People's Republic of

2-SARcon 2023 2: SARcon 2023 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* MORGANA

Monitoring Land Subsidence in Egypt's Northern West Coast Using Interferometric Synthetic Aperture Radar.

Tamer ElGharbawi
Civil Engineering Department, Faculty of Engineering, Suez Canal University, Ismailia City, Egypt

Ground Movement Analysis in Post-mining City Using MTInSAR with Help of European Ground Motion Service

Chia-Hsiang Yang, Carsten Stemmler, Andreas Müterthies
EFTAS Remote Sensing Transfer of Technology GmbH, Germany

DIFFERENTIAL SAR TOMOGRAPHY OF LARGE-SCALE WATER CONSERVANCY PROJECTS UNDER STEEP TERRAIN--THE CASE STUDY OF LAXIWA HYDROPOWER STATION

Long Li, Lei Pang, Conghua Li
Beijing University Of Civil Engineering And Architecture, China, People's Republic of

Monitoring Land Deformation and Subsidence in Egypt's Northern West Coast Using Interferometric Synthetic Aperture Radar

Tamer ElGharbawi
Suez Canal University, Egypt

Deep and Machine Learning for monitoring groundwater storage basins and hydrological changes using the Gravity Recovery and Climate Experiment (GRACE) Satellite Mission and Sentinel-1 data for the Ganga River basin in the Indian region.

Kayithi Naga Sai[1], Abhinav Galodha[2], Parnika Jain[3], Deepak Sharma[4]
[1]Department of Mechanical Engineering, IIT Delhi, India; [2]School of Interdisciplinary Research, SIRe, IIT Delhi, India; [3]The Neerja Modi School, Jaipur, Rajasthan, India; [4]Department of Biochemical Engineering and Biotechnology, IIT Delhi, India

2-Satellite Remote Sensing 2: Deep Learning for Remote Sensing Image Analysis and Land Cover Classification(2)

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* BLUENILE

BURNT AREAS SEMANTIC SEGMENTATION FROM SAR SENTINEL-1 DATA USING THE U-NET NETWORK TRAINED WITH SEMI-AUTOMATED ANNOTATIONS

Aline Barroca Marra[1], Maria de Lourdes Bueno Trindade Galo[1], Fabio Giulio Tonolo[2], Edson Eyji Sano[3], Vinicius Silva Werneck Orlando[1]

[1]São Paulo State University (UNESP), Presidente Prudente, São Paulo, Brazil; [2]Politecnico di Torino, Dept. of Architecture and Design, Turin, Italy; [3]Embrapa Cerrados, Planaltina, Distrito Federal, Brazil

MLA-DEEPLAB: IMPROVED DEEPLABV3+ WITH MULTI-LEVEL ATTENTION FOR SEMANTIC SEGMENTATION OF HIGH-RESOLUTION SATELLITE IMAGERY

Noopur Srivastava, Abhishek Rai, Kamal Jain

IIT Roorkee, India

Application of deep learning crop classification model based on multispectral and sar satellite imagery

Yitian Qi, Gabriele Bitelli, Emanuele Mandanici, Francesca Trevisiol

University of Bologna, Italy

INTER-REGION TRANSFER LEARNING FOR LAND USE LAND COVER CLASSIFICATION

Jayanth Siddamsetty[1], Marco Stricker[1], Marcela Charfuelan[1], Marlon Nuske[1], Andreas Dengel[1,2]

[1]DFKI GmbH, Kaiserslautern, Germany; [2]University of Kaiserslautern-Landau, Kaiserslautern, Germany

3DS - 2: 3D Sensing for Smart Cities 2

Time: Sunday, 03/Sept/2023: 3:30pm - 5:00pm · *Location:* hall2

NERF FOR PLANTS: NEURAL RADIANCE FIELDS FOR PLANT SCENES

Hongsheng Huang[1,2], Siqi Du[1,2], Shengjun Tang[1,2], Weixi Wang[1,2], Xiaoming Li[1,2], Linfu Xie[1,2], RenZhong Guo[1,2]

[1]School of Architecture and Urban Planning, Research Institute for Smart Cities, Shenzhen University,Shenzhen, P.R. China; [2]Key Laboratory of Urban Land Resources Monitoring and Simulation, Ministry of Natural Resources, Shenzhen, P.R. China

Derivation of building structures from noisy digital surface models

Thomas Krauß

DLR, German Aerospace Center, Germany

On acceleration of thermal simulation of urban scenes with the application of an evolutionary algorithm to tree planting strategies

Dimitri Bulatov, Marko Hecht, Benedikt Kottler, Jonas Mispelhorn, Eva Strauß

Fraunhofer IOSB Ettlingen, Germany

METAMORPHISM OF ALS POINT DATA FOR MULTITUDE APPLICATION

Jayati Vijaywargiya[1], Anandakumar M Ramiya[2]

[1]Indian Institute of Space Science and Technology, India; [2]Indian Institute of Space Science and Technology, India

1-Crowdsourcing 1: Crowdsourcing for Global Mapping (Crowdsourcing Data Analysis and Mapping Techniques1

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* MORGANA

Cell phone GeoBigData for the analysis of presences and movements of people

salvatore amaduzzi
University of Udine, Italy

A STUDY OF RAPID MAPPING TECHNOLOGY BASED ON ADOBE ILLUSTRATOR

Tingting Zhao[1,2,3], Hongsheng Li[4], Xinli Di[1], Zhongliang Cai[5], Yuewu Wan[1], Ye Zhang[1,2,3], Xinpeng Wang[1,2,3], Yunlu Peng[1,2,3], Linlin Che[1], Hong Xu[6]
[1]National Geomatics Center of China, China; [2]Hubei Luojia Laboratory,China; [3]Key Laboratory of Spatio-temporal Information and Intelligent Services (LSIIS), MNR,China; [4]Hebei Provincial Institute of Cartography,China; [5]Wuhan University,China; [6]High-Tech Research & Development Center (HTRDC) of the Ministry of Science & Technology, P.R.C.

FROM MULTIPLE POLYGONS TO SINGLE GEOMETRY: OPTIMIZATION OF POLYGON INTEGRATION FOR CROWDSOURCED DATA

David Collmar, Volker Walter, Michael Kölle, Uwe Sörgel
Universität Stuttgart, Germany

A classification model for the inference of spatial precision of OpenStreetMap buildings with intrinsic indicators

Ibrahim Maidaneh Abdi[2], Arnaud Le Guilcher[1], Ana Maria Olteanu Raimond[1]
[1]Univ Gustave Eiffel, IGN-ENSG, Saint-Mandé, France; [2]University of Djibouti, Djibouti, Djibouti

1-Digital Construction 1: Reality Capture & 3D printing 1

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* CLEOPATRA

Reality Capture Methods for Remote Building Inspection

Steffen Becker[1], Sajjad Einizinab[1], Kourosh Khoshelham[1], Marko Radanovic[1], Kaveh Mirzaei[2], Yihai Fang[2]
[1]University of Melbourne, Australia; [2]Monash University, Australia

A GEO-DATABASE FOR 3D-AIDED MULTI-EPOCH DOCUMENTATION OF BRIDGE INSPECTIONS

Federica Gaspari, Federico Barbieri, Juan Pablo Duque, Rebecca Fascia, Francesco Ioli, Giulio Zani, Daniela Carrion, Livio Pinto
Dept. of Civil and Environmental Engineering (DICA), Politecnico di Milano, Milan, Italy

Filament Extraction in 3D Printing of Shotcrete Walls from Terrestrial Laser Scanner Data

Karam Mawas, Mehdi Maboudi, Markus Gerke
University of Braunschweig, Germany

Parameter optimization for a thermal simulation of an urban area

Benedikt Kottler[1], Simon Fischer[1], Eva Strauß[1], Dimitri Bulatov[1], Petra Helmholz[2]
[1]Fraunhofer IOSB Ettlingen; [2]Curtin University, School of Earth and Planetary Sciences

1-Geospatial Data Analytics 1: Geospatial data Analytics 1

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* hall1

Multispectral Image Restoration using a Vector-valued Reaction-diffusion based Mixed Noise Removal Technique

Tudor Barbu

Institute of Computer Science of the Romanian Academy - Iasi Branch, Romania

MACHINE LEARNING APPLICATION FOR CARBON ESTIMATION – A CASE STUDY

Prisilla Jayanthi Gandam[1], Murali Krishna Iyyanki[2]

[1]Ecole Centrale School of Engineering, Mahindra University, Jeedimetla, Hyderabad, India; [2]Smart Village Movement in Alliance with Berkeley Haas, Hyderabad, India.

DETECTION OF HAZARDOUS MATERIALS IN LASER CUTTING USING DEEP LEARNING AND SPECKLE SENSING

Mohamed Abdallah Salem, Ahmed Elshenawy, hamdy Ashour

AASTMT, Egypt

Machine Learning-Based Estimation of Chlorophyll-a Concentrations using 1D Convolutional Neural Networks and Multispectral Imagery

Salem Ibrahim Salem[1], Muhammad Salah[2], Hiroto Higa[3]

[1]Faculty of Engineering, Kyoto University of Advanced Science, Kyoto, Japan; [2]Graduate School of Engineering, Kyoto University of Advanced Science, Kyoto, Japan; [3]Institute of Urban Innovation, Yokohama National University, Yokohama, Japan

Artificial Neural Network for Prediction of Land Subsidence in Mudslides Region through InSAR and Rain Data

Anselmo Bettio[1,2], Francesco Sansone[1], Alesssandro Francesconi[1,2,3]

[1]Stellar Project; [2]Centro di Ateneo di Studi e Attività Spaziali "Giuseppe Colombo" - CISAS; [3]Department of Industrial Engineering, University of Padova (IT)

1-Openness in Geospatial 1: Openness in Geospatial and Remote Sensing 1

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* hall4

Analysis of Use Cases Towards the Evolution of Europe's Contribution to GEOSS

Candan Eylül Kilsedar[1], Mark Dowell[2], Margherita Di Leo[1], Jean Dusart[3], Alexander Kotsev[2], Marco Minghini[2], Albana Kona[2]
[1]Arcadia SIT, under contract with the European Commission, Joint Research Centre, Ispra, Italy; [2]European Commission, Joint Research Centre, Ispra, Italy; [3]European Commission, Directorate-General for Research and Innovation, Brussels, Belgium

SYSTEM ARCHITECTURE FOR GEOSPATIAL VIRTUAL DATA INTEGRATION IN WEB-BASED APPLICATIONS

Juan Pablo Duque Ordonez, Maria Antonia Brovelli
Department of Civil and Environmental Engineering (DICA), Politecnico di Milano

Open Science Catalogue

Fabian Schindler-Strauss[1], Stephan Meissl[1], Silvester Pari[1], Garin Smith[2], Ewelina Dobrowolska[3], Anca Anghelea[4]
[1]EOX IT Services GmbH, Austria; [2]Telespazio UK; [3]Serco; [4]European Space Agency (ESA)

MAPPING STATISTICAL DATA: POSSIBILITIES OF EUROSTAT-MAP.JS LIBRARY

Andrea Miletić, Ana Kuveždić Divjak, Karlo Kević, Ivana Puškarić
Faculty of Geodesy, University of Zagreb, Croatia

SUITABILITY AND CHALLENGES OF OPEN MAPS FOR EUROPE DATA FOR CREATING A GENERAL-PURPOSE SMALL-SCALE MAP OF CROATIA

Ana Kuvezdic Divjak, Marina Vilicic, Karlo Kevic, Valentina Hlatki
University of Zagreb, Faculty of Geodesy, Croatia

1-PhotoGA 2023 1: PhotoGA 2023 1

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* hall5

VIEW GRAPH CONSTRUCTION FOR LARGE-SCALE UAV IMAGES: AN EVALUATION OF STATE-OF-THE-ART METHODS

Junhuan Liu[1,2], Yichen Ma[1], San Jiang[1,2,3], Qingquan Li[2], Wanshou Jiang[4], Lizhe Wang[1,3]

[1]School of Computer Science, China University of Geosciences, Wuhan 430074, China; [2]Guangdong Laboratory of Artificial Intelligence and Digital Economy (SZ), Guangdong Shenzhen 518060, China; [3]Hubei Key Laboratory of Intelligent Geo-Information Processing, China University of Geosciences, Wuhan 430078, China; [4]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan 430072, China

3D Reconstruction from Multi-view Google Earth Satellite Stereo Images by Generating Virtual RPC based on 3DHomography-based Georeferencing

DongUk Seo, Soon-Yong Park

KyungPook National University, Korea, Republic of (South Korea)

ICEpy4D: A Python Toolkit for Advanced Multi-Epoch Glacier Monitoring with Deep-Learning Photogrammetry

Francesco Ioli[1], Federico Barbieri[1], Federica Gaspari[1], Francesco Nex[2], Livio Pinto[1]

[1]Dept. of Civil and Environmental Engineering (DICA), Politecnico di Milano, Milan, Italy; [2]Dept. of Earth Observation Science (EOS), Faculty ITC, University of Twente, Enschede, The Netherlands

AN EVALUATION OF STEREO AND MULTIVIEW ALGORITHMS FOR 3D RECONSTRUCTION WITH SYNTHETIC DATA

Mario Fuentes Reyes[1], Pablo d'Angelo[1], Friedrich Fraundorfer[1,2]

[1]German Aerospace Center, Germany; [2]Graz University of Technology

3-Precision GNSS 3: Precision GNSS 3

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* hall6

The Impact of Orbital and Clock Errors on Positioning from LEO Constellations and Proposed Orbital Solutions

Ahmed El-Mowafy[1], Kan Wang[2,3], Yan Li[1,4], Amir Allahvirdizadeh[1]

[1]Curtin University, Australia; [2]University of Chinese Academy of Sciences, Beijing, China; [3]National Time Service Center, Chinese Academy of Sciences, Xi'an, China; [4]East China University of Technology

Leveraging human mobility and pervasive smartphone measurements-based crowdsourcing for developing self-deployable and ubiquitous indoor positioning systems

Ahmed Mansour, Wu Chen, Duojie Weng, Yang Yang, Jingxian Wang

The Hong Kong Polytechnic University (PolyU), The Department of Land Surveying and Geo-Informatics (LSGI), Hong Kong S.A.R. (China)

Quality Analysis of Smartphone GNSS Observations and Impact on Precise Positioning

Farzaneh Zangenehnejad, Yang Gao

University of Calgary, Canada

Quality comprehensive evaluation technique of GNSS observation data

Guanwen Huang, Mengyuan Li, Le Wang

Chang'an University, China, People's Republic of

3-Satellite Remote Sensing 3: Advancements in Remote Sensing for Climate and Environmental Monitoring (Session 1) 3

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* BLUENILE

Investigation of urban thermal environment using satellite time series data

Siwoo Lee[1], Cheolhee Yoo[2], Jungho Im[1], Dongjin Cho[1], Yeonsu Lee[1], Dukwon Bae[1]
[1]Department of Urban Environment Engineering, Ulsan National Institute of Science and Technology, Ulsan, Republic of Korea;
[2]Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong

ASSESSING THE IMPACT OF HISTORICAL AND FUTURE CLIMATE CHANGE SCENARIOS ON DIURNAL HEAT STRESS IN ASIA

Pir Mohammad, Qihao Weng
The Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

MONITORING SUMMER DAYTIME AND NIGHTTIME DECADAL TRENDS OF LAND SURFACE TEMPERATURE OVER THE NATIONAL CAPITAL REGION DELHI

Prathiba Andavarmalai Palanisamy[1,2], Joanna zawadzka[2], Kamal Jain[1], Stefania Bonafoni[3]
[1]Indian Institute of Technology Roorkee, India; [2]Cranfield University, UK; [3]University of Perugia, Italy

3DS - 3: 3D Sensing for Smart Cities 3

Time: Monday, 04/Sept/2023: 8:30am - 10:00am · *Location:* hall2

SCP: Scene completion pre-training for 3D object detection

Yiming Shan[1], Yan Xia[1,2], Yuhong Chen[3], Daniel Cremers[1,2]

[1]Technical University of Munich, Germany; [2]Munich Center for Machine Learning (MCML), Germany; [3]Chair of Automatic Control Engineering, Technical University of Munich, Germany

Evaluation and comparison of different time of flight cameras for outdoor applications

Zhouyan Qiu[1,2], Joaquín Martinez-Sánchez[1], Pedro Arias[1]

[1]CINTECX, Universidade de Vigo, Applied Geotechnology Group, Vigo, Spain; [2]ICT & Innovation Department, Ingeniería Insitu, Vigo, Spain

DEVELOPMENT OF A MACHINE VISION SYSTEM FOR DAMAGE AND OBJECT DETECTION IN TUNNELS USING CONVOLUTIONAL NEURAL NETWORKS

Fatemeh Alidoost[1,2], Michael Hahn[1], Gerrit Austen[1]

[1]Stuttgart University of Applied Sciences (HfT), Germany; [2]vigram GmbH, Freiburg, Germany

2-Crowdsourcing 2: Crowdsourcing for Global Mapping (Crowdsourcing for Environmental Monitoring)2

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* MORGANA

DESIGN AND CONSTRUCTION OF A KNOWLEDGE SERVICE SYSTEM FOR GLOBAL LAND COVER SPATIOTEMPORAL CHANGE

Yuewu Wan[1], Xiuli Zhu[1], Xi Zhai[1], Ying Zhang[2], Tingting Zhao[1], Xinli Di[1], Guangyu Du[1]

[1]National Geomatics Center of China, China; [2]Cartographic Institute of Hebei Province,China

Seasonal Differential in Crowdsourced Disaster Response Mapping of Vulnerable Flood Disaster Communities in Nigeria using OpenStreetMap

Victor Ndubuisi Sunday[1], Raphael Ike Ndukwu[2], Maria Anthonia Brovelli[3]

[1]Geography and Environmental Management,University of Port Harcourt,NIgeria, Nigeria; [2]Geoinformatics and Surveying ,University of Nigeria; [3]Politecnico di Milano

A Crowdsourcing Task Recommendation Method for Global Land Cover Update Considering Volunteer Profile

Xiaoguang Zhou, Qianlan Chen, Dongyang Hou, Yuhang Zhang

Central South University, China, People's Republic of

2-Digital Construction 2: Automated Inspection 2

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* CLEOPATRA

An Improved Mask R-CNN: Extraction of Door and Window Instances on Village Building Façade Images

Daiqi Zhong[1,2], Lin He[1,2], Yi Lin[1,2]

[1]College of Surveying and Geo-Informatics, Tongji University, 200092 Shanghai, China; [2]Research Center of Remote Sensing & Spatial Information Technology, Tongji University, 200092 Shanghai, China

Potential-guided UAV-Flight Path Planning for the Inspection of Complex Structures

Paul Debus, Volker Rodehorst

Bauhaus-Universität Weimar, Germany

EVALUATING CONVNETS AND TRANSFORMER BASED SELF-SUPERVISED ALGORITHMS FOR BUILDING ROOF FORM CLASSIFICATION

Guneet Mutreja, Ksenia Bittner

DLR, Germany

2-Geospatial Data Analytics 2: Airpollution, Health and Society 2

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* hall1

Effect of the delay in the reports of COVID-19 cases on near real-time clusters detection

Jean Francois Mas[1], Azucena Pérez Vega[2], Adrián Ghilardi[1]
[1]Universidad Nacional Autónoma de México, Mexico; [2]Universidad de Guanajuato

The impact of dust pollution from unpaved roads in the Akamas Peninsula, Cyprus using UAV and Sentinel-2 images

Kyriacos Themistocleous[1,2], Maria Prodromou[1,2]
[1]Eratosthenes Centre of Excellence, Cyprus; [2]Cyprus University of Technology, Cyprus

Vehicle classification in urban regions of the Global South from aerial imagery

Manuel Mühlhaus, Franz Kurz, Arturo Guridi, Reza Bahmanyar, Seyedmajid Azimi, Jens Hellekes
German Aerospace Center, Germany

ATTRIBUTION ANALYSIS OF CLIMATE CHANGE AND HUMAN ACTIVITIES TO WATER VOLUME VARIATION IN LARGE LAKES

Yi Lin[1,2], Chen Gao[1,2], Xin Li[3], Tinghui Zhang[1,2], Jie Yu[1,2], Yu Rong[1,2], Lang Li[1,2], Xuefei Zhou[4], Jianqing Cai[5], Nico Sneeuw[5]
[1]College of Surveying & Geo-Informatics, Tongji University, Shanghai 200092, China; [2]Research Center of Remote Sensing & Spatial Information Technology, Shanghai 200092, China; [3]Guangxi Zhuang Autonomous Region Land Surveying & Mapping Institute, Guangxi Zhuang Autonomous Region Land 530023, China; [4]College of Environmental Science and Engineering, Tongji University, Shanghai 200092, China; [5]Institute of Geodesy, University of Stuttgart, 70174 Stuttgart, Germany

New remote sensing products of Snow cover, SWE and Snow Albedo over China

Zhen Li[1], Ping Zhang[1], Xiaohua Hao[2], Lingmei Jiang[3], Pengfeng Xiao[4]
[1]Aerospace Information Research Institute, CAS, China, People's Republic of; [2]Northwest Institute of Eco-Environment and Resources, CAS, China, People's Republic of; [3]Department of Geographical Science, Beijing Normal University, China, People's Republic of; [4]School of Geography and Ocean Science, Nanjing University, China, People's Republic of

2-PhotoGA 2023 2: PhotoGA 2023 2

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* hall5

FILLING GAPS BETWEEN MESHES OF TREE CROWN AND TREE TRUNK BASED ON BOUNDARY CONSTRAINTS AND COORDINATE PROJECTION FOR 3D TREE MODELLING

WEI XI WANG, LIN PING HONG, HONG SHENG HUANG, XIAO MING LI, SHENG JUN TANG, REN ZHONG GUO, LIN FU XIE

Research Institute for Smart Cities, School of Architecture and Urban Planning, Shenzhen University, 518060 Shenzhen, China

SPARSESAT-NERF: Dense Depth Supervised Neural Radiance Fields for Sparse Satellite Images

Lulin Zhang[1,2], Ewelina Rupnik[2]

[1]Université de Paris, Institut de physique du globe de Paris, CNRS, Paris, France; [2]Université de Gustave Eiffel, IGN-ENSG, LaSTIG, Saint-Mandé, France

GENERATING LIGHTWEIGHT BUILDING MODELS WITH PRESERVED STRUCTURAL FEATURES FROM NOISY 3D MESHES

RenZhong Guo, Tian Yu, WeiXi Wang, XiaoMing Li, ShengJun Tang, LinFu Xie

1 Research Institute for Smart Cities, School of Architecture and Urban Planning, Shenzhen University, 518060 Shenzhen, China

3DS - 4: 3D Sensing for Smart Cities 4

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* hall2

A Comparison Study on Deep Learning Models for Building Rooftop Classification

Angel Spasov[1], Dessislava Petrova-Antonova[1,2], Emil Hristov[1]
[1]GATE Institute, Sofia University "St. Kliment Ohridski", Bulgaria; [2]FMI, Sofia University "St. Kliment Ohridski", Bulgaria

3D HIGHWAY CURVE RECONSTRUCTION FROM MOBILE LASER SCANNING POINT CLOUDS THROUGH DEEP REINFORCEMENT LEARNING

Yuanyuan Wei, Zongliang Zhang, Xingwang Huang, Yangbin Lin
Jimei University, China, People's Republic of

DETECTION AND SEGMENTATION OF POLE-LIKE OBJECTS IN MOBILE LASER SCANNING POINT CLOUDS

Abdul Awal Md NURUNNABI[1], Yukio Sadahiro[2], Felix Norman Teferle[1], Debra Laefer[3], Jonathan Li[4]
[1]University of Luxembourg, Luxembourg; [2]The University of Tokyo, Japan; [3]NewYork University, USA; [4]University of Waterloo, Canada

DeepUrbanModeller (DUM): A Process-Informed Neural Architecture for High-Precision Urban Surface Temperature Prediction

zang yu[1], chen linwei[1], wu donghang[1], wang cheng[1], li jun[2]
[1]Xiamen university, China, People's Republic of; [2]University of Waterloo , Waterloo, ON, Canada

DefDilUnet: A Semantic Segmentation-Based Approach for Occlusion Removal in UAV-based 3D Reconstruction of Traffic Scenes

Zhenhan Wu[1,2], Weixi Wang[1,2], Siqi Du[1,2], Linfu Xie[1,2], ShengJun Tang[1,2], XiaoMing Li[1,2], RenZhong Guo[1,2]
[1]School of Architecture and Urban Planning, Research Institute for Smart Cities, Shenzhen University,Shenzhen, P.R. China; [2]School of Architecture and Urban Planning, Research Institute for Smart Cities, Shenzhen University,Shenzhen, P.R. China

4-Precision GNSS 4: Precision GNSS 4

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* hall6

STATE ESTIMATION IN MULTI-SENSOR FUSION NAVIGATION: EQUIVALENCE ANALYSIS ON FILTERING AND OPTIMIZATION

Zhuo Xu[1], Feng Zhu[1], Xiaohong Zhang[2]

[1]School of Geodesy and Geomatics, Wuhan University, China, People's Republic of; [2]Chinese Antarctic Center of Surveying and Mapping, Wuhan University, China, People's Republic of

BENCHMARKING COLLABORATIVE POSITIONING AND NAVIGATION BETWEEN GROUND AND UAS PLATFORMS

Andrea Masiero[1], Luca Morelli[2,3], Charles Toth[4], Fabio Remondino[2]

[1]University of Florence, Florence, Italy; [2]3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy; [3]Dept. of Civil, Environmental and Mechanical Engineering (DICAM), University of Trento, Italy; [4]The Ohio State University, Columbus, Ohio, USA

THE TOA ESTIMATION OF CELLULAR NETWORK SIGNALS BASED ON MACHINE LEARNING IN COMPLEX URBAN ENVIRONMENTS

Zhaoliang Liu, Liang Chen, Zhenhang Jiao, Xiangcheng Lu, Yanlin Ruan

State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, Hubei Province, China

User implementation and assessment of BDS-3 Precise Point Positioning augmentation service with no economic cost

Chenhao Ouyang, Junbo Shi, Wenjie Peng, Xinying Dong, Jiming Guo, Yibin Yao

Wuhan University

Fast converging lidar-aided precise point positioning: A case study with low-cost GNSS

Junjie Zhang, Kourosh Khoshelham, Amir Khodabandeh

Department of Infrastructure Engineering, The University of Melbourne, Australia

4-Satellite Remote Sensing 4: Advancements in Remote Sensing for Climate and Environmental Monitoring (Session 2) 4

Time: Monday, 04/Sept/2023: 10:30am - 12:00pm · *Location:* BLUENILE

Comparative Analysis of Atmospheric Temperature Profiles from Heterogeneous Data Sources: Satellite, Reanalysis Data, Numerical Weather Prediction, and Radiosonde Measurements

Daehyeon Han, Sihun Jung, Minki Choo, Juhyun Lee, Dongjin Cho, Jungho Im
Ulsan National Institute of Science and Engineering, Korea, Republic of (South Korea)

DEVELOPMENT OF CLOUD DETECTION METHOD FOR CAS500-1 IMAGERY

Won-Woo Seo[1], Wan-Sang Yoon[1], Hongki Kang[1], Pyung-Chae Lim[1], Taejung Kim[2]
[1]3D Labs Co. Ltd, Korea, Republic of (South Korea); [2]Inha University, Republic of (South Korea)

Changing climate in the Polar Regions from Microwave and Infrared Data

Josefino Cacas Comiso
NASA Goddard Space Flight Center, United States of America

A NEW WEATHER FILTER FOR REDUCING WEATHER EFFECT IN CALCULATING SEA ICE CONCENTRATION FROM AMSR2 DATA

Kohei Cho, Kazuhiro Naoki
Tokai University, Japan

1-UAV-based mapping 1: Data Acquisition, Georeferencing, and Mapping (1)

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* hall2

UAV Large Oblique Image Geo-Localization Using Satellite Images In The Dense Buildings Area

Junqi Luo[1], Qin Ye[1,2]

[1]College of Surveying and Geo-Informatics, Tongji University, 200092, Shanghai, China; [2]State Key Laboratory of Geographic Information Engineering, 710054, Xi'an, Shaanxi, China

Real-Time UAV 3D Image Point Clouds Mapping

Shangzhe Sun[1,2,3], Chi Chen[1,2,3], Zhiye Wang[1,2,3], Jian Zhou[1], Liuchun Li[4], Bisheng Yang[1,2,3], Yangzi Cong[1,2,3], Haoyu Wang[1,2,3]

[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, China; [2]Engineering Research Centre for Spatio-Temporal Data Acquisition and Smart Application(STSA), Ministry of Education in China, Wuhan, China; [3]Institute of Artificial Intelligence in Geomatics, Wuhan University, Wuhan, China; [4]Institute of Artificial Intelligence, School of Computer Science, Wuhan University, Wuhan, China

UAV-LIDAR BORESIGHT ESTIMATION USING VIRTUAL CONTROL POINTS: A CASE STUDY

Marcela do Vale Machado, Antonio Maria Garcia Tommaselli

Unesp - São Paulo State University, Brazil

DENSE POINT CLOUD EXTRACTION FROM UAV IMAGERY USING PARALLAX ATTENTION

John Ray Bergado, Francesco Nex

University of Twente, Netherlands, The

EFFICIENT UAV FLIGHT PLANNING FOR LOD2 CITY MODEL IMPROVEMENT

Yu-Lun Wu, Bashar Alsadik, Sander Oude Elberink, George Vosselman

University of Twente - ITC, Netherlands, The

3-Crowdsourcing 3: Crowdsourcing for Global Mapping (Crowdsourcing for Urban Spatial Analysis)3

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* MORGANA

SPATIAL PATTERN SENSING OF GEOGRAPHICAL ELEMENTS FOR URBAN FUNCTIONAL ZONES RECOGNITION

Zhuotong Du[1], Haigang Sui[1], Qiming Zhou[2], Li Hua[3], Liang Ge[4]

[1]The State Key Laboratory of Information Engineering in Surveying Mapping and Remote Sensing, Wuhan University, Wuhan, PR China; [2]Dept. of Geography, Hong Kong Baptist University, Hong Kong, PR China; [3]College of Resources and Environment, Huazhong Agricultural University, Wuhan, PR China; [4]Tianjin Institute of Surveying and Mapping Company Limited, Tianjin PR China

Crowdsourcing apps and the postdigital politics of affective spaces and surveillance

Rania Fawzy

Arab Academy for Science, Technology & Maritime Transport, Egypt

Towards Large-scale Building Attribute Mapping using Crowdsourced Images: Scene Text Recognition on Flickr and Problems to be Solved

Yao Sun[1], Anna Kruspe[2], Liqiu Meng[3], Yifan Tian[1], Eike Hoffmann[1], Stefan Auer[4], Xiao Xiang Zhu[1]

[1]Data Science in Earth Observation, Technical University of Munich, Germany; [2]Technische Hochschule Nürnberg, Germany; [3]Cartography and Visual Analytics, Technical University of Munich, Germany; [4]Remote Sensing Technology Institute, German Aerospace Center, Germany

3-Digital Construction 3: BIM application 3

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* CLEOPATRA

ENTROPY-BASED INDOOR CHANGE DETECTION USING LIDAR DATA AND A 3D MODEL

Hang Zhao, Martin Tomko, Kourosh Khoshelham
The University of Melbourne, Australia

Suitability Assessment of Different Sensors to Detect Hidden Installations for As-built BIM

Julius Knechtel[1], Jan Behmann[1], Jan-Henrik Haunert[1], Youness Dehbi[1,2]
[1]Institute of Geodesy and Geoinformation, Geoinformation Group, University of Bonn; [2]Computational Methods Lab, HafenCity University Hamburg

Continuous BIM Alignment for Mixed Reality Visualisation

Marko Radanovic[1,2], Kourosh Khoshelham[1,2], Clive Fraser[2], Debaditya Acharya[3]
[1]Building 4.0 CRC, Caulfield East, Victoria 3145, Australia; [2]Department of Infrastructure Engineering, The University of Melbourne, Parkville, Victoria 3010, Australia; [3]Geospatial Science, RMIT University, Melbourne, Victoria 3000, Australia

3-Geospatial Data Analytics 3: Disaster management and Agriculture 3

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* hall1

Saving Lives from Above: Person Detection in Disaster Response Using Deep Neural Networks

Reza Bahmanyar, Nina Merkle
German Aerospace Center (DLR), Germany

CO-SEISMIC LANDSLIDE BASED VALIDATION OF SUSCEPTIBILITY MAPPING AFTER KAHRAMANMARAS EARTHQUAKES (FEB 6, 2023) IN AMANOS MOUNTAINS

Gizem Karakas[1,2], Erdinc Orsan Unal[1,2], Nazli Tunar Ozcan[3], Sinem Cetinkaya[1,2], Recep Can[1,2], Candan Gokceoglu[3], Sultan Kocaman[2]
[1]Hacettepe University, Graduate School of Science and Engineering, Ankara, Türkiye; [2]Hacettepe University, Department of Geomatics Engineering, Ankara, Türkiye; [3]Hacettepe University, Department of Geological Engineering, Ankara, Türkiye

Dynamics of changes of irrigated croplands in the State of Guanajuato, Mexico

Azucena Pérez-Vega[1], Yann René Ramos[1], José Miguel Soria[1], Jean Francois Mas[2]
[1]Universidad de Guanajuato, Mexico; [2]Centro de Investigaciones en Geografía ambiental

USING GEO-SPATIAL DATA AND DATASET FOR CROPLAND MONITORING IN DARKHAN-UUL AND SELENGE PROVINCES, MONGOLIA

Ochirkhuyag Lkhamjav[1,2], Uyanga Batbold[1,2], Bilguun Ulziibat[1], Uuriintsolmon Enkhtaivan[1], Ariunbold Erdenebileg[1], Khaluanbek A[1], Delgertsetseg Renchimyadag[1,2], Solongo Tsogtbaatar[1,2]
[1]Institute of Geography and Geoecology, MAS, Mongolia; [2]Mongolian Geospatial Association

RESULTS OF USING SPECTRORADIOMETERS FOR IN SOIL MOISTURE OF MONGOLIAN STEPPE ECOSYSTEM

Nandinbayar Batsaikhan[1,3], Ochirkhuyag Lkhamjav[2,3], Munkhzul Chimid-Ochir[3], Mukhtsetseg Togtokh[1], Ganzorig Ulgiichimeg[2]
[1]Mongolian University of Life Sciences; [2]Institute of Geography and Geoecology, Mongolian Academy of Sciences; [3]Mongolian Geospatial Association

3-Mobile Mapping Technologies 3: Mobile Mapping Technologies and HD Maps 3

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* hall5

MFSCNN: APPENDING A MASKED BRANCH TO FAST-SCNN TO IMPROVE ROAD MARKING EXTRACTION ON SPARSE MLS POINT CLOUD-DERIVED IMAGES

Miguel Luis Lagahit[1,2], Masashi Matsuoka[1,2]

[1]Department of Architecture and Building Engineering, Tokyo Institute of Technology, Japan; [2]Tokyo Tech Academy for Super Smart Society, Tokyo Institute of Technology, Japan

An Evaluation of Solid-State LiDAR for Localization and HD point cloud mapping

Yang-En Lu[1], Kai-Wei Chiang[1], Meng-Lun Tsai[2], Yu-Ting Chiu[2], Surachet Srinara[1], Ting-Chun Wu[2], Naser El-Sheimy[3]

[1]National Cheng Kung University, Taiwan; [2]High Definition Map Research Center, Taiwan; [3]Department of Geomatics Engineering, The University of Calgary

Evaluating Navigation Performance of Elastically Constructed HD Map with Multi-Sensor Fusion Engine System

Yu-Ting Chiu[1], Srinara Surachet[1], Meng-Lun Tsai[1], Jou-An Chen[1], Kai-Wei Chiang[1], El-Sheimy Naser[2]

[1]National Cheng Kung University, Taiwan; [2]University of Calgary, Canada

TOWARDS EFFICIENT HD MAP CREATION: A SEMI-AUTOMATED APPROACH USING THE ASSURE MAPPING TOOL WITH DEEP LEARNING AND POINT CLOUD GEOMETRICS

YI-FENG CHANG[1], KAI-WEI CHIANG[1], MENG-LUN TSAI[1], PEI-LING LEE[1], YU-TING CHIU[1], CHIH-YUN HSIEH[1], HATEM DARWEESH[2], NASER EL-SHEIMY[3]

[1]National Cheng Kung University, Taiwan; [2]Nagoya University, Japan; [3]University of Calgary, Canada

3-SARcon 2023 3: SARcon 2023 3

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* hall7

MODELING LAND DEFORMATIONS IN MOUNTAINS BY COMBINING TIME-SERIES L-BAND SAR IMAGES AND SPATIOTEMPORAL STATISTICAL MODELS

Junichi Susaki[1], Ryo Kakinami[2]

[1]Kyoto University, Japan; [2]Central Japan Railway Company, Japan

Deformation monitoring and sensitivity analysis of under-construction bridges considering PS optimization

Zidong Xu, Xuedong Zhang, Haoyun Xie, Bo Chen, Zhaowen Li

Beijing University of Civil Engineering and Architecture, China,people's Republic of the

SURFACE DISPLACEMENT MONITORING OF SUBURBAN EXPRESSWAY UNDER CONSTRUCTION BASED ON SENTINEL-1 SBAS-INSAR ANALYSIS

Xiaoqiong Qin[1], Yuanjun Huang[1], Xuguo Shi[2], Linfu Xie[3], Xiangsheng Chen[1]

[1]School of Civil and Traffic Engineering & Underground Polis Academy, Shenzhen University, Shenzhen, 518060, China; [2]School of Geography and Information Engineering, China University of Geosciences, 430074, China; [3]Smart City Research Institute & School of Architecture and Urban Planning, Shenzhen University, 518060, China

Surface deformation monitoring in Shiyan based on multi-temporal InSAR technology

zilin zhu[1], lei chen[1], lv zhou[2], yonggui zhou[1], zhongliang zhu[1], jiahao li[3], jiaqi luo[1], shenke xiao[1], qian gao[1]

[1]PIESAT Information Technology Co., Ltd., BeiJing, China; [2]College of Surveying, Mapping and Geographic Information, Guilin University of Technology, Guilin, China; [3]Institute of Geospatial Information, Information Engineering University, Zhengzhou, China

5-Precision GNSS 5: Precision GNSS 5

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* hall6

Some remarks on integrity monitoring for satellite positioning and navigation: Conceptual developments and challenging Issues

Jinling Wang
University of New South Wales, Australia

Dynamical Variational Autoencoders：A New Approach to Robust High-Precision Navigation

YueXin Ma, Dan Shen, Qizhen Weng, Xiangwei Zhu
Sun Yat-sen University, China, People's Republic of China

IMPROVING GNSS POSITIONING RELIABILITY AND ACCURACY BASED ON FACTOR GRAPH OPTIMIZATION IN URBAN ENVIRONMENT

Yuantai Zhang[1], Feng Zhu[1], Xiaohong Zhang[2]
[1]School of Geodesy and Geomatics, Wuhan University, Wuhan 430079, China; [2]Chinese Antarctic Center of Surveying and Mapping, Wuhan University, Wuhan 430079, China

Indoor/outdoor Seamless Positioning Fusing with Visible Light Positioning, GNSS RTK, and INS

Xiao Sun[1], Yuan Zhuang[1,2,3]
[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, China; [2]Hubei Luojia Laboratory, Wuhan, China; [3]Wuhan Unversity Shenzhen Research Institute, Shenzhen, China

A novel GPS fault detection and exclusion algorithm aided by IMU and VO data for vehicle integrated navigation in urban environments

yuanyuan wang, rui sun
Nanjing University of Aeronautics and Astronautics, China, People's Republic of

5-Satellite Remote Sensing 5: Satellite Remote Sensing for Natural Disaster Monitoring and Risk Assessment 5

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* BLUENILE

DEFORMATION MONITORING AND TIME-SERIES ANALYSIS USING SENTINEL-1 DATA OF ZONARY GAS PIPELINE

Wang xiaoqing, ZHANG Peng, WU Junli, LI Zhicai, TANG Wei, SUN Zanyi
National Geomatics Center of China, China, People's Republic of

DEVELOPING A MULTI-VARIABLE FOREST FIRE RISK MODEL AND FIRE RISK ZONE MAPPING

Tsolmon Altanchimeg[2], Bayanmunkh Norovsuren[1], Zaya Mart[1], Enkhjargal Natsagdorj[1]
[1]Youth are green future, Ulaanbaatar, Mongolia; [2]Department of Environment, Forest Engineering, School of Engineering and Applied Sciences, National University of Mongolia,

FLOOD MAPPING IN MOUNTAINOUS AREAS USING SENTINEL-1 & 2 DATA AND GLCM FEATURES

Beste Tavus[1,2], Sultan Kocaman[2]
[1]Hacettepe University, Graduate School of Science and Engineering, Ankara, Türkiye; [2]Hacettepe University, Department of Geomatics Engineering, 06800 Beytepe Ankara, Türkiye

A PRELIMINARY COMPARISON OF TWO EXCLUSION MAPS FOR LARGE-SCALE FLOOD MAPPING USING SENTINEL-1 DATA

Jie Zhao[1], Florian Roth[2], Bernhard Bauer-Marschallinger[2], Wolfgang Wagner[2], Marco Chini[3], Xiao Xiang Zhu[1]
[1]Chair of Data Science in Earth Observation, Technical University of Munich, Arcisstraße 21, Munich 80333, Germany; [2]Department of Geodesy and Geoinformation, TU Wien, Wiedner Hauptstr 8, Vienna A-1040, Austria; [3]Department of Environmental Research and Innovation, Luxembourg Institute of Science and Technology, 5 Avenue des Hauts-Fourneaux, Esch-sur-Alzette 4362, Luxembourg

FIRE WEATHER INDEX AND FOREST FIRE RISK ASSESSMENT: INSIGHTS FROM A CASE STUDY IN ANTALYA - MANAVGAT FOREST, TURKIYE

Hatice Atalay, Adalet Dervisoglu, Filiz Sunar
ITU, Civil Engineering Faculty, Department of Geomatics Engineering 34469 Maslak Istanbul, Turkiye

ADP - 1: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 1

Time: Monday, 04/Sept/2023: 1:30pm - 3:00pm · *Location:* hall3

TOPOLOGY MODELS AND RULES: A 3D SPATIAL DATABASE APPROACH

Syahiirah Salleh, Uznir Ujang, Suhaibah Azri

3DGIS Lab, Dept. of Geoinformation, Fac. of Built Environment and Surveying, Universiti Teknologi Malaysia (UTM), Malaysia

Research on Geographic Information Data Circulation Supports the Construction of Digital China

Heng Li[1,2,3], Wei Huang[1], Wenhao Zhao[1], Xinyan Zheng[1]

[1]National Geomatics Center of China, China, People's Republic of; [2]Institute of Information Engineering, Chinese Academy of Sciences; [3]School of Cyber Security, University of Chinese Academy of Sciences

IMPROVING DATA QUALITY AND MANAGEMENT FOR REMOTE SENSING ANALYSIS: USE-CASES AND EMERGING RESEARCH QUESTIONS

Martin Breunig[1], Paul Kuper[1], Friederike Reitze[1], Steven Landgraf[1], Mulhim Al-Doori[2], Emmanuel Stefanakis[3], Hussein Abdulmuttalib[4], Zsófia Kugler[5]

[1]Karlsruhe Institute of Technology, Germany; [2]Roads and Transport Authority, Dubai, United Arab Emirates; [3]University of Calgary, Canada; [4]GIS Department, Dubai Municipality, United Arab Emirates; [5]Budapest University of Technology and Economics, Hungary

POTENTIAL OF MULTISPECTRAL IMAGES TAKEN BY SENSORS EMBEDDED IN UAVS FOR MONITORING THE COFFEE CROP IRRIGATION

Vinicius Silva Werneck Orlando[1], George Deroco Martins[2], Eusimio Felisbino Fraga Júnior[2], Aline Barrocá Marra[1], Fernando Vasconcelos Pereira[1], Maria de Lourdes Bueno Trindade Galo[1]

[1]São Paulo State University, Brazil; [2]Federal University of Uberlândia, Brazil

RESEARCH ON EFFICIENT INDEXING OF LARGE-SCALE GEOSPATIAL DATA BASED ON MULTI-LEVEL GEOGRAPHIC GRID

Yin Gao[1], Hairui Duo[2], Jian Che[1], Shiquan Zhao[1], Bianli Zhao[1]

[1]National Geomatics Center of China, 100830, Beijing, China; [2]Qinghai Normal University, 810016, Xining, China

2-UAV-based mapping 2: Data Acquisition, Georeferencing, and Mapping (2)

Time: Monday, 04/Sept/2023: 3:30pm - 5:00pm · *Location:* hall2

FUSION OF DIRECT GEOREFERENCED AERIAL DRONE WITH TERRESTRIAL LASER SCANNER DATA

Giorgos Kafataris, Dimitrios Skarlatos, Marinos Vlachos
Cyprus University of Technology, Cyprus

Swarm Unmanned aerial vehicles (UAVs)-based Fog Computing Platform Supporting Internet of Things Applications

Osama Hesham ElSayed, Sherine Moustafa Youssef, Ossama Mohamed Ismail
Arab Academy for science, Technology and Maritime Transport, Egypt

High dynamic range image compression on commodity hardware for real-time mapping applications

Dirk Frommholz, Marius Bock, Daniel Hein
DLR, Germany

UAV-BASED MAPPING WITH IMAGING AND LIDAR SYSTEMS: AIRBONE PHOTOGRAMMETRY AND LIDAR APPLIED TO THE MAPPING OF KAPAYUWANAN, ABORIGINAL PAIWAN SETTLEMENTS, TAIWAN

April Hueimin Lu
National Pingtung University of Science and Technology/Old Architecture Rescue Center, Taiwan

4-Geospatial Data Analytics 4: Water and Environmental Management 4

Time: Monday, 04/Sept/2023: 3:30pm - 5:00pm · *Location:* hall1

MANILA BAY WATERSHED SCORECARD: A GIS-BASED QUANTITATIVE WATERSHED HEALTH ASSESSMENT

Ma. Bea Angela I. Zamora[1,2], Ariel C. Blanco[1,2,3]

[1]Department of Geodetic Engineering, University of the Philippines Diliman; [2]Training Center for Applied Geodesy and Photogrammetry, University of the Philippines Diliman; [3]Space Information Infrastructure Bureau, Philippine Space Agency, Diliman, Quezon City

AN INTERACTIVE EVACUATION TOOL TO IMPROVE THE PUBLIC FLOOD PERCEPTION

Weilian Li[1], Noemie Treff[1], Friederike Amann[1], Judith Lehmen[1], Youness Dehbi[2], Jan-Henrik Haunert[1]

[1]Institute of Geodesy and Geoinformation, University of Bonn, Germany; [2]Computational Methods Lab, HafenCity University Hamburg, Germany

GROUNDWATER QUALITY AND ITS IMPACT ON HUMAN HEALTH IN DUNGARPUR DISTRICT OF RAJASTHAN, INDIA

Seema Jalan[1], Devendra Singh Chouhan[1], Shailesh Chaure[2], Anjana Vyas[3]

[1]Mohanlal Sukhadia University, Udaipur, Rajasthan, INDIA, India; [2]Govt. Holker Science College Indore; [3]L.J. School of Planning, L.J. University, Ahmedabad

DYNAMIC MONITORING OF THE CHAO LAKE DURING THE FLOOD SEASON BASED ON GAOFEN-3 SAR IMAGERY

Xi Zhang[1], Jinyan Sun[1], Dandan Dong[1], Ye Zhang[2,3]

[1]Anhui & Huaihe River Institute of Hydraulic Research; [2]National Geomatics Center of China, China, People's Republic of; [3]Key Laboratory of Spatio-temporal Information and Intelligent Services (LSIIS), MNR

ASSESSMENT OF COASTAL FLOOD RISK UTILIZING GEOAI APPROACH

Tri Atmaja[1], Kiyo Kurisu[1], Kensuke Fukushi[2]

[1]Department of Urban Engineering, Graduate School of Engineering, The University of Tokyo, Japan; [2]Institute for Future Initiative (IFI) – The University of Tokyo, Japan

4-Mobile Mapping Technologies 4: Mobile Mapping Technologies and HD Maps 4

Time: Monday, 04/Sept/2023: 3:30pm - 5:00pm · *Location:* hall5

AN APPROACH OF HIGH DEFINITION MAP INFORMATION INTERACTION

Yanjie ZHANG[1], Wei HUANG[2,1,3]

[1]Urban Mobility Institute, Tongji University, China; [2]College of Surveying and Geo-Informatics, Tongji University, China; [3]Department of Civil Engineering, Toronto Metropolitan University, Canada

The Development and Validation of a Tactical Grade EGI System for Land Vehicular Navigation Applications

Yen-En Huang[1], Syun Tsai[1], Hsing-Yun Liu[1], Kai-Wei Chiang[1], Meng-Lun Tsai[1], Pei-Ling Lee[1], Naser El-sheimy[2]

[1]National Cheng Kung University, Taiwan; [2]University of Calgary

RADAR/INS TIGHTLY-COUPLED INTEGRATION FOR LAND VEHICLE NAVIGATION

Mohamed Elkholy[1,2], Mohamed Elsheikh[1,3], Naser El-Sheimy[1]

[1]University of Calgary, Canada; [2]Alexandria University, Egypt; [3]Tanta University, Egypt

A Robust Autonomous Vehicular Navigation System Using RIMU-based INS/GNSS Integrated Scheme

Kai-Wei Chiang, CHI-HSIN HUANG, Yu-Ting Chiu, Ting-Chun Wu, Syun Tsai, Kuan-Ying Lin

National Cheng Kung University, Taiwan

6-Satellite Remote Sensing 6: Remote Sensing for Vegetation and Forest Monitoring 6

Time: Monday, 04/Sept/2023: 3:30pm - 5:00pm · *Location:* BLUENILE

PHENOLOGICAL ANALYSIS OF THE WESTERN HIMALAYAN FOREST USING TEMPORAL REMOTE SENSING DATA

Prashant Singh, Sanjay Kumar Ghosh, Siddhartha Khare
IIT Roorkee, India

Deforestation detection in the amazon with sentinel-1 sar image time series

Kaan Karaman, Vivien Sainte Fare Garnot, Jan Dirk Wegner
University of Zurich, Switzerland

Mapping waterbodies and wetlands in Digital Earth Africa platform: tools and applications

Maleho Mpho Sadiki
Digital Earth Africa, South Africa

7-Satellite Remote Sensing 7: High-resolution Satellite Image Processing 7

Time: Monday, 04/Sept/2023: 3:30pm - 5:00pm · *Location:* CLEOPATRA

HIGH-RESOLUTION SATELLITE TRIFOCAL TENSOR SOLUTION

shuang yang, Hongbo Pan
a School of Geosciences and Info-Physics, Central South University, China, People's Republic of

Continuous 3D-Label Semi-Global Matching for Satellite Stereo

Sonali Patil[1], Qi Guo[2]
[1]German Aerospace Center (DLR), Braunschweig, Germany; [2]Purdue University, United States of America

PERFORMANCE ASSESMENT OF OBJECT DETECTION FROM MULTI SATELLITES AND AERIAL IMAGES.

Mahmoud abdalla Ahmed[1,2], Naser El sheimy[1], Henry leung[1], Ahmed M. Kamel[2], Adel Moussa[1,3]
[1]university of calgary, Canada; [2]Military technical college; [3]Port Said University

Geometric Evaluation of Gaofen-7 Stereo Data

Pablo d'Angelo, Jiaojiao Tian
German Aerospace Center, Germany

ADP - 2: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 2

Time: Monday, 04/Sept/2023: 3:30pm - 5:00pm · *Location:* hall3

Development of an online portal and metadata catalogue of Earth observation data types, sources and products for human health research in exposomics

Maged N. Kamel Boulos[1], Muralikrishna V. Iyyanki[2], Ashraf Dewan[3], Bosco Bwambale[4], Keumseok Koh[5]

[1]ISPRS WG III/9, United Kingdom; [2]ISPRS WG III/9, India; [3]ISPRS WG III/9, Australia; [4]ISPRS WG III/9, Uganda; [5]ISPRS, China

Enabling Interoperability of Urban Building Energy Data Based on OGC API Standards and CityGML City Models

Thunyathep Santhanavanich[1,2], Rushikesh Padsala[1,3], Maxim Rossknecht[4], Sanam Dabirian[3], Mostafa Saad[3], Ursula Eicker[5], Volker Coors[1]

[1]Stuttgart University of Applied Sciences (HFT Stuttgart), Stuttgart, Germany, Germany; [2]Faculty of Environmental Sciences Technical University Dresden, Dresden, Germany; [3]Department of Building, Civil and Environmental Engineering (BCEE), Concordia University, Montreal, Canada; [4]Fraunhofer Institute for Computer Graphics Research IGD, Darmstadt, Germany; [5]Canada Excellence Research Chair on Smart, Sustainable and Resilient Cities and Communities, Canada

A comparison of pre-processing approaches for remotely sensed time series classification based on functional analysis.

Mattia Balestra[2], Roberto Pierdicca[1], Lorenzo Cesaretti[4], Giacomo Quattrini[2], Adriano Mancini[3], Andrea Galli[2], Eva Savina Malinverni[1], Simona Casavecchia[2], Simone Pesaresi[2]

[1]Università Politecnica delle Marche, Dipartimento di Ingegneria Civile, Edile e dell'Architettura (DICEA); [2]Università Politecnica delle Marche, Dipartimento di Scienze Agrarie, Alimentari ed Ambientali (D3A); [3]Università Politecnica delle Marche, Dipartimento di Ingegneria dell' Infromazione (DII); [4]Consiglio per la Ricerca in agricoltura e l'analisi dell'Economia Agraria (CREA), Centro di ricerca Foreste e Legno

ASSESSING THE EFFECTIVENESS OF INPAINTING TECHNIQUES FOR ENHANCING FEATURE EXTRACTION QUALITY IN REMOTE SENSING IMAGERY

Caio Flávio Martinez Fontoura Júnior, Guilherme Pina Cardim, Eduardo Soares Nascimento, Marilaine Colnago, Wallace Correa de Oliveira Casaca, Erivaldo Antonio da Silva

São Paulo State University - Unesp, Brazil.

1-ISSDQ2023 1: ISSDQ2023 1

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall6

LSTM-MLP Based Uncertainty Modelling Approach for Complex Human Indoor Trajectory

Yue Yu[1], Wenzhong Shi[1], Zhewei Liu[2], Kexin Tang[1], Liang Chen[3], Ruizhi Chen[3]
[1]The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); [2]Texas A&M University; [3]Wuhan University

TEHRAN AIR POLLUTION MODELING USING LONG-SHORT TERM MEMORY ALGORITHM: AN UNCERTAINTY ANALYSIS

Mohamad Reza Ghorbani[1], Mahmoud Reza Delavar[1], Borzoo Nazari[1], Gholam Reza Shiran[2], Saman Ghaffarian[3]
[1]University of Tehran, Iran, Islamic Republic of; [2]University of Isfahan, Iran, Islamic Republic of; [3]University College London, England

A CRITICAL ANALYSIS OF INTERNAL RELIABILITY FOR UNCERTAINTY QUANTIFICATION OF DENSE IMAGE MATCHING IN MULTI-VIEW STEREO

Debao Huang, Rongjun Qin
The Ohio State University, United States of America

MULTI-LEVEL CITY PORTRAIT MODEL WITH MULTI-SOURCE DATA

Feifei Zhuo[1], Changfeng Jing[2], Gaoran Xu[2], Yanli Fu[3]
[1]School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, China, People's Republic of; [2]School of Information Engineering, China University of Geosciences, China, People's Republic of; [3]JD Logistics, Beijing, China

1-Navigation, Guidance 1: Navigation, Guidance and Control of Autonomous Vehicles 1

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall5

High-Resolution Mapping of Forested Hills Using Real-Time UAV Terrain Following

CHANDRA HAS SINGH, KAMAL JAIN, VISHAL MISHRA
Indian Institute of Technology Roorkee, India

Lidar SLAM-Aided Vehicular Navigation System for GNSS-Denied Environments

Nader Abdelaziz[1], Ahmed El-Rabbany[2]
[1]Toronto Metropolitan University, Canada; [2]Toronto Metropolitan University, Canada

HYBRID DEEP LEARNING APPROACH FOR VEHICLE'S RELATIVE ATTITUDE ESTIMATION USING MONOCULAR CAMERA

Mehad Haggag[1,2], Adel Moussa[1,3], Naser El-Sheimy[1]
[1]Department of Geomatics Engineering, University of Calgary, Canada.; [2]Department of Geomatics Engineering, Benha University, Egypt.; [3]Department of Electrical Engineering, Port-Said University, Egypt.

INVESTIGATING THE COMPLEMENTARY USE OF RADAR AND LIDAR FOR POSITIONING APPLICATIONS

Eslam Mounier[1,2], Emma Dawson[1], Mohamed Elhabiby[3], Michael Korenberg[1], Aboelmagd Noureldin[1,4]
[1]Queen's University, ON, Canada; [2]Ain Shams University, Cairo, Egypt; [3]Micro Engineering Tech Inc., Alberta, Canada; [4]Royal Military College, ON, Canada

DATASET AND IMPROVED YOLOV7 FOR TEXT-BASED TRAFFIC SIGN DETECTION

Xiuyuan Chi, He Huang, Junxing Yang, Junxian Zhao, Xin Zhang
Beijing University of Civil Engineering and Architecture

1-Smart Forests 1: Deep Learning for large-scale forest monitoring 1

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall4

UPDATING ABOVEGROUND BIOMASS AT A PAN-EUROPEAN SCALE THROUGH SATELLITE DATA AND ARTIFICIAL INTELLIGENCE

Francesco Pirotti[1,2], José Ramón González-Olabarria[3,4], Erico Kutchartt[1]

[1]TESAF Department, University of Padova, Italy; [2]CIRGEO Interdepartmental Research Center in Geomatics, University of Padova; [3]Forest Science and Technology Centre of Catalonia (CTFC). Carretera de Sant Llorenç de Morunys, Km 2, 25280 Solsona (Spain); [4]Joint Research Unit CTFC – AGROTECNIO. Carretera de Sant Llorenç de Morunys, Km 2, 25280 Solsona (Spain)

ENHANCING THE QUALITY OF CNN-BASED BURNT AREA DETECTION IN SATELLITE IMAGERY THROUGH DATA AUGMENTATION

Viktoriia Hnatushenko[1,3], Volodymyr Hnatushenko[2], Dmytro Soldatenko[1], Christian Heipke[3]

[1]Ukrainian State University of Science and Technologies, Germany; [2]Dnipro University of Technology, Dnipro, Ukraine; [3]Leibniz Universität Hannover, Hannover, Germany

Fusing Sentinel-1 and Sentinel-2 images with transformer-based network for deforestation detection in the Brazilian Amazon under diverse cloud conditions

Felipe Ferrari[1], Matheus Pinheiro Ferreira[2], Raul Queiroz Feitosa[1]

[1]Pontifical Catholic University of Rio de Janeiro, Brazil; [2]Military Institute of Engineering, Brazil

UNSUPERVISED STATISTICAL APPROACH FOR TREE-LEVEL SEPARATION OF FOLIAGE AND NON-LEAF COMPONENTS FROM POINT CLOUDS

Anna Shcherbacheva[1], Mariana B. Campos[1], Xinlian Liang[1,2], Eetu Puttonen[1], Yunsheng Wang[1]

[1]Finnish Geospatial Research Institute (FGI) - National Land Survey of Finland (NLS), Finland; [2]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China

1-Youth Presentation Forum: Youth Presentation Forum

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall7

OPTICAL AND SAR IMAGE FUSION BASED ON VISUAL SALIENCY FEATURES

Jiacheng Zhang[1], Xiaoyue Ren[1], Jinjin Li[1], Lei Wang[2], Yuanxin Ye[1]

[1]Faculty of Geosciences and Environmental Engineering, Southwest Jiaotong University, Chengdu 611756, China; [2]Third Engineering Surveying and Mapping Academy in Sichuan Province, Chengdu 610500, China

DEVELOPMENT OF GOOGLE EARTH ENGINE APPLICATION FOR SPATIOTEMPORAL ANALYSIS OF WATER TURBIDITY IN BATAN ESTUARY, AKLAN THROUGH THE HARMONIZATION OF LANDSAT AND SENTINEL-2 IMAGERY

Cristan Dave Zablan[1], Ariel Conferido Blanco[1,2,3], Yasmin H. Primavera-Tirol[4], Kazuo Nadaoka[5]

[1]Department of Geodetic Engineering, University of the Philippines Diliman; [2]Training Center for Applied Geodesy and Photogrammetry, University of the Philippines; [3]Philippine Space Agency; [4]College of Fisheries and Marine Sciences, Aklan State University; [5]Department of Transdisciplinary Science and Engineering, Tokyo Institute of Technology

COMBINED CLOSE RANGE PHOTOGRAMMETRY AND REMOTE SENSING FOR PHOTOVOLTAIC PARKS EFFICIENCY ANALYSIS

Adrian Stefanov Yordanov, Dobromir Ganchev Filipov, Silvia Lyubenova Filipova, Tsvetelina Plamenova Atanasova

UACEG, Bulgaria

PRINCIPAL COMPONENTS VERSUS AUTOENCODERS FOR DIMENSIONALITY REDUCTION: A CASE OF SUPER-RESOLVED OUTPUTS FROM PRISMA HYPERSPECTRAL MISSION DATA

Kavach Mishra[1], Benoit Vozel[2], Rahul Dev Garg[1]

[1]Geomatics Engineering Group, Civil Engineering Department, Indian Institute of Technology Roorkee, Roorkee, India; [2]MULTIP Research Group, Department IMAGE, Institut d'Electronique et des Technologies du numéRique (IETR) UMR CNRS 6164, Université de Rennes, Lannion, France

3-UAV-based mapping 3: Data Acquisition, Georeferencing, and Mapping (3)

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall2

Assessing the accuracy of UAV aerial surveys

AHMED ELAKSHER[1], David Sanjenis[2], Jose Velasco[2], Mark Lao[2]

[1]New Mexico State University, Las Cruces, New Mexico, United States of America; [2]Cal Poly Pomona University, Pomona, California

SEMANTIC SEGMENTATION OF UAV LIDAR DATA FOR TREE PLANTATIONS

Jinyuan Shao, Ayman Habib, Songlin Fei

Purdue University, United States of America

4-SARcon 2023 4: SARcon 2023 4

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* MORGANA

URBAN 3D RECONSTRUCTION OF VHR SAR IMAGES USING ITERATIVE OPTIMIZATION ALGORITHM AND LAYOVER FIXED-ORDER MODEL

Chonghui Zhang, Lei Pang, DaYuan Liu

Beijing University Of Civil Engineering And Architecture, China, People's Republic of

Lu Tan-1 SAR Satellite Characteristics and Productions in the Phase of In-Orbit Test

Tao Li[1], Xinming Tang[1], Xiaoming Gao[1], Xiang Zhang[1], Xuefei Zhang[1], Jing Lu[1], Tao Chen[2], Xiaohong Qiao[3], Jing Han[4], Zheng Li[5]

[1]Land Satellite Remote Sensing Application Center, MNR, China; [2]Surveying and mapping data archives of Guizhou Province; [3]Yunan Remote Sensing Center; [4]Shaanxi Satellite Application Center for Natural Resources; [5]Geological Technical Information Center of Yunnan Province

PDCA-FORMER: PRIOR-DIAGONAL CROSS ATTENTION-GUIDED TRANSFORMER FOR FLOOD MAPPING FROM SAR IMAGERY: A CASE IN KHARTOUM

Tamer Saleh[1,2], Mohamed Zahran[2], Shimaa Holail[1], Gui-Song Xia[3]

[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, China; [2]Geomatics Engineering Department, Faculty of Engineering at Shoubra, Benha University, Egypt; [3]National Engineering Research Center for Multi-media Software, School of Computer Science and Institute of Artificial Intelligence, Wuhan University, China

Ship Detection in COSMO-SkyMed SAR Imagery Using a Novel CNN-based Detector: A Case Study from the Suez Canal

Tamer Saleh[1,2], Shimaa Holail[1], Xingxing Weng[3], Xiongwu Xiao[1], Gui-Song Xia[1,3,4]

[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, China; [2]Geomatics Engineering Department, Faculty of Engineering at Shoubra, Benha University, Egypt; [3]School of Computer Science, Wuhan University, China; [4]National Engineering Research Center for Multi-media Software, School of Computer Science and Institute of Artificial Intelligence, Wuhan University

5-Geospatial Data Analytics 5: Land and Environmental Management 5

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall1

INFLUENCE OF DIFFERENT WIND ANGLES ON PEDESTRIAN WIND COMFORT IN 3D SPACE

Nurfairunnajiha Ridzuan, Uznir Ujang, Tan Liat Choon, Suhaibah Azri

3D GIS Research Lab, Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia

CONTENT PLANNING AND STRUCTURE DESIGN OF GLOBAL LAND COVER KNOWLEDGE ATLAS

Xiuli ZHU[1,2], Lijun CHEN[1], Yong ZHAO[1], Wanzeng LIU[1,2], Yunlu PENG[1], Ran LI[1,2], Xi ZHAI[1,2], Hong XU[3]

[1]National Geomatics Center of China, China, People's Republic of; [2]Key Laboratory of Spatio-temporal Information and Intelligent Services, MNR; [3]High-Tech Research & Development Center of the Ministry of Science & Technology, P.R.C.

Modelling and mapping of differentiation in soil material redistribution in the arable areas

Lubov Trofimetz[1], Evgeny Panidi[2]

[1]Orel State University, Orel, Russia; [2]Saint Petersburg State University, Russian Federation

8-Satellite Remote Sensing 8: Hyperspectral Image Processing and Uncertainty Modeling 8

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* BLUENILE

UNCERTAINTY MODELING AND ANALYSIS OF SPACEBORNE INFRARED HYPERSPECTRAL IMAGES OVER RUGGED LAND SURFACE

Xianfei Qiu[1], Zhen Li[1], Shaocong Liu[1], Tinghao Liu[1], Guorui Jia[2]

[1]Institute of Remote Sensing Satellite, China Academy of Space Technology, Beijing 100094, China; [2]School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing 100191, China

ESTIMATION OF MANGROVE FRACTIONAL COVER FROM MULTISPECTRAL AND HYPERSPECTRAL DATA USING MIXTURE TUNED MATCHED FILTERING

Ariel Conferido Blanco[1,2,3], Cristian Perez[1,2]

[1]Philippine Space Agency - Space Information Infrastructure Bureau; [2]Department of Geodetic Engineering, University of the Philippines Diliman; [3]Training Center for Applied Geodesy and Photogrammetry, University of the Philippines Diliman

Machine learning-based all-sky 1 km MODIS land surface temperature reconstruction considering cloud effects

Dongjin Cho[1], Dukwon Bae[1], Cheolhee Yoo[2], Jungho Im[1], Yeonsu Lee[1], Siwoo Lee[1], Seonyoung Park[3]

[1]Department of Urban Environment Engineering, Ulsan National Institute of Science and Technology, Ulsan, Republic of Korea; [2]Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong; [3]Department of Applied Artificial Intelligence, Seoul National University of Science and Technology, Seoul, Republic of Korea

A Method of Reordering Lossless Compression of Hyperspectral Images

Xiaoming Gao[1], Lei Wang[2], Tao Li[1], Junfeng Xie[1]

[1]Land Satellite Remote Sensing Application Center, Ministry of Natural Resources of the People's Republic of China; [2]School of Geomatics, Liaoning Technical University, Liaoning

ADP - 3: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 3

Time: Tuesday, 05/Sept/2023: 8:30am - 10:00am · *Location:* hall3

Semantic knowledge embedding deep learning network for land cover classification

jiage chen[1], xiao du[1], junhui zhang[1], yongtao wan[1], wenzhi zhao[2]
[1]National Geomatics Center of China, China, People's Republic of; [2]Beijing Normal University

Study on the historical changes in the central axis of Beijing based on modern technology

Zhiheng He[1], Keliang Ding[1], Xuewei Zhang[1], Xi Zhang[1], Pu Zhang[2]
[1]School of Geomatics and Urban Spatial Information, Beijing University of Civil Engineering and Architecture, Beijing, 102616; [2]Beijing Institute of Geo-Engineering, Beijing,100048

A Shallow Neural Network Model for Urban Land Cover Classification Using VHR Satellite Image Features

Mohamed Fawzy[1,3], György Szabó[2], Barsi Arpad[1]
[1]Department of Photogrammetry and Geoinformatics, Faculty of Civil Engineering, Budapest University of Technology and Economics, 3 Műegyetem rkp., K Building First Floor 31., H-1111 Budapest, Hungary.; [2]Institute of Mathematics and Informatics, University of Nyíregyháza, Sóstói út 31/b A ép.112, H-4400, Nyíregyháza, Hungary.; [3]Civil Eng. Dept., Faculty of Engineering, South Valley University, Qena, Egypt.

IMPROVING THE ACCURACY OF AN OIL SPILL DETECTION AND CLASSIFICATION MODEL WITH FAKE DATASETS

NGOC AN BUI, YOUNGON OH, IMPYEONG LEE
University of Seoul, Korea, Republic of (South Korea)

2-Navigation, Guidance 2: Navigation, Guidance and Control of Autonomous Vehicles 2

Time: Tuesday, 05/Sept/2023: 10:30am - 12:00pm · *Location:* hall5

LIDAR-INERTIAL NAVIGATION BASED ON MAP AIDED DISTANCE CONSTRAINT AND FACTOR GRAPH OPTIMIZATION

Mengchi Ai[1], Mohamed Elhabiby[2], Ilyar Asl Sabbaghian Hokmabadi[1], Naser El-Sheimy[1]
[1]University of Calgary, Canada; [2]Micro Engineering Tech Inc.

Enhancing Urban Vehicular Navigation: Improving Classical Topological Map Matching Through Ray-Casting

Hany Ragab[1], Sidney Givigi[2], Aboelmagd Noureldin[1,3]
[1]Dept. of Electrical and Computer Engineering, Queen's University, Kingston, ON, Canada, K7L3N9; [2]School of Computing, Queen's University, Kingston, ON, Canada, K7L2N8; [3]Dept. of Electrical and Computer Engineering, Royal Military College of Canada, Kingston, ON, Canada, K7K7B4

AUTONOMOUS VEHICLES LOCALISATION BASED ON SEMANTIC MAP MATCHING METHOD

He Huang, Dongdong Yu, Junxing Yang, Xun Liu
Beijing University of Civil Engineering and Architecture, China, People's Republic of

ASC-SLAM: Activity Semantics Based Cooperative SLAM System

Baoding Zhou, Chunyu Li, Jiasong Zhu, Qingquan Li
Shenzhen University, China, People's Republic of

ENHANCED HYBRID PATH PLANNING ALGORITHM BASED ON APF AND A-STAR

Ahmed S. Abdel-Rahman[1], Shady Zahran[2], Basem E. Elnaghi[1], S.F. Nafea[1]
[1]Suez Canal University, Egypt; [2]AAST, Egypt

2-Smart Forests 2: Systems and methods at different scales 2

Time: Tuesday, 05/Sept/2023: 10:30am - 12:00pm · *Location:* hall4

DETECTION OF SILVER BIRCH GROWTH DYNAMICS AND TIMING WITH DENSE SPATIO-TEMPORAL LIDAR TIME-SERIES

Mariana Campos, Venla Valve, Anna Shcherbacheva, Yunsheng Wang, Rami Echriti, Eetu Puttonen
Finnish Geospatial Research Institute, National Land Survey of Finland

ESTIMATING DRY MATTER AND TOTAL SOLUBLE CONTENT IN APPLES USING A COMMERCIAL PORTABLE HYPERSPECTRAL IMAGING SYSTEM

Tomislav Medic
ETH Zurich, Switzerland

AUTOMATIC VIDEO DETECTION FOR GOLDEN MONKEYS IN SHENNONGJIA NATIONAL PARK, CHINA

Haigang Sui[1], Tianyi Wei[1], Jindi Wang[1], Li Hua[2], Na Xiong[1]
[1]State Key Laboratory of Information Engineering in Surveying, Wuhan University, Wuhan, China; [2]College of Resources and Environment, Huazhong Agricultural University, Wuhan, China

9-Satellite Remote Sensing 9: Land-Use Land-Cover Classification

Time: Tuesday, 05/Sept/2023: 10:30am - 12:00pm · *Location:* BLUENILE

GIS INTEGRATION OF LAND COVER WITH NIGHT-TIME LIGHTS FOR SPATIOTEMPORAL EVALUATION OF URBAN EXPANSION

Srashti Singh[1], Kamal Jain[1], Anugya Shukla[2]

[1]Indian Institute of Technology Roorkee, India; [2]Tata Institute of Social Sciences, Mumbai, India.

THE EFFECTS OF LAND COVER CHANGES ON LAND SURFACE TEMPERATURES

Nagihan Aslan[1], Dilek Koç San[2]

[1]Akdeniz University, Faculty of Science, Dept. of Space Sciences and Technologies, Antalya, Turkiye; [2]Akdeniz University, Faculty of Architecture, Dept. of Urban and Regional Planning, Antalya, Turkiye

Land Use and Land Cover simulation based on integration of artificial neural networks with cellular automata-Markov chain models applied to El-Fayoum Governorate

Islam Atef[1], Wael Ahmed[2], Ramadan H. Abdel-Maguid[1], Moustafa Baraka[3], Walid DARWISH[2], Ahmad M. Senousi[2]

[1]Civil Engineering Department, Faculty of Engineering, Fayoum University, Fayoum 63514, Egypt; [2]Public Works Department, Faculty of Engineering, Cairo University, Giza 12613, Egypt; [3]Civil Engineering Program, German University in Cairo, Cairo, Egypt

ADP - 4: Advanced Data Preparation & Data Management for Geospatial & Remote sensing 4

Time: Tuesday, 05/Sept/2023: 10:30am - 12:00pm · *Location:* hall3

QGIS AND OPEN DATA CUBE APPLICATIONS FOR LOCAL CLIMATE ZONES ANALYSIS LEVERAGING PRISMA HYPERSPECTRAL SATELLITE DATA

Daniele Oxoli[1], Jesus Rodrigo Cedeno Jimenez[1], Emanuele Capizzi[1], Maria Antonia Brovelli[1], Mario Siciliani de Cumis[2], Patrizia Sacco[2], Deodato Tapete[3]

[1]Department of Civil and Environmental Engineering, Politecnico di Milano, Milano Leonardo. Milan, Italy; [2]Italian Space Agency (ASI), Matera, Italy; [3]Italian Space Agency (ASI), Roma, Italy

DEVELOPMENT OF QGIS PLUGIN FOR URBAN ENERGY SIMULATION USING 3D CITY MODEL AT THE CITY DISTRICT LEVEL

Mohammad Hosseingholizadeh[1,2], Volker Coors[2], Hamidreza Ostadabbas[1], Frank Friesecke[1]

[1]die STEG Stadtentwicklung GmbH, Germany; [2]Stuttgart University of Applied Sciences

ON THE QUALITY CONTROL OF MONITORING RESULTS OF URBAN SPECIAL GEOGRAPHY AND NATIONAL CONDITIONS

Chunxi CHEN, Xiaodi WANG, Fujun LUO

National Quality Inspection and Testing Center For Surveying and Mapping Products

Study on the historical changes in the central axis of Beijing based on modern technology

Zhiheng He[1], Keliang Ding[1], Xuewei Zhang[1], Xi Zhang[1], Pu Zhang[2]

[1]School of Geomatics and Urban Spatial Information, Beijing University of Civil Engineering and Architecture, Beijing, 102616; [2]Beijing Institute of Geo-Engineering, Beijing,100048

Poster Session - 1: Poster Session - 1

Time: Tuesday, 05/Sept/2023: 3:30pm - 5:00pm · *Location:* Poster Hall

Study on Automatic Registration Method of Source Data for CIM Building Model Construction

Shuqing Ran
Beijing University Of Civil Engineering And Architecture, China, People's Republic of

I3S - an Open 3D Streaming OGC Community Standard powering Digital Twins

Tamrat Belayneh
Esri, United States of America

High-Resolution Mapping of Forested Hills Using Real-Time UAV Terrain Following

CHANDRA HAS SINGH, KAMAL JAIN, VISHAL MISHRA
Indian Institute of Technology Roorkee, India

Exploration of the Development of Satellite Navigation System

Ming Li[1], Chen Liu[2], Chenyang Wang[1], Wei Wang[1]
[1]Surveying and Mapping Development Research Centre, Ministry of Natural Resources of PRC; [2]Beijing Satellite Navigation Centre

MATCHING FILTER-BASED VSLAM OPTIMIZATION IN INDOOR ENVIRONMENTS

Shuangfeng Wei, Shangxing Wang
Beijing University of Civil Engineering and Architecture, China, People's Republic of

Indoor Positioning and Navigation Based on QR Code Map

Rongkai Liu[1,2], Dejin Zhang[1,2]
[1]School of Architecture and Urban Planning, Research Institute for Smart Cities, Shenzhen University, Shenzhen, P.R. China; [2]Guandong Key Laboratory of Urban Informatics, Shenzhen University, Shenzhen, PR China

Modelling Evacuation Strategies under Dynamic Conditions Due to Obstacle Locations Based on a Semantic 3D Building Model

SHREYA .[1], RAJAN K.S[2]
[1]The International Institute of Information Technology - Hyderabad, India; [2]The International Institute of Information Technology - Hyderabad, India

Combining BIM and OpenStreetMap to support indoor-outdoor seamless navigation

JingYu Zhu, Zhiyong Wang
School of Civil Engineering and Transportation, South China University of Technology, Guangzhou, China

Spatial Modeling for Integrated Indoor-Outdoor Navigation

Ahebieerde Ahebieerde, Zhiyong Wang
School of Civil Engineering and Transportation, South China University of Technology, GuangZhou, China

LIDSOR: A FILTER FOR REMOVING RAIN AND SNOW NOISE POINTS FROM LIDAR POINT CLOUDS IN RAINY AND SNOWY WEATHER

He Huang, Xinyuan Yan, Junxing Yang, Yuming Cao, Xin Zhang
Beijing University of Civil Engineering and Architecture, China, People's Republic of

Research on transmission channel change detection based on multi-temporal point cloud data

Wei Hu[1], Guozhu Yang[1], Ning Liu[1], Fei Liu[2], Chuntian Ma[1], Maojie Tian[1], Chunting Hao[2]
[1]State Grid Electric Power Space Technology Co., Ltd., 102200, Beijing, China; [2]Beijing University of Civil Engineering and Architecture, School of Geomatics and Urban Informatics, 102616, Beijing, China

INVESTIGATION OF THE RADIOMETRIC BEHAVIOUR OF A LOW-COST AUTOMOTIVE LIDAR SENSOR

Zian Zhang, Zichao Zeng, Jan Boehm
University College London, United Kingdom

HYPERSPECTRAL UAS IMAGERY FOR GRASS SWARDS BIOMASS AND NITROGEN ESTIMATION

Raquel Alves Oliveira[1], Roope Näsi[1], Panu Korhonen[2], Arja Mustonen[2], Oiva Niemelainen[2], Niko Koivumäki[1], Teemu Hakala[1], Juha Suomalainen[1], Jere Kaivosoja[2], Eija Honkavaara[1]

[1]Finnish Geospatial Research Institute National Land Survey of Finland, Finland; [2]Natural Resources Institute Finland (Luke), Finland

Developing a Multimodal Database of Digital Archives for Cultural Heritage Sites – A Case of Digitally Preserving the Borobudur Temple of Indonesia

Biligsaikhan Batjargal[1], Jiao Pan[2], Shenyu Ji[3], Liang Li[4], Hiroshi Yamaguchi[5], Kyoko Hasegawa[6], Takahiro Nishibayashi[7], Akira Maeda[8], Upik Sarjiati[9], Fadjar I. Thufail[10], Brahmantara Brahmantara[11], Satoshi Tanaka[12]

[1]Research Organization of Science and Technology, Ritsumeikan University, Japan; [2]School of Intelligence Science and Technology, University of Science and Technology Beijing, China; [3]Research Organization of Science and Technology, Ritsumeikan University, Japan; [4]College of Information Science and Engineering, Ritsumeikan University, Japan; [5]Nara National Research Institute for Cultural Properties, Japan; [6]Research Organization of Science and Technology, Ritsumeikan University, Japan; [7]College of Letters, Ritsumeikan University, Japan; [8]College of Information Science and Engineering, Ritsumeikan University, Japan; [9]Research Center for Area Studies, National Research and Innovation Agency, Indonesia; [10]Research Center for Area Studies, National Research and Innovation Agency, Indonesia; [11]Borobudur Conservation Office, Indonesia; [12]College of Information Science and Engineering, Ritsumeikan University, Japan

Operation and verification procedure for HD Maps updating

Sean Lin, Kai-Wei Chiang, Chi-Kuei Wang, Chung-Yen Kuo, Pei-Ling Li, Chi-Ming Lee

National Cheng Kung University, Taiwan

Comparative Analysis of Morphological (MCSS) and Learning-based (SPG) Strategies for Detecting Signage Occlusions along Transportation Corridors

Nicole Pascucci[1], Sang Yeop Shin[2], Jidong Liu[2], Mona Hodaei[2], Donatella Dominici[1], Ayman Habib[2]

[1]University of L'Aquila, Italy; [2]Lyles School of Civil Engineering, Purdue University

COST-EFFICIENT METHODS OF DERIVING SLOPE INFORMATION FOR ROAD SEGMENTS IN DRIVER-ASSISTANCE APPLICATIONS

Viktor Gyozo Horvath[1,2], Arpad Barsi[1]

[1]Dept. Photogrammetry and Geoinformatics, Budapest University of Technology and Economics, Hungary; [2]NNG LLC

ACTIVE POLYGON-BASED BUILDING OUTLINE EXTRACTION FROM HIGH-RESOLUTION AERIAL IMAGES

Weihang Ran, Wei Yuan, Zipei Fan, Xiaodan Shi, Ryosuke Shibasaki

The University of Tokyo, Japan

MODEL-BASED MULTI-UAV PATH PLANNING FOR HIGH-QUALITY 3D RECONSTRUCTION OF BUILDINGS

Shuhang Zhang[1], Wuming Zhang[1], Chun Liu[2]

[1]Sun Yat-sen University, China, People's Republic of; [2]Tongji University, China, People's Republic of

Urban Building Shadow Removal by an HSV-ShadowGAN Network on Unpaired UAV Datasets.

Renzhong Guo[1,2], Zlrui Llu[1], Weixi Wang[2], Linfu Xie[2]

[1]School of Resource and Environmental Sciences, Wuhan University, Wuhan, China; [2]School of Architecture and Urban Planning, Shenzhen University, Shenzhen, China

Using UAV-derived Plant Height as an Estimator for Biomass and N-uptake

Georg Bareth[1], Christoph Hütt[1], Alexander Jenal[1], Andreas Bolten[1], Hannah Firl[1], Jan Wolf[1], Hubert Hüging[2]

[1]GIS & RS Group, Institute of Geography, University of Cologne, Germany; [2]INRES, Bonn University, Germany

INTEGRATING UAV LIDAR AND MULTISPECTRAL DATA TO ASSESS WEST AFRICAN TROPICAL FOREST CONDITION AND STRUCTURE

Chima Jude Iheaturu, Vladimir Ruslan Wingate, Felicia Olufunmilayo Akinyemi, Chinwe Ifejika Speranza

University of Bern, Switzerland

OBJECT BASED APPROACH FOR IMAGE FEATURE EXTRACTION FROM UAV DATA

Surendra Kumar Sharma[1], Jayneel Shah[1], Sandeep Maithani[1], Vishal Mishra[2,3]
[1]Urban and Regional Studies Department, Indian Institute of Remote Sensing, Dehradun, India; [2]Indian Institute of Technology Roorkee, Roorkee, India; [3]GFZ German Research Centre for Geosciences, 14473 Potsdam, Germany

DESIGN AND IMPLEMENTATION OF GEOPARK MANAGEMENT SYATEM IN SOUTHWEST CHINA BASED ON GIS

Jianing Li[1], Yuyan Liu[2,4,5], Changfeng Jing[3], Yunlong Feng[1]
[1]Beijing University of Civil Engineering and Architecture, China, People's Republic of; [2]North China Institute of Aerospace Engineering, China, People's Republic of; [3]China University of Geosciences, China, People's Republic of; [4]Aerospace Remote Sensing Information Processing and Application Collaborative Innovation Center of Hebei Province, China, People's Republic of; [5]National Joint Engineering Research Center of Space Remote Sensing Information Application Technology, China, People's Republic of

SELECTING THE BEST FITTING 'GEOSPATIAL ARTIFICIAL INTELLIGENT MODEL' FOR AUTOMATING CHANGE DETECTION AND MAPPING PRACTICES

Hussein Abdulmuttalib
Dubai Municipality, United Arab Emirates

A 3D BUILDING INDOOR-OUTDOOR BENCHMARK FOR SEMANTIC SEGMENTATION

Yuwei Cao, Marco Scaioni
Politecnico di Milano, Italy

LAND COVERAGE ANALYSIS OF PAKISTAN USING SATELLITE IMAGERY

Abdullah Sabir[1], Maryam Jameela[2], Asad Waqar Malik[1]
[1]National University of Sciences & Technology, Pakistan; [2]York University, Canada

Classification of Mobile LiDAR Point Clouds by Supervised Machine Learning: Experiences with Random Forest (RF) and Light Gradient Boosting Machine (LGBM)

BARIS SULEYMANOGLU[1], YALCIN YILMAZ[1], CHARLES TOTH[2]
[1]YILDIZ TECHNICAL UNIVERSITY, TURKEY; [2]THE OHIO STATE UNIVERSITY, USA

Comparison of deep learning architectures for the semantic segmentation of slum areas from satellite images

Yustisi Ardhitasari Lumban-Gaol[1], Aldino Rizaldy[2], Arnadi Murtiyoso[3]
[1]Research Organization for Earth Sciences and Maritime, National Research and Innovation Agency, Indonesia; [2]Helmholtz Institute Freiberg for Resource Technology, Helmholtz-Zentrum Dresden-Rossendorf, Germany; [3]Forest Resources Management Group, Institute of Terrestrial Ecosystems, Department of Environmental Systems Science, ETH Zurich, Switzerland

URBAN GREEN SPACE RESEARCH BASED ON GF-2 AND SENTINEL-2 PANCHROMATIC MULTISPECTRAL IMAGES

BuYun Kang
Beijing University of Civil Engineering and Architecture, China, People's Republic of

SuperDove-modelled bathymetry using neural networks along a turbidity gradient: Bréhat, Saint-Barthélémy and Teti'aroa islands

Antoine Collin[1], Pirta Palola[2], Dorothee James[1], Yves Pastol[3], Coralie Monpert[3], Sophie Loyer[3], Benoit Stoll[4], Eric Feunteun[1], Lisa Wedding[2]
[1]EPHE-PSL University, France; [2]University of Oxford, UK; [3]Shom, France; [4]University of French Polynesia, French Polynesia

Oil spill monitoring using satellite imagery in the Sharm El-Maya region of Sharm El-Sheikh, Egypt.

Mona Morsy[1,2,3]
[1]Gottfried Wilhelm Leibniz Universität Hannover, Institut für Photogrammetrie und GeoInformation, Nienburger Straße 1, 30167 Hannover; [2]Department Monitoring and Exploration Technologies, Helmholtz Centre for Environmental Research GmbH-UFZ, Permoserstraße 15, 04318 Leipzig, Germany; [3]Geology Department, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt

HIGH RESOLUTION DEM GENERATION FOR THE LUNAR SOUTH POLE BASED ON THE FUSION OF STEREO PHOTOGRAMMETRY AND STEREOPHOTOCLINOMETRY

Xun Geng
Henan University, China, People's Republic of

A CORRELATION ANALYSIS OF LAND SURFACE TEMPERATURE AND EVAPOTRANSPIRATION IN AN URBAN SETTING

Srashti Singh, Sunni Kanta Prasad Kushwaha, Kamal Jain
Indian Institute of Technology Roorkee

Research on Cooperation Strategy based on Satellite Remote Sensing Data Service and Technology Application between China and ASEAN

Lina Dong[1], Shanshan Lyu[1], Lingli Wang[2], Xinyuan Gao[1]
[1]Land Satellite Remote Sensing Application Center, MNR, China, People's Republic of; [2]Beijing SatImage Information Technology CO.,Ltd Beijing, China

Comparison of Extraction Accuracy of Sugarcane from Different Resolution Satellite Images Using Deeplab V3+ Mode

Xinyuan Gao, Chen Chen, Yuhang Gan, Yu Liu
Land Satellite Remote Sensing Application Center. MNR, China, People's Republic of

EXEMPLAR-BASED INPAINTING TECHNIQUES FOR THE REMOVAL OF EXCESSIVE SEGMENTATION IN STREETS FEATURES PARTIALLY DETECED FROM HIGH SPATIAL RESOLUTION ORBITAL IMAGES

Allan Alves Lopes Ferreira[1], Eduardo Soares Nascimento[1], Thamires Gil Godoy[1], Pedro Miguel Berardo Duarte Pina[2], Erivaldo Antonio da Silva[1]
[1]São Paulo State University, Brazil; [2]University of Coimbra, Portugal

M-AFDE-Net: Novel Deep Learning-based Building Change Detection of Freshly Built Locales from Satellite Imagery in the Nile Valley, Egypt

Shimaa Holail[1], Tamer Saleh[1,2], Xiongwu Xiao[1], Zhenfeng Shao[1], Haigang Sui[1], Deren Li[1]
[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China; [2]Geomatics Engineering Department, Faculty of Engineering at Shoubra, Benha University, Cairo, Egypt

QUALITY INSPECTION OF REMOTE SENSING FARMLAND RESOURCE MONITORING DATA ACHIEVEMENTS

Wenjuan Mao, Haitao ZHAO, Wenli Han, Hongjing Tu, Wenchao Gao
National Quality Inspection and Testing Center for Survey and Mapping Products, China, People's Republic of

Consistency checking method of surface coverage data results

Hai Li, Wenchao Gao, Chunxi Chen, Su Yin, Wenjuan Mao, Qingqing Yan, Mingying Wan, Hongjing Tu
National Quality Inspection and Testing Center for Surveying and Mapping Products, Beijing 100830, China

UAV-DRIVEN REMOTE BATHYMETRY OF TUFA LAKES IN SICHUAN, CHINA

Jinchen He[1], Wei Feng[1], Shuhang Zhang[1], Jiayuan Lin[2]
[1]School of Geospatial Engineering and Science, Sun Yat-sen University, Zhuhai 519082, China; [2]Chongqing Jinfo Mountain Karst Ecosystem National Observation and Research Station, School of Geographical Sciences, Southwest University, Chongqing 400715, China

Virtual Reality (VR) Assisted Geomatics lab Development

Amr Abd-Elrahman, Charlotte Atwill, Deb Barry, Ali Gonzalez, Karol Hernandez, Zyad Abd-Elrahman
University of Florida, United States of America

E-TRAINEE: OPEN E-LEARNING COURSE ON TIME SERIES ANALYSIS IN REMOTE SENSING

Markéta Potůčková[1], Jana Albrechtová[1], Katharina Anders[2], Lucie Červená[1], Jakub Dvořák[1], Krzysztof Gryguc[3], Bernhard Höfle[2], Zuzana Lhotáková[1], Adrinana Marcinkowska-Ochtyra[3], Andreas Mayr[4], Eva Neuwirthová[1], Adrian Ochytra[3], Martin Rutzinger[4], Adéla Šedová[1], Alex Šrollerů[1], Lucie Kupková[1]
[1]Charles University Prague, Czech Republic; [2]Heidelberg University, Institute of Geography, 3DGeo Research Group, Germany; [3]University of Warsaw, Department of Geoinformatics, Cartography and Remote Sensing, Poland; [4]University of Innsbruck, Institute of Geography, Remote Sensing & Topographic LiDAR Research Group, Austria

The Basic Problems and Countermeasures of Map Inspection

Yunlu Peng[1,2,3], Wanzeng Liu[1,2,3], Ran Li[1,2,3], Xiuli Zhu[1,2,3], Ye Zhang[1,2,3], Tingting Zhao[1,2,3], Xi Zhai[1,2,3], Xinpeng Wang[1,2,3], Xinli Di[1,2], Linlin Che[1]

[1]National Geomatics Center of China, China, People's Republic of; [2]Key Laboratory of Spatio-temporal Information and Intelligent Services (LSIIS), MNR; [3]Hubei Luojia Laboratory

MASK IMPORTANCE IN BURNED AREA MAPPING BASED ON REMOTE SENSING, GIS AND OPEN-SOURCE PRODUCTS

Elia Dimova Stoyanova, Silviya Lyubenova Katsarska-Filipova

University of Architecture, Civil Engineering and Geodesy (UACEG), Faculty of Geodesy, Dept. of Photogrammetry and Cartography, Sofia, Bulgaria

WAYFINDING AND AUGMENTED REALITY: APP FOR OUTDOOR EXPERIMENTS IN THE PERUGIA STATION AREA

Fabio Bianconi, Marco Filippucci, Filippo Cornacchini, Chiara Mommi

University of Perugia, Italy

HERITAGE DECAY IN HBIM MODELS

CECILIA Bolognesi, Asiia Garipova, Maria Kuznetsova

Politecnico of Milano, Italy

PHOTOGRAMMETRY IN ARCHITECTURAL EDUCATION: DEPLOYING AERIAL AND TERRESTRIAL MEANS

Stamatis Chatzistamatis, Christina Kiourti, Aristea - Evangelia Koukounouri, Spyridoula Paxinou, Chrysi-Lida Skordili, Charalampos Louizidis, Iason Athanasiadis, Sotirios Kotsopoulos

National Technical University of Athens, Greece

Cultural Heritage Visualization and Virtual Restoration 3D Photogrammetry and 3D Scanning for Slate houses of Old Paiwan Indigeneous Settlements, Taiwan

April Hueimin Lu

National Pingtung University of Science and Technology/Old Architecture Rescue Center, Taiwan

RESEARCH PROGRESS IN THE SPLICING AND RESTORATION OF ARTIFACT FRAGMENTS BASED ON POINT CLOUD

Jianghong Zhao[1,2,3,4,5], Lisha Yin[1,3], Jia Yang[1,3], Xinnan Hua[1,3], Ziling Liu[1,3], Xin Wang[1,3]

[1]Beijing University of Civil Engineering and Architecture, School of Geomatics and Urban Spatial Informatics, Beijing China, 102616; [2]Ministry of Natural Resources, Key Laboratory for Urban Spatial Information, Beijing China, 102616; [3]Beijing Key Laboratory for Architectural Heritage Fine Reconstruction & Health Monitoring, Beijing China,102616; [4]Wuhan University, State Key Laboratory Of Information Engineering In Surveying, Mapping And Remote Sensing, Wuhan China, 430072; [5]Wuhan University, Key Laboratory of Digital Cartography and Land Information Application, Wuhan China, 430072

PRACTICAL EXPLORATION OF LOW-COST YET HIGHLY ACCURATE 3D MAPPING TECHNIQUES FOR DOCUMENTATION AND CONSERVATION OF AN EGYPTIAN TOMB (THEBAN TOMB 45)

Robert Voûte[1,2], Carina Hoven. van den[3,4], Hessel Prins[2], Bart-Peter Smit[2]

[1]Delft, University of Technology, Department Architectural Engineering & Technology; [2]CGI Nederland BV, Department of Geo-ICT; [3]Leiden University, The Netherlands Institute for the Near East; [4]Leiden University Centre for Digital Humanities

Geo-referencing Multi-resolution Digital Elevation Models Via 3D-to-2D Alignments at CE-5 Landing Site

Yuan Li

Sun Yat-Sen University, China, People's Republic of

Attention-guided cost volume refinement network for satellite stereo image matching

Wonje Jeong, Soon-Yong Park

Kyungpook National University, Korea, Republic of (South Korea)

IMAGE FEATURE EXTRACTION METHODS FOR STRUCTURE DETECTION FROM UNDERWATER IMAGERY

Peter Roberts[1], Petra Helmholz[2], Iain Parnum[2], Aneesh Krishna[1]

[1]School of Electrical Engineering, Computing and Mathematical Sciences, Curtin University, Australia; [2]School of Earth and Planetary Sciences, Curtin University, Australia

The rationality of urban financial network layout based on POI data

Jinbo Liu
Beijing University of Civil Engineering and Architecture, China, People's Republic of China

VISUALIZATION OF ORIGIN–DESTINATION FLOW BUFFERS

Ci Song[1,2]
[1]Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China, People's Republic of; [2]University of Chinese Academy of Sciences, Beijing, China

Zero-shot CLIP-based Object Detection for Risky Environment Identification in Cycling Safety from Panoramic Videos

Meihui Wang, James Haworth, Natchapon Jongwiriyanurak
University College London, United Kingdom

A COMPREHENSIVE MEASUREMENT MODEL FOR JOB-HOUSING BALANCE CONSIDERING SPATIAL INTERACTIONS: A CASE STUDY IN SHANGHAI

Yuting Chen[1], Changfeng Jing[2], Gaoran Xu[2]
[1]Beijing University of Civil Engineering and Architecture, China, People's Republic of; [2]China University of Geosciences, China, People's Republic of

Awareness for the Masses: A Novel Approach in Oil Spill Detection, Identification, and Classification via Multisource Technologies and Artificial Intelligence

Tom Avikasis Cohen
University of Haifa, Israel

Awareness for the Masses: A Novel Approach in Oil Spill Detection, Identification, and Classification via Multisource Technologies and Artificial Intelligence

Tom Avikasis Cohen
University of Haifa, Israel

MULTI-SCALE DYNAMIC PARTITIONING SYSTEM OF URBAN SPATIAL UNITS

Tao Liang[1], Changfeng Jing[2], Feifei Zhuo[1], Yunlong Feng[1], Hongyang Zhang[1], Yanli Fu[3]
[1]Beijing University of Civil Engineering and Architecture, China, People's Republic of; [2]China University of Geosciences, China, People's Republic of; [3]JD Logistics, Beijing, China

Evaluation of a low-cost photogrammetric system for the retrieval of 3D tree architecture

Aleksandra Zaforemska[1], Rachel Gaulton[1], Jon Mills[1], Wen Xiao[2]
[1]Newcastle University, United Kingdom; [2]China University of Geosciences

APPLICATION OF LUCAS-KANADE DENSE FLOW FOR TERRAIN MOTION IN LANDSLIDE MONITORING APPLICATION

Vasil Yordanov[1], Xuan Quang Truong[2], Monica Corti[1], Laura Longoni[1], Maria Antonia Brovelli[1,3]
[1]Department of Civil and Environmental Engineering (DICA) Politecnico di Milano, Piazza Leonardo da Vinci 32, Milan, Italy; [2]Information Technology Faculty, Hanoi University of Natural Resources and Environment, 41A Phu Dien Road, Phu Dien, North-Tu Liem district, Hanoi, Vietnam; [3]Istituto per il Rilevamento Elettromagnetico dell'Ambiente, CNR-IREA, via Bassini 15, 20133 Milano

Awareness for the Masses: A Novel Approach in Oil Spill Detection, Identification, and Classification via Multisource Technologies and Artificial Intelligence

Tom Avikasis Cohen
University of Haifa, Israel

DEVELOPMENT OF AN INDEX FOR ASSESSING FUSARIUM WILT DISEASE IN BANANA PLANTATIONS USING 8-BAND PLANETSCOPE IMAGE

Ariel Conferido Blanco
Philippine Space Agency / University of the Philippines Diliman, Philippines

PHOTOGRAMMETRIC MEASUREMENT OF ROCKFALL KINEMATICS CONSTRAINED BY THE LAW OF FREE FALL

Langping LI[1], Hengxing LAN[1,2,3]
[1]State Key Laboratory of Resources and Environmental Information System, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; [2]School of Geological Engineering and Geomatics, Chang'an University, China; [3]Key Laboratory of Ecological Geology and Disaster Prevention of Ministry of Natural Resources, Chang'an University, China

1-GeoHB 2023 1: GeoHB 2023 1

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* hall7

COMPARING THE SPATIOTEMPORAL TRAVEL PATTERNS AND INFLUENCING FACTORS OF BIKE SHARING AND E-BIKE SHARING SYSTEMS

Yang Chen, Shishuo Xu, Mingyi Du

School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, 15 Yongyuan Road, Beijing, 102616, China

Q-Learning-Based Route Exploration From Observations

Mustafa Can Ozkan

University College London, United Kingdom

SPATIO-TEMPORAL ANALYSIS OF URBAN ECONOMIC RESILIENCE DURING COVID-19 WITH MULTILAYER COMPLEX NETWORKS

Zhihang Liu[1,2], Jinlin Wu[3], Hao Li[2], Martin Werner[2]

[1]School of Urban Planning & Design, Peking University Shenzhen Graduate School, Shenzhen, Guangdong 518055, China; [2]Department of Aerospace and Geodesy, Professorship for Big Geospatial Data Management, Technical University of Munich, Munich 80333, Germany; [3]School of Journalism and Communication, Lanzhou University, 730000 Lanzhou, China

HOW AIR QUALITY AFFECTS HUMAN MOBILITY PATTERNS: AN EXPLORATORY ANALYSIS

Shishuo Xu[1,2], Yang Zhao[1,2], Songnian Li[3]

[1]School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture; [2]Key Laboratory of Urban Spatial Informatics, Ministry of Natural Resources of the People's Republic of China; [3]Department of Civil Engineering, Toronto Metropolitan University

1-IAMS 1: Real-time infrastructure monitoring with drones 1

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* hall6

VEHICLE TRACKING AND SPEED ESTIMATION FROM UNMANNED AERIAL VEHICLES USING SEGMENTATION-INITIALISED TRACKERS

Sofia Tilon, Francesco Nex
University of Twente, Netherlands, The

Hybrid Adjustment of UAS-based LiDAR and Image Data

Yogender Yadav[1,4], Bashar Alsadik[1], Francesco Nex[1], Fabio Remondino[2], Philipp Glira[3]
[1]Department of Earth Observation, Faculty ITC, University of Twente, Enschede, Netherlands; [2]3D Optical Unit, Bruno Kessler Foundation (FBK), Trento, Italy; [3]Competence Center Autonomous Systems, Austrian Institute of Technology, Vienna, Austria; [4]Inter-University Department of Regional & Urban Studies and Planning (DIST), Politecnico di Torino, Italy

Low-cost cloud-based HD-Map Updates for Infrastructure Management and Maintenance

Ahmed Mohamed[1], Mohamed Elhabiby[2], Mohamed Moussa[3], Naser El-Sheimy[1]
[1]Dept. of Geomatics Engineering, University of Calgary, Calgary, Alberta, Canada; [2]Public Works Department, Ain Shams University, Cairo, Egypt; [3]Micro Engineering Tech. Inc., Calgary, Alberta, Canada

1-Laser Scanning 2023 1: Forestry

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* hall1

Individual Tree AGB Estimation Based on Fractal Parameters and Tree Volume

Zhenyang Hui, Yuanping Xia, Penggen Cheng, Zhaochen Cai
East China University of Technology, China, People's Republic of

Three-dimensional deep learning for leaf-wood segmentation of tropical tree point clouds

Wouter A. J. Van den Broeck, Louise Terryn, Wout Cherlet, Zane T. Cooper, Kim Calders
CAVElab, Ghent University, Gent, Belgium

MEASURING FOREST CANOPY WATER MASS IN THREE DIMENSIONS USING TERRESTRIAL LASER SCANNING

Ahmed Elsherif[1], Rachel Gaulton[2], Jon Mills[3], Essam Sharaf El Din[1]
[1]Faculty of Engineering, Tanta University, Tanta, Egypt; [2]School of Natural and Environmental Sciences, Newcastle University, Newcastle upon Tyne, UK; [3]School of Engineering, Newcastle University, Newcastle upon Tyne, UK

DETERMINATION OF VERTICES OF POLYHEDRAL AND CUBE TARGETS IN POINT CLOUDS

Antonio Maria Garcia Tommaselli, Beatriz Coelho Silva, Maria Eduarda Bezerra Gomes da Silva, José Roberto Nogueira, Marcela do Valle Machado
Unesp - São Paulo State University, Brazil

1-Semantic 3D 1: Matching and 3D reconstruction

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* CLEOPATRA

DEEP LEARNING-BASED STEREO MATCHING FOR HIGH-RESOLUTION SATELLITE IMAGES: A COMPARATIVE EVALUATION

Xu He[1], San Jiang[1,2], Sheng He[3], Qingquan Li[4], Wanshou Jiang[3], Lizhe Wang[1,2]

[1]School of Computer Science, China University of Geosciences, Wuhan 430074, China; [2]Hubei Key Laboratory of Intelligent Geo-Information Processing, China University of Geosciences, Wuhan 430078, China; [3]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan 430072, China; [4]College of Civil and Transportation Engineering, Shenzhen University, Shenzhen 518060, China

BeDOI: Benchmarks for Determining Overlapping Images with Photogrammetric Information

Hao Zhan[1], Yifei Yu[1], Yiwei Xu[1], Qianbao Hou[1], Xin Wang[1], Yu Feng[2], Zongqian Zhan[1], Minglei Li[3], Michael Gruber[4], Ronny Hänsch[5], Christian Heipke[6]

[1]School of Geodesy and Geomatics, Wuhan Univeristy, Wuhan, People's Republic of China,; [2]Chair of Cartography and Visual Analytics, Technical University of Munich, Germany; [3]College of Electronic and Information Engineering, Nanjing University of Aeronautics and Astronautics; [4]Vexcel Imaging GmbH, Austria; [5]Microwaves and Radar Institute, German Aerospace Center (DLR), Germany; [6]Institute of Photogrammetry and GeoInformation, Leibniz University Hannover, Germany

Transformer-based Method for Semantic Segmentation and Reconstruction of the Martian Surface

Zhaojin Li, Bo Wu, Zeyu Chen, Yuan Ma

Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hung Hom, Hong Kong

DSM2DTM: AN END-TO-END DEEP LEARNING APPROACH FOR DIGITAL TERRAIN MODEL GENERATION

Ksenia Bittner[1], Stefano Zorzi[2], Thomas Krauß[1], Pablo d'Angelo[1]

[1]German Aerospace Center (DLR), Germany; [2]Graz University of Technology, Austria

10-Satellite Remote Sensing 10: Imaging Technologies and Quality Assessment in Remote Sensing 10

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* BLUENILE

FLASH LiDAR SINGLE PHOTON IMAGING OVER 50 KM

Zhongqiu Xia
Beijing Institute of Space Mechanics & Electricity, China, People's Republic of

QUALITY VERIFICATION OF OVERALL PLANNING SATELLITE REMOTE SENSING IMAGES PRODUCT FOR REAL 3D CHINA CONSTRUCTION PROJECT

su yin, haipeng chen
National Quality Inspection and Testing Center for Surveying and Mapping Products, China, People's Republic of

THREE-DIMENSIONAL MEASUREMENT METHOD OF FLATNESS OF LARGE DEPLOYABLE FLAT SAR

haitao shi
China Academy of Space Technology, China, People's Republic of

Development of a Web Platform to visualize PS-INSAR Data in a Building Information Management System

Philipp Schneider[1], Chia-Hsiang Yang[2], Uwe Soergel[1], Tobias Rudolph[3], Kian Pakzad[2], Yang Li[2], Marius Koppe[3]
[1]Institut for Photogrammetry, Germany; [2]EFTAS Remote Sensing; [3]Forschungszentrum Nachbergbau, Technische Hochschule Georg Agricola

3-Navigation, Guidance 3: Navigation, Guidance and Control of Autonomous Vehicles 3

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* hall5

Efficient Navigation Method for Team Parcel Delivery System

Toshihiro Osaragi, Yuya Taguchi
Tokyo Institute of Technology, Japan

Airborne Safety in the Age of 5G: Assessing the Potential Interference between C-Band and Aeronautical Radar Altimeter

Aisha Gamal Elsayem[1], Haidy Elghamrawy[2], Ali Massoud[2], Aboelmagd Noureldin[2]
[1]Department of Electrical and Computer Engineering, Queen's University, Kingston, ON, Canada; [2]Navigation and Instrumentation (NavINST) Research Lab, Department of Electrical and Computer Engineering, Royal Military College of Canada, Kingston, ON, Canada

An UAV-based platform to support PV plant diagnosis using SWIR, RGB, IRT imagery

Angelos Antonopoulos[1], Georgios Petrakis[1], Achilleas Tripolitsiotis[1], Panagiotis Partsinevelos[1], Eftychios Koutroulis[1], Juan Luis Carús[2], Diego Fernández[2], Daniel Martínez[2]
[1]Technical University of Crete, Greece; [2]TSK Electrónica y Electricidad S.A, Gijón, Spain

EFFECTS OF INFORMATION COLLECTION ON STREET-BLOCKAGE FOR NAVIGATION OF FIRE ENGINES IN A MAJOR EARTHQUAKE

Toshihiro Osaragi, Noriaki Hirokawa
Tokyo Institute of Technology, Japan

Deep learning for Object Detection using RADAR Data

Ahmed M. Reda[1,2], Naser El-Sheimy[1], Adel Moussa[1,3]
[1]University of Calgary, Canada; [2]Benha University, Egypt; [3]Port Said University, Egypt

3-Smart Forests 3: Close range sensing I : sensors and solutions 3

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* hall4

A HIGH-PRECISION EXPLICIT FOREST CARBON STOCK MODEL BASED ON REMOTE SENSING

Ningning Zhu[1], Bisheng Yang[1], Weishu Gong Gong[2], Shen Ying[3], Wenxia Dai[4], Zhen Dong[1]

[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University; [2]Department of Geographical Sciences, University of Maryland; [3]School of Resource and Environmental Sciences, Wuhan University; [4]School of Geography and Information Engineering, China University of Geosciences

COMBINING YOLO V5 AND TRANSFER LEARNING FOR SMOKE-BASED WILDFIRE DETECTION IN BOREAL FORESTS

Anna-Maria Raita-Hakola[1], Samuli Rahkonen[1], Juha Suomalainen[2], Lauri Markelin[2], Raquel Oliveira[2], Teemu Hakala[2], Niko Koivumäki[2], Eija Honkavaara[2], Ilkka Pölönen[1]

[1]Faculty of Information Technology, University of Jyväskylä, 40014 Jyväskylä, Finland; [2]Department of Remote Sensing and Photogrammetry, Finnish Geospatial Research Institute (FGI), National Land Survey of Finland (NLS), FI-00521 Helsinki, Finland

WOOD-LEAF UNSUPERVISED CLASSIFICATION OF SILVER BIRCH TREES FOR BIOMASS ASSESSMENT USING OBLIQUE POINT CLOUDS

Claudio Spadavecchia[1], Mariana Batista Campos[2], Marco Piras[1], Eetu Puttonen[2], Anna Shcherbacheva[2]

[1]DIATI, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy; [2]Department of Photogrammetry and Remote Sensing, Finnish Geospatial Research Institute, National Land Survey of Finland, 02150 Espoo, Finland

TREE-LEVEL FUEL CONNECTIVITY TO ASSESS CROWN FIRE POTENTIAL BY UAS-BASED PHOTOGRAMMETRY

Monica Herrero-Huerta[1], David Sanchez-Jimenez[1], David Hernandez-Lopez[2], Diego Gonzalez-Aguilera[1]

[1]University of Salamanca, Spain; [2]University of Castilla-La Mancha

4-UAV-based mapping 4: UAV Application in Agriculture and Forestry (1)

Time: Wednesday, 06/Sept/2023: 8:30am - 10:00am · *Location:* hall2

ASSESSMENT OF LIGHT ENVIRONMENT FOR HERBACEOUS VEGETAION IN SEMI-NATURAL GRASSLAND USING TIME-SERIES UAV DATA

Naoko Miura[1], Yuji Niwa[1], Susumu Yamada[2]

[1]The University of Tokyo, Japan; [2]Tokyo University of Agriculture

EVALUATION OF THE BARK BEETLE GREEN ATTACK DETECTABILITY IN SPRUCE FOREST FROM MULTITEMPORAL MULTISPECTRAL UAV IMAGERY

Salma Bijou, Lucie Kupková, Markéta Potůčková, Lucie Červená, Jakub Lysák

Department of Applied Geoinformatics and Cartography, Faculty of Science, Charles University, Albertov 6, Prague 2, Czech Republic

UAV4Tree: deep learning-based system for automatic classification of tree species using RGB optical images obtained by an unmanned aerial vehicle

Roberto Pierdicca[1], Lindo Nepi[2], Adriano Mancini[2], Eva Savina Malinverni[1], Mattia Balestra[3]

[1]Università Politecnica delle Marche, Dipartimento di Ingegneria Civile, Edile e dell' Architettura (DICEA); [2]Università Politecnica delle Marche, Dipartimento di Ingegneria dell'Informazione (DII); [3]Università Politecnica delle Marche, Dipartimento di Scienze Agrarie, Alimentari ed Ambientali (D3A)

11-Satellite Remote Sensing 11: SAR (Synthetic Aperture Radar) and InSAR Techniques for Environmental Monitoring and Disaster Assessment 11

Time: Wednesday, 06/Sept/2023: 10:30am - 12:00pm · *Location:* BLUENILE

UNSUPERVISED WINTER WHEAT MAPPING BASED ON MULTI-SPECTRAL AND SYNTHETIC APERTURE RADAR OBSERVATIONS

Hsuan-Yi Li[1], James A Lawrence[1], Philippa J Mason[2], Richard Ghail[3]

[1]Dept. of Civil and Environmental Engineering, The Skempton Building, Imperial College London, South Kensington, London SW7 2AZ, UK; [2]Department of Earth Science & Engineering, Imperial College London, Prince Consort Road, London SW7 2AZ, UK; [3]Department of Earth Sciences, Queens Building 245, Royal Holloway, University of London Egham, Surrey TW20 0EX, UK

Land Subsidence in Wuhan Revealed Using a Multi-Sensor InSAR Time Series Fusion Approach

Haonan Jiang[1,2], Timo Balz[1], Jianan Li[3]

[1]State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, 430079 Wuhan, China; [2]Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences, 14473 Potsdam, Germany; [3]Institute for Remote Sensing Science and Application, School of Geomatics, Liaoning Technical University, Fuxin 123000, China

MULTI-ORIENTATION EDGE-BASED SATELLITE IMAGE MATCHING METHOD FOR OPTICAL AND SAR IMAGES

Yi Lin[1,2], Lang Li[1], Lujia Wei[1], Jie Yu[1]

[1]College of Surveying and Geo-Informatics, Tongji University, China, People's Republic of; [2]Research Center of Remote Sensing Technology and Application, Tongji University, China, People's Republic of

Dielectric dependency and its usefulness in oil-spill detection based on hybrid-polarimetry SAR

Ajeet Kumar[1], Rajib Kumar Panigrahi[2], Marco Martorella[1,3]

[1]National Inter-University Consortium for Telecommunications (CNIT, www.cnit.it/en), Italy; [2]Indian Institute of Technology, Roorkee; [3]University of Birmingham

2-GeoHB 2023 2: GeoHB 2023 2

Time: Wednesday, 06/Sept/2023: 10:30am - 12:00pm · *Location:* hall7

Understanding User Equilibrium States of Road Networks using Big Trajectory Data

Bi Yu Chen[1], Xuan-Yan Chen[1], Hui-Ping Chen[2]

[1]Wuhan University, China; [2]Huazhong University of Science and Technology, China

HUMAN MOBILITY PATTERNS AMONG DIFFERENT PERIODS DURING WEEKDAYS AND WEEKENDS

Penxiang Su[1], Wei Huang[1,2]

[1]College of Surveying and Geo-Informatics, Tongji University, China; [2]Department of Civil Engineering, Toronto Metropolitan University, Canada

SPATIAL INTERACTION ANALYSIS OF URBAN FUNCTIONAL DISTRICTS BASED ON TAXI TRAJECTORIES

Ye Zhang[1,2,3], Wanzeng Liu[1,2,3], Xiuli Zhu[1,2,3], Yunlu Peng[1,2,3], Ran Li[1,2,3], Tingting Zhao[1,2,3], Xinpeng Wang[1,2,3], Xi Zhai[1,2,3], Xinli Di[1,2], Hong Xu[4]

[1]National Geomatics Center of China, China, People's Republic of; [2]Key Laboratory of Spatio-temporal Information and Intelligent Services (LSIIS), MNR; [3]Hubei Luojia Laboratory; [4]High-Tech Research & Development Center (HTRDC) of the Ministry of Science & Technology, P.R.C.

Estimation and mapping of the settlement field potential basing on real transportation connections between settlements

Kuzmin Pavel[1], Karpenko Mikhail[2], Evgeny Panidi[1], Alexander Sebentsov[2]

[1]Saint Petersburg State University, Russian Federation; [2]Russian Academy of Sciences, Russian Federation

2-IAMS 2: Autonomous drones and 3D mapping in complex environments 2

Time: Wednesday, 06/Sept/2023: 10:30am - 12:00pm · *Location:* hall6

Planimetric Rail Positioning using UAV Photogrammetry: Towards Automated and Safe Railway Infrastructure Monitoring

Suzanna Cuypers, Maarten Bassier, Maarten Vergauwen, Heinder De Winter
KU Leuven, Belgium

MONO-HYDRA: REAL-TIME 3D SCENE GRAPH CONSTRUCTION FROM MONOCULAR CAMERA INPUT WITH IMU

Bavantha Lakshan Udugama Udugama Vithanage, George Vosselman, Francesco Nex
University of Twente, Netherlands, The

A DRONE SYSTEM FOR AUTONOMOUS MAPPING FLIGHTS INSIDE A FOREST – A FEASIBILITY STUDY AND FIRST RESULTS

Väinö Karjalainen, Teemu Hakala, Anand George, Niko Koivumäki, Juha Suomalainen, Eija Honkavaara
Finnish Geospatial Research Institute in National Land Survey of Finland, Finland

Visual LiDAR Odometry Using Tree Trunk Detection and LiDAR Localization

KwanWoo Park, Soon-Yong Park
kyungpook national university, Korea, Republic of (South Korea)

TOWARDS AUTONOMOUS HIGH-DEFINITION MAP CONSTRUCTION

WU Junli[1], WANG Xiaoqing[1], ZHANG Peng[1], SONG Weiwei[2], CHEN Ming[3]
[1]National Geomatics Center of China; [2]National Engineering Research Center of Satellite Positioning System; [3]Ministry of Natural Resource,

2-Laser Scanning 2023 2: Vegetation & Terrain

Time: Wednesday, 06/Sept/2023: 10:30am - 12:00pm · *Location:* hall1

TOWARDS WHEAT YIELD ESTIMATION IN PLANT BREEDING FROM INHOMOGENEOUS LIDAR POINT CLOUDS USING STOCHASTIC FEATURES

Tomislav Medic[1], Nicole Manser[2], Norbert Kirchgessner[3], Lukas Roth[3]

[1]Institute of Geodesy and Photogrammetry, ETH Zurich; [2]Dept. of Geography, University of Zurich; [3]Institute of Agricultural Sciences, ETH Zurich

THREE-DIMENSIONAL MODELING OF SHRUBS BASED ON LIDAR POINT CLOUD

Zheng Li[1], Minglei Li[1], Meng Zhang[2]

[1]College of Electronic and Information Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China; [2]Co-Innovation Center for Sustainable Forestry in Southern China, College of Biology and the Environment, Nanjing Forestry University, Nanjing 210037, China

Tree digitisation from point clouds with Unreal Engine

Sergio González-Domínguez, Jesus Balado Frias, Ana Novo, Pedro Arias

University of Vigo, Spain

3D Point Cloud Completion using Terrain-continuous Constraints and Distance-weighted Interpolation for Lunar Topographic Mapping

Siyan Xu[1,2], Rong Huang[1,2], Yusheng Xu[1,2], Zhen Ye[1,2], Huan Xie[1,2], Xiaohua Tong[1,2]

[1]College of Surveying and Geo-informatics, Tongji University, Shanghai, China; [2]The Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, Shanghai, China

2-Semantic 3D 2: Semantic segmentation and satellite image time series 2

Time: Wednesday, 06/Sept/2023: 10:30am - 12:00pm · *Location:* CLEOPATRA

Learning on the Edge: Benchmarking Active Learning for the Semantic Segmentation of ALS Point Clouds

Michael Koelle, Volker Walter, Stefan Schmohl, Uwe Soergel
Institute for Photogrammetry, University of Stuttgart, Germany

TRANSFORMER MODELS FOR MULTI-TEMPORAL LAND COVER CLASSIFICATION USING REMOTE SENSING IMAGES

Mirjana Voelsen, Simon Lauble, Franz Rottensteiner, Christian Heipke
Leibniz University Hannover, Germany

Using time series image data to improve the generalization capabilities of a CNN - the example of deforestation detection with Sentinel-2

Mabel Ximena Ortega Adarme[1,2], Dennis Wittich[2], Franz Rottensteiner[2], Christian Heipke[2], Raul Queiroz Feitosa[1]
[1]Pontifical Catholic University of Rio de Janeiro, Brazil; [2]Leibniz Universität Hannover, Germany

4-Smart Forests 4: Close range sensing II: Tree-wise analysis and modeling 4

Time: Wednesday, 06/Sept/2023: 10:30am - 12:00pm · *Location:* hall4

AUTOMATED FINE-SCALE FOREST INVENTORY USING BACKPACK LIDAR – A STRATEGY BASED ON FEATURE EXTRACTION, MATCHING, AND TRACKING FROM INTEGRATED SCANS

Heidar Rastiveis[1,2], Tian Zhou[1], Chunxi Zhao[1], Songlin Fei[2], Ayman Habib[1]

[1]Lyles School of Civil Engineering, Purdue University, United States of America; [2]Department of Forestry and Natural Resources, Purdue University, United States of America

FOREST FEATURE LIDAR SLAM (F2-LSLAM) AND INTEGRATED SCAN SIMULTANEOUS TRAJECTORY ENHANCEMENT AND MAPPING (IS2-TEAM) FOR ACCURATE FOREST INVENTORY USING BACKPACK SYSTEMS

Tian Zhou[1], Raja Manish[1], Songlin Fei[2], Ayman Habib[1]

[1]Lyles School of Civil Engineering, Purdue University, United States of America; [2]Department of Forestry and Natural Resources, Purdue University, United States of America

CHALLENGES AND RECOMMENDATIONS FOR 3D PLANT PHENOTYPING IN AGRICULTURE USING TERRESTRIAL LASERS SCANNERS

Tomislav Medic[1], Jonas Bömer[2], Stefan Paulus[2]

[1]ETH Zurich, Switzerland; [2]Institute of Sugar Beet Research, Göttingen, Germany

A COMPARISON STUDY OF LOW-COST PERSONAL LASER SCANNING SYSTEMS FOR FOREST PLOT-LEVEL INVENTORIES

Xiaochen Wang, Haiyun Yao, Yangyang Ma, Xinlian Liang

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

LOW-COST WORKFLOW FOR 3D URBAN FOREST MANAGEMENT

Chiara Chioni[1], Arnadi Murtiyoso[2], Sara Favargiotti[1], Giovanna A. Massari[1]

[1]Dept. of Civil, Environmental and Mechanical Engineering (DICAM), University of Trento, Trento, Italy; [2]Forest Resources Management (FORM), Inst. of Terrestrial Ecosystems, Dept. of Environmental Systems Science, ETH Zürich, Zürich, Switzerland

1-GI4SDGS 1: SDGs and Land Cover/Land Use (1)

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* hall3

Hazard susceptibility mapping: in-situ vs multi-source data and model generalisation

Angelly de Jesus Pugliese Viloria, Andrea Folini, Daniela Carrion, Maria Antonia Brovelli
Department of Civil and Environmental Engineering, Politecnico di Milano, 20123, Milan, Italy

Assessing the Role of Industrial and Non-Industrial Urban Land Consumption in Economic Growth

Cheolhee YOO, Qihao Weng, Huijuan Xiao
The Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

Landscape impact assessment of SDG2 development projects using remote sensing and unsupervised control site selection

Hannah Kemper, Theo Renouard, Sarah Muir, Rogerio Bonifacio, Pini Giancarlo, Paolo Lucchino, Lorenzo Bosi
World Food Programme, Headquarters Rome, Italy

A DEEP LEARNING APPROACH USING VERY-HIGH SPATIAL RESOLUTION GAOFEN-2 IMAGES TO SUPPORT THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOAL INDICATOR 11.7.1 ASSESSMENT

Jiongbin Chen[1,2], Ping Zhang[1], Jun Zhang[1], Hao Wu[1]
[1]National Geomatics Center of China, Beijing 100830, China; [2]College of Geoscience and Surveying Engineering, China University of Mining and Technology, Beijing 100083, China

USING GHSL TO ANALYZE URBANIZATION AND LAND-USE EFFICIENCY IN THE PHILIPPINES FROM 1975-2020: TRENDS AND IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

Jojene Rendon Santillan[1], Christian Heipke[2]
[1]Institute of Photogrammetry and GeoInformation, Leibniz University Hannover, Germany; Caraga State University, Philippines; [2]Institute of Photogrammetry and GeoInformation, Leibniz University Hannover, Germany

12-Satellite Remote Sensing 12: Remote Sensing for Urban Thermal Environment Monitoring and Analysis 12

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* BLUENILE

MEASURING THE INFLUENCE OF A MOTORWAY CONSTRUCTION ON LAND SURFACE TEMPERATURE USING LANDSAT THERMAL DATA: A CASE STUDY IN THE METROPOLITAN CITY OF MILAN

Alberto Vavassori, Mathilde Puche, Maria Antonia Brovelli
Department of Civil and Environmental Engineering, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133 Milano, Italy

RESEARCH ON THERMAL ENVIRONMENT ANALYSIS OF PHOTOVOLTAIC POWER PLANTS BASED ON REMOTE SENSING IMAGES

HongLiang Cheng[1], He Huang[1], JunXing Yang[1], Ran Pang[2], JunYang Bian[1]
[1]Beijing University of Civil Engineering and Architecture, China, People's Republic of; [2]Beijing Institute of Surveying and Mapping,China, People's Republic of

SPATIO-TEMPORAL DYNAMICS OF URBAN THERMAL ENVIRONMENT IN UDAIPUR CITY, RAJASTHAN, INDIA

URMI SHARMA[1], SEEMA JALAN[1], YOGESH KANT[2], ANJANA VYAS[3]
[1]Mohanlal Sukhadia University, Udaipur, Rajasthan, India; [2]Indian Institute of Remote Sensing, ISRO, Dehradun, India; [3]L.J. School of Planning, L.J. University, Ahmedabad, India

A new method for improving the ecological environment index based on downscaling of Land Surface Temperature

Hui Han, Qiang Chen, Runjie Wang, Rui Liu
Beijing University of Civil Engineering and Architecture, China, People's Republic of

Influence Factors of Land Surface Temperature Inversion Using Thermal Infrared Hyperspectral Remote Sensing Satellites Data

Tinghao Liu, Zhen Li, Shaocong Liu, Xianfei Qiu
China Academy of Space Technology, China, People's Republic of

3-GeoHB 2023 3: GeoHB 2023 3

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* hall7

IMPACTS OF GEOSPATIAL FACTORS ON VILLAGE SITE SELECTION ALONG THE GREAT WALL WATCHTOWER BASED ON LOGISTIC REGRESSION : A CASE STUDY IN GUBEIKOU SECTION, BEIJING, CHINA

Tianyue Yang[1,2], Xian Guo[1,2], Jie Jiang[1,2]

[1]School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, Beijing, China; [2]Key Laboratory of Urban Spatial Information, Ministry of Natural Resources of the People's Republic of China, Beijing University of Civil Engineering and Architecture, Beijing 102616, China

ENHANCING PEDESTRIAN TARGET RECOGNITION IN OPEN COMMUNITY MULTI-SCENE SPACES USING THE YOLO-STP NETWORK

Chun Liu[1], Yanyi Li[1], Jiajing Gu[1], Yongqi Lou[2], Tao Shen[2]

[1]College of Surveying and Geo-informatics, Tongji University, Shanghai 200092, China; [2]College of Design and Innovation, Tongji University, Shanghai 200092, China

CELL PHONE STATISTICS-BASED PREDICTION OF SPATIOTEMPORAL DISTRIBUTION OF STRANDED PEOPLE WALKING HOME AFTER SEVERE EARTHQUAKE IN TOKYO AND ESTIMATES OF CROWDING AT FACILITIES FOR STRANDED PERSONS

Toshihiro Osaragi

Tokyo Institute of Technology, Japan

MMCPP: A MULTI-MODAL CONTRASTIVE PRE-TRAINING MODEL FOR PLACE REPRESENTATION BASED ON THE SPATIO-TEMPORAL FRAMEWORK

Yu Chen, Xuesong Yu, Kun Qin

School of Remote Sensing and Information Engineering, Wuhan University, Wuhan, China, People's Republic of

DETERMINATION OF SPATIO-TEMPORAL TRANSMISSION PATTERNS OF DENGUE USING INDIVIDUAL PATIENT DYNAMICS: A CASE STUDY OF NCT DELHI

Vipasha Sharma, Sanjay Kumar Ghosh, Siddhartha Khare

Indian Institute of Technology Roorkee, India

3-Laser Scanning 2023 3: Registration & Close-Range Applications 3

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* hall6

AUTOMATIC COARSE CO-REGISTRATION OF POINT CLOUDS FROM DIVERSE SCAN GEOMETRIES: A TEST OF DETECTORS AND DESCRIPTORS

Francesco Pirotti[1,2], Alberto Guarnieri[1,2], Sebastiano Chiodini[3,4], Carlo Bettanini[3,4]

[1]TESAF Department, University of Padova, Italy; [2]CIRGEO Interdepartmental Research Center in Geomatics, University of Padova; [3]Department of Industrial Engineering (DII), University of Padova, via Venezia 1, Padova, Italy; [4]Center for Studies and Activities for Space ”Giuseppe Colombo” (CISAS), University of Padova, via Venezia 15, Padova, Italy

Assessing the alignment between geometry and colors in TLS colored point clouds

Zhaoyi Wang, Matej Varga, Tomislav Medić, Andreas Wieser

ETH Zurich, Switzerland

EXPLORING THE LIMITS OF TERRESTRIAL LASER SCANNERS ON AEROSPACE MATERIALS

Kate Pexman, Stuart Robson

University College London, United Kingdom

ASSESSING THE MEASUREMENT QUALITY OF UAV-BORNE LASER SCANNING IN STEEP AND SNOW-COVERED AREAS

Sigrid Helene Strand[1], Trond Arve Haakonsen[2], Halgeir Dahle[2], Hongchao Fan[1]

[1]The Norwegian university of Science and Technology, Norway; [2]The Norwegian Public roads Administration, Norway

3-Semantic 3D 3: Buildings, roads, and segmentation 3

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* CLEOPATRA

ROOF3D: A REAL AND SYNTHETIC DATA COLLECTION FOR INDIVIDUAL BUILDING ROOF PLANE AND BUILDING SECTIONS DETECTION

Philipp Schuegraf, Mario Fuentes Reyes, Yajin Xu, Ksenia Bittner
Deutsches Zentrum für Luft- und Raumfahrt, Germany

A Comparative Study of Deep Architectures for Voxel Segmentation in Volume Images

Franz Wagner, Hans-Gerd Maas
TU Dresden, Germany

Instance Segmentation of 3D Mesh Model by Integrating 2D and 3D Data

Weixi Wang, Guoxi Zhong, Junjie Huang, Xiaoming Li, Linfu Xie
Research Institute for Smart City, School of Architecture and Urban Planning, Shenzhen University

PHASED ACCURACY ANALYSIS IN ROAD CONSTRUCTION: USING BIM AND PHOTOGRAMMETRIC OUTPUT

Heinder De Winter[1,2], Maarten Bassier[1], Sam De Geyter[1,3], Maarten Vergauwen[1]
[1]KU Leuven, Belgium; [2]Dirk Bauwen NV; [3]MEET HET BV

5-Smart Forests 5: Forest monitoring and carbon assessments 5

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* hall4

Tree-GPT

Siqi Du[1,2], Shengjun Tang[1,2], Weixi Wang[1,2], Xiaoming Li[1,2], Renzhong Guo[1,2]

[1]School of Architecture and Urban Planning, Research Institute for Smart Cities, Shenzhen University,Shenzhen, P.R. China; [2]Key Laboratory of Urban Land Resources Monitoring and Simulation, Ministry of Natural Resources, Shenzhen, P.R. China

INDIVIDUAL TREE SEGMENTATION FROM UAV LIDAR BY IMPROVED RANSAC

Tomohiro Mizoguchi[1], Noboru Minakawa[2], Daisuke Tsukano[2], Hideki Ogawa[3], Keijiro Endo[3]

[1]Dept. of Computer Science, College of Engineering, Nihon University, Fukushima, Japan; [2]Owada Survey Design Co., Ltd, Fukushima, Japan; [3]Fukushima Prefectural Forestry Research Centre, Fukushima, Japan

Citrus Unshiu Monitoring using UAV and Deep Learning: For Semantic Segmentation of Citrus Tress

Hajin Moon[1], Euiik Jeon[1,2], Dongki Chung[1]

[1]AI team, Innopam Inc., Seoul, South Korea; [2]Dept. Urban big data convergence, University of Seoul, Seoul, South Korea

Comparing different geomatic methodologies for urban forest inventory. The case study of the Ascolana Tenera olive tree in Ascoli Piceno (Italy).

Stefano Chiappini[1], Enrico Maria Lodolini[3], Mattia Balestra[2], Eva Savina Malinverni[1], Davide Neri[2], Ernesto Marcheggian i[4], Roberto Pierdicca[1]

[1]Università Politecnica delle Marche, Dipartimento di Ingegneria Civile, Edile e dell'Archietttura, Italy; [2]Università Politecnica delle Marche, Department of “Scienze Agrarie, Alimentari e Ambientali; [3]CREA - Centro di Ricerca Olivicoltura, Frutticoltura e Agrumicoltura Via Fioranello, 52 - 00134 Roma, Italy; [4]Division of Forest, Nature, and Landscape, Department of Earth and Environmental Sciences, KU Leuven

5-UAV-based mapping 5: UAV Application in Agriculture and Forestry (2)

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* hall2

MONITORING OF REINTRODUCED RARE PLANTS USING UAV DATA

Anna Denisova[1], Ludmila Gorodetskaya[1], Ludmila Kavelenova[1], Alexander Pomogaybin[2], Irina Rusaeva Rusaeva[2], Victor Fedoseev[1]

[1]Samara National Research University, Russian Federation; [2]Botanical Garden of Samara University

Seamline Optimization for UAV Image Mosaicking Using Geometry of Triangulated Irregular Network

Sung-Joo Yoon, Taejung Kim

Inha University, Korea, Republic of (South Korea)

Proceedings in UAS-Assisted Bridge Inspections: RTK-Based Photogrammetric Reconstruction and Spatial Filtering

Erkki Tobias Bartczak, Maarten Bassier, Maarten Vergauwen

KU Leuven, Belgium

INDIVIDUAL TREE-BASED FOREST SPECIES DIVERSITY ESTIMATION USING UAV-BORNE HYPERSPECTRAL AND LIDAR DATA

Zhaoju Zheng[1], Xiuwen Li[1,2], Cong Xu[1,2], Ping Zhao[1,2], Junhua Chen[1,2], Jinchen Wu[1,2], Xueming Zhao[1,2], Xuan Mu[1,2], Dan Zhao[1,2], Yuan Zeng[1,2]

[1]State Key Laboratory of Remote Sensing Science, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China; [2]University of Chinese Academy of Sciences, Beijing, China

AI-PC - 1: AI-Based Point Cloud and Image Understanding 1

Time: Wednesday, 06/Sept/2023: 1:30pm - 3:00pm · *Location:* hall1

CHATGPT FOR POINT CLOUD 3D OBJECT PROCESSING

Jesus Balado Frias[1], Giang Nguyen[2]
[1]University of Vigo, Spain; [2]Slovak University of Technology

Relative pose determination algorithm for space on-orbit close range autonomous operations using LiDAR.

Cristopher Castro-Traba, Gabriel Fontenla-Carrera, Luis Miguel González-deSantos, Higinio González-Jorge
Research Institute of Physics and Aerospace Science, University of Vigo

An IMPROVED IMAGE REGISTRATION ALGORITHM FOR THERMAL INFRARED AND PANCHROMATIC IMAGE BASED ON GEOMETRIC STRUCTURAL PROPERTIES

junfeng Xie[1,2,3,4], Xing Lv[1,2], Cun Chu[3], Ren liu[1,4], Fan Mo[1,4], Binbo Li[1,5], Chenglong Wang[6]
[1]Land satellite remote sensing application center, China, People's Republic of; [2]China University of Mining and Technology; [3]Liaoning Technical University; [4]Hohai University; [5]Capital Normal University; [6]Wuhan University

PAN-SUNET: UTILITY CORRIDOR UNDERSTANDING USING SPATIAL LAYOUT CONSISTENCY

Maryam Jameela, Gunho Sohn
York University, Canada

13-Satellite Remote Sensing 13: Space Missions and Earth Observation Technologies for Planetary and Environmental Studies 13

Time: Wednesday, 06/Sept/2023: 3:30pm - 5:00pm · *Location:* BLUENILE

JITTER ANALYSIS OF QL-3 SATELLITE

Guo Ye, Jun Pan, Mi Wang

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

PHILIPPINE EARTH OBSERVATION SATELLITE MISSIONS AND APPLICATIONS: A DECADAL SURVEY

Gay Jane Perez[1,2], Jamaica Pangasinan[1], James Cesar Refran[1], Jennifer De Maligaya[1], Odette Enricuso[1], Joel Joseph Jr. Marciano[1,2]

[1]Philippine Space Agency, Philippines; [2]University of the Philippines Diliman, Philippines

2-GI4SDGS 2: SDGs and Geospatial Information 1 (2)

Time: Wednesday, 06/Sept/2023: 3:30pm - 5:00pm · *Location:* hall3

MAPPING LOCAL CLIMATE ZONES WITH MULTIPLE GEODATA AND THE OPEN DATA CUBE: INSIGHTS OF DOMAIN USER REQUIREMENTS AND OUTLOOKS OF THE LCZ-ODC PROJECT

Alberto Vavassori[1], Maria Antonia Brovelli[1], Emanuele Capizzi[1], Giovanna Venuti[1], Barbara Betti[1], Mario Siciliani de Cumis[2], Patrizia Sacco[2], Deodato Tapete[2]

[1]Department of Civil and Environmental Engineering, Politecnico di Milano, Milano Leonardo. Milan, Italy; [2]Italian Space Agency (ASI), Matera, Italy

CAPACITY BUILDING FOR GIS-BASED SDG INDICATOR ANALYSIS WITH GLOBAL HIGH-RESOLUTION LAND COVER DATASETS

Daniele Oxoli[1], Sheryl Rose Reyes[2], Shu Peng[3], Maria Antonia Brovelli[1], Serena Coetzee[4], Ivana Ivanova[5], Julia Anna Leonardi[1], Darshna Rawal[6], Giuseppina Vacca[7], Sisi Zlatanova[8]

[1]Dept. of Civil and Environmental Engineering, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133 Milano, Italy; [2]United Nations Satellite Centre, United Nations Institute for Training and Research, United Nations Building, Bangkok, Thailand; [3]National Geomatics Center of China, Beijing, China; [4]Dept. of Geography, Geoinformatics and Meteorology, University of Pretoria, Hatfield Campus, Lynnwood Road, Hatfield, 0083 Pretoria, South Africa; [5]School of Earth and Planetary Sciences, Curtin University, Kent Street Bentley, Perth, Australia; [6]Dept. of Languages and Literatures, Communication, Training and Society, Laboratory of Geomatics Guido Barbina, Udine University, Via Palladio 8, 33100 Udine, Italy; [7]Dept. of Civil and Environmental Engineering and Architecture, University of Cagliari, Piazza D'Armi, 09123 Cagliari, Italy; [8]School of Built Environment, University of New South Wales, 2052 Sydney, Australia

DATA LAKES FOR CRISIS MANAGEMENT

Andrija Krtalić, Ana Kuveždić Divjak, Andrea Miletić

University of Zagreb Faculty of Geodesy, Croatia

How the Human Needs Evolving To SDGs

ORHAN ALTAN

ITU-ISPRS, Turkiye

4-Semantic 3D 4: Close range and tracking 4

Time: Wednesday, 06/Sept/2023: 3:30pm - 5:00pm · *Location:* CLEOPATRA

SEGMENTATION OF INDUSTRIAL BURNER FLAMES: A COMPARATIVE STUDY FROM TRADITIONAL IMAGE PROCESSING TO MACHINE AND DEEP LEARNING

Steven Landgraf, Markus Hillemann, Moritz Aberle, Valentin Jung, Markus Ulrich
Karlsruhe Institute of Technology (KIT), Germany

Integrating motion priors for end-to-end attention-based Multi-object tracking

Rasho Ali, Max Mehltretter, Christian Heipke
Leibniz Universität Hannover, Germany

SEMANTIC ENRICHMENT OF 3D POINT CLOUDS USING 2D IMAGE SEGMENTATION

Abhishek Rai[1], Noopur Srivastava[1], Kourosh Khoshelham[2], Kamal Jain[1]
[1]Department of Civil Engineering, Indian Institute of Technology Roorkee, India; [2]Department of Infrastructure Engineering, The University of Melbourne, Parkville, Victoria, Australia

VEHICLE POSE AND SHAPE ESTIMATION IN UAV IMAGERY USING A CNN

Sara El Amrani Abouelassad, Max Mehltretter, Franz Rottensteiner
Leibniz Universität Hannover, Germany

AI-PC - 2: AI-PC: AI-Based Point Cloud and Image Understanding 2

Time: Wednesday, 06/Sept/2023: 3:30pm - 5:00pm · *Location:* hall1

Towards High Resolution Feature Mapping With Sentinel-2 Images

Jeewantinie Kapilaratne, Satomi Kakuta, Shinichi Kaneta
Asia Air Survey Corporation Limited, Japan

HACR-MDL: HANDWRITTEN ARABIC CHARACTER RECOGNITION MODEL USING DEEP LEARNING

Mazen Nabil Elagamy, Miar Mamdouh Khalil, Esraa Ismail
College of Engineering and Technology, Arab Academy for Science, Technology, and Maritime Transport (AASTMT)

An Investigation of Super-Resolution for Cross-Domain Building Extraction using Transformer

Weitao Yue, Xiaowei Zhao
Intelligent Control & Smart Energy (ICSE) Research Group, School of Engineering, University of Warwick, Coventry, CV4 7AL, U.K.

Monocular depth estimation for night-time images

Nour Khalefa, Nasser El-Sheimy
university of Calgary, Canada

1-Sensor orientation 1: Sensor orientation and calibration for mapping and navigation purposes 1

Time: Thursday, 07/Sept/2023: 8:30am - 10:00am · *Location:* hall6

A Self-contained Navigation System for Smartwatch Using PDR with CNN-Based Motion and Speed Models Aided

CHI-HSIN HUANG, YANG-EN LU, CHIN-YANG LIN, TING-CHUN WU, KAI-WEI CHIANG
National Cheng Kung University, Taiwan

Relative Geometric Correction of Multiple Satellite Images by Rigorous Block Adjustment

Seunghwan Ban, Taejung Kim
Dept. of Geoinformatic engineering, Inha University

ESTIMATION OF SENSOR OFFSETS FOR A UAV PLATFORM USING TIEPOINTS ONLY

Cheolwook Kim[1], Pyeong-chae Lim[1], Taejung Kim[2]
[1]3DLabs, Korea, Republic of Korea; [2]Dept. of Geoinformatic Engineering, Inha University, Korea, Republic of Korea

MULTI-IMU SENSORS FAULT-DETECTION BASED ON ADAPTIVE LEAST-SQUARE WINDOW TECHNIQUE

Shady Zahran, Maher Tarek, Ahmed Elbanna, Ahmed Mostafa
Arab Academy for Science, Technology & Maritime Transport, Egypt

Research on Named Entity Recognition Methods for Urban Underground Space Disasters Based on Text Information Extraction

ZhaoWen Li[1], XueDong Zhang[1,2]
[1]Beijing University Of Civil Engineering And Architecture, China; [2]Beijing Key Laboratory of Urban Spatial Information Engineering, Beijing 100038, China

1-SPACE 1: SPACE - Spectral Remote Sensing in the era of AI, Cloud and Edge Computing 1

Time: Thursday, 07/Sept/2023: 8:30am - 10:00am · *Location:* MORGANA

MULTISPECTRAL IMAGE-BASED ORANGE DETECTION WITH YOLOv5 AND SHUTTER SPEED VARIATION

Maurycio Espinosa, Leticia Porto, Vinicius Orlando, Antonio Tommaselli, Aluir Dal Poz, Nilton Imai
São Paulo State University, Brazil

ESTIMATING COFFEE CROP PARAMETERS THROUGH MULTISPECTRAL IMAGING AND MACHINE LEARNING ALGORITHMS

Fernando Vasconcelos Pereira[1], Vinicius Silva Werneck Orlando[1], George Deroco Martins[2], Eduardo Soares Nascimento[1], Aline Barroca Marra[1], Maria de Lourdes Bueno Trindade Galo[1]
[1]São Paulo State University, Brazil; [2]Federal University of Uberlândia, Brazil

SEMANTIC SEGMENTATION OF REMOTE SENSING IMAGERY USING AN ENHANCED ENCODER-DECODER ARCHITECTURE

Nour Aburaed[1], Mina Al-Saad[1], Mohammed Q. Alkhatib[1], Mohammad Sami Zitouni[1], Saaed Al Mansoori[2], Hussain Al-Ahmad[1]
[1]University of Dubai, United Arab Emirates; [2]Mohammed Bin Rashid Space Centre, United Arab Emirates

14-Satellite Remote Sensing 14: Geospatial Techniques for Urban Planning and Environmental Sustainability 14

Time: Thursday, 07/Sept/2023: 8:30am - 10:00am · *Location:* BLUENILE

Comparing inpainting techniques for urban object restoration from orbital images

Eduardo Soares Nascimento, Allan Alves Lopes Ferreira, Isabela Moraes Peres, Erivaldo Antonio da Silva
São Paulo State University, Brazil

LIM-CD: A LARGE-SCALE REMOTE SENSING CHANGE DETECTION DATASET FOR INCREMENTAL MONITORING

Hanchao Zhang[1], Ruiqian Zhang[1], Xiaogang Ning[1], Xiao Huang[2], You He[1], Yixin Chen[1], Mingzhu Li[3], Wei Cui[4], Jiaming Wang[5]
[1]Institute of Photogrammetry and Remote Sensing, Chinese Academy of Surveying and Mapping, Beijing City, P.R. China; [2]Department of Geosciences, University of Arkansas, Fayetteville, AR, USA; [3]School of Surveying, Mapping and Geographic Information, Liaoning Technical University, Fuxin, Liaoning, P.R. China; [4]School of Civil Engineering, Chongqing Jiaotong University, Chongqing City, P.R. China; [5]Hubei Key Laboratory of Intelligent Robot, Wuhan Institute of Technology, Wuhan, Hubei, P.R. China

Automatic non-residential built-up mapping over national extents with a sentinel-2 image segmentation model trained with ancillary census data

Diogo Duarte[1], Cidália Fonte[1,2]
[1]Institute for Systems Engineering and Computers at Coimbra (INESC Coimbra), University of Coimbra, Coimbra, Portugal; [2]University of Coimbra, Department of Mathematics, Coimbra, Portugal

4-Laser Scanning 2023 4: Object Detection & Segmentation 4

Time: Thursday, 07/Sept/2023: 8:30am - 10:00am · *Location:* hall3

Towards accurate instance segmentation in large-scale LiDAR point clouds

Binbin Xiang[1], Torben Peters[1], Theodora Kontogianni[1], Frawa Vetterli[1], Stefano Puliti[2], Rasmus Astrup[2], Konrad Schindler[1]
[1]ETH Zürich, Switzerland; [2]Norwegian Institute of Bioeconomy Research (NIBIO)

Towards Assessing Sandstone Surface Moisture and Degradation Level from Radiometrically Corrected TLS Intensity Data

Helena Laasch, Tomislav Medic, Andreas Wieser
ETH Zürich, Switzerland

Ground filtering of co-registered mobile and stationary laser scans by using superpoints in RANSAC planes

Dominik Simon Stütz[1], Jianping Li[2,3], Jianzhu Huai[2], Dimitri Bulatov[1]
[1]Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB, Germany; [2]State Key Lab of Info Engineering in Surveying, Mapping, and Remote Sensing, Wuhan University; [3]Electrical and Electronic Engineering, Nanyang Technological University, Singapore

RAPID AND AUTOMATED BODY MEASUREMENT OF CATTLE BASED ON STATISTICAL SHAPE MODEL

Yuzhi Bao, Hexiao Lu, Jianhuan Wu, Jie Lei, Jialong Zhang, Xinying Luo, Hao Guo
China Agricultural University, China, People's Republic of

AI-PC - 3: AI-PC: AI-Based Point Cloud and Image Understanding 3

Time: Thursday, 07/Sept/2023: 8:30am - 10:00am · *Location:* hall1

Object Detection and localisation for BIM enrichment

Sam De Geyter[1,2], Maarten Bassier[1], Heinder De Winter[1,3], Maarten Vergauwen[1]
[1]KU Leuven; [2]MEET HET BV; [3]DIRK BAUWENS NV

AUTOMATED DETECTION OF ROAD PAVEMENT CRACKS FROM MOBILE LASER SCANNING DATA USING A MODIFIED GRAPH CONVOLUTION NETWORK

Huifang Feng[1], Jonathan Li[2], Yiping Chen Chen[3], Lingfei Ma[4]
[1]Xiamen University, China; [2]University of Waterloo, Canada; [3]Sun Yat-sen University, China; [4]Central University of Finance and Economics, China

YUTO: A Large Scale Aerial LiDAR Data Set for Semantic Segmentation

Sunghwan Yoo, Connie Ko, Gunho Sohn, Hyungju Lee
York University, Canada

Monocular depth estimation for night-time images

Nour Khalefa, Nasser El-Sheimy
university of Calgary, Alberta,Canada

On the accuracy of yolov8-CNN regarding detection of humans in nadir aerial images for search and rescue applications

Julian Berndt, Henry Meißner, Thomas Kraft
German Aerospace Center, Germany

15-Satellite Remote Sensing 15: Remote Sensing and Mapping Technologies for Urban Studies and Infrastructure Development 15

Time: Thursday, 07/Sept/2023: 10:30am - 12:00pm · *Location:* BLUENILE

EXPLORING URBAN FUNCTIONAL ZONES BASED ON MULTI-SOURCE SEMANTIC KNOWLEDGE AND CROSS MODAL NETWORK

jiage chen[1], shu peng[1], hongwei zhang[1], shangwei lin[1], wenzhi zhao[2]
[1]National Geomatics Center of China, China, People's Republic of; [2]Beijing Normal University

KEY TECHNOLOGIES FOR 1:10,000 RAPID MAPPING BASED ON GF-7 SATELLITE

Jianwei Liu, Jianjun Liu, Bianli Zhao, Xue He, Shiquan Zhao, Chenchen Wu
National Geomatics Center of China, China, People's Republic of

On the assessment of instance segmentation for the automatic detection of specific constructions from very high resolution airborne imagery

Pedro Achanccaray Diaz[1], Markus Gerke[1], Leonhard Wesche[2], Sebastian Hoyer[2], Klaus Thiele[2], Ulrich Knufinke[3], Christina Krafczyk[3]
[1]Institute of Geodesy and Photogrammetry, Technical University of Braunschweig, Germany; [2]Institute of Preservation of Buildings and Structure, Technical University of Braunschweig, Germany; [3]Lower Saxony State Office for the Preservation of Monuments, Germany

CARTOGRAPHIC FEATURES EXTRACTION METHODOLOGY IN REMOTE SENSING IMAGES AIMING AT THE CARTOGRAPHIC UPDATE OF ALLOTMENTS

Eduardo Soares Nascimento[1], Allan Alves Lopes Ferreira[1], Thamires Gil Godoy[1], Caio Flávio Martinez Fontoura Junior[1], Guilherme Pina Cardim[1], Pedro Miguel Berardo Duarte Pina[2], Erivaldo Antonio da Silva[1]
[1]São Paulo State University, Brazil; [2]University of Coimbra, Portugal

Which Satellite should be used for Mapping

Karsten Jacobsen
Leibniz Universitaet Hannover, Germany

16-Satellite Remote Sensing 16: Water Quality and Aquatic Ecosystem Monitoring 16

Time: Thursday, 07/Sept/2023: 10:30am - 12:00pm · *Location:* CLEOPATRA

Integrating optical and radar imagery to enhance river drought monitoring

Stefano Conversi[1], Daniela Carrion[1], Alessandra Norcini[2], Monica Riva[1]

[1]Dipartimento di Ingegneria Civile e Ambientale, Politecnico di Milano, Piazza Leonardo Da Vinci 32, 20133 Milano, Italy; [2]Struttura Natura e Biodiversità, Direzione Generale Territorio e Sistemi Verdi, Regione Lombardia, Piazza Città di Lombardia 1, 20124 Milano, Italy

WATER QUALITY PARAMETERS PREDICTION OF TIGRIS RIVER USING SENTINEL-2 DATA AND LASSO REGRESSION

Suhaib Saad[1], Adel Elshazly[2], Ahmad Senousi[2], Walid Darwish[2], Moustafa Baraka[3], Wael Ahmed[2]

[1]Ministry of Environment, Karada, Baghdad, Iraq; [2]Public Works Department, Faculty of Engineering, Cairo University, Egypt; [3]German University in Cairo (GUC), Egypt

A Novel Hybrid Model Based on CNN and Multi-scale Transformer for Extracting Water Bodies from High Resolution Remote Sensing Images

Qi Zhang[1], Xiangyun Hu[1,2,3], Yao Xiao[4]

[1]School of Remote Sensing and Information Engineering, Wuhan University, Wuhan, China.; [2]Hubei Luojia Laboratory, Wuhan University, Wuhan, China.; [3]Institute of Artificial Intelligence in Geomatics, Wuhan University, Wuhan, China.; [4]Wuhan Geomatics Institute, Wuhan, China.

2-SPACE 2: SPACE - Spectral Remote Sensing in the era of AI, Cloud and Edge Computing 2

Time: Thursday, 07/Sept/2023: 10:30am - 12:00pm · *Location:* MORGANA

EXPLORING VERY HIGH-RESOLUTION REMOTE SENSING FOR ASSESSING LAND SURFACE TEMPERATURE OF DIFFERENT URBAN LAND COVER PATTERNS

Shushanik Asmaryan[1], Vahagn Muradyan[1], Andrey Medvedev[1], Rima Avetisyan[1], Azatuhi Hovsepyan[1], Anahit Khlghatyan[1], Grigor Ayvazyan[1], Fabio Dell'Acqua[2]

[1]Dept. of GIS and Remote Sensing, Center for Ecological-Noosphere Studies NAS RA, Yerevan, Armenia; [2]Dept. of Electrical, Computer and Biomedical Engineering, University of Pavia, Pavia, Italy

MAPPING BEE-KEEPING FOREST PLANTS FROM MEDIUM SPATIAL RESOLUTION MULTISPECTRAL SATELLITE DATA

Athanasios Antonopoulos[1], Olympia Gounari[2], Alexandros Falagas[2], Antonios Tsagkarakis[1], Konstantinos Karantzalos[2]

[1]Agricultural University of Athens, Greece; [2]National Technical University of Athens, Greece

Effect Analysis of Motion Compensation on Imaging Quality of Spaceborne Coded Aperture Hyperspectral Imager

Zhen Li, Xianfei Qiu, Shaocong Liu, Tinghao Liu

Institute of Remote Sensing Satellite, China Academy of Space Technology, China

AI-PC - 4: AI-PC: AI-Based Point Cloud and Image Understanding 4

Time: Thursday, 07/Sept/2023: 10:30am - 12:00pm · *Location:* hall1

A CLICK-BASED INTERACTIVE SEGMENTATION NETWORK FOR INSTANCE SEGMENTATION OF POINT CLOUDS

Wentao Sun[1], Jonathan Li[2], Zhipeng Luo[3], Lingfei Ma[4], Yiping Chen[5]

[1]University of Waterloo, Canada; [2]University of Waterloo, Canada; [3]ZHangzhou Normal University, China; [4]Central University of Finance and Economics, China; [5]Sun Yat-sen University, China

CrossI2P：an attention-based cross-modality panoramic image to point cloud place recognition method

Yuhao Li, Zhen Dong, BiSheng Yang

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

Using machine learning techniques to filter vegetation in colorized point clouds of soil surfaces

Oliver Grothum, Anne Bienert, Mikesch Blümlein, Anette Eltner

TU Dresden / Institut für Photogrammetrie und Fernerkundung, Germany

On the semantic segmentation and validation of electrical substations

maarten bassier

KU Leuven, Belgium

EVALUATIONS OF FILTERED GROUND POINTS FROM NAIP PHOTOGRAMMETRICALLY DERIVED POINT CLOUDS

Jung kuan Liu, Samantha Arundel, Ethan Shavers

USGS, United States of America