Scientific Program

ISDE 2023

13th International Symposium
on Digital Earth

11-14 JULY 2023
ATHENS GREECE
Harokopio University

TABLE OF CONTENTS

The Host

International Society for Digital Earth

The International Society for Digital Earth is a non-political, non-governmental and not-for-profit international organization, promoting academic exchange, science and technology innovation, education, and international collaboration towards Digital Earth.

Harokopio University of Athens, Department of Geography

The Department of Geography at Harokopio University of Athens was founded in 1999 and welcomed its first-class students during the academic year 2000- 2001. It is one of the two Hellenic university departments dedicated to Geography, a dynamic scientific field at the intersection of physical and social sciences. The mission of the Department of Geography consists in (i) promoting of the science of Geography, (ii) providing high-quality education, at undergraduate and post-graduate level, combining scientific ethos and theories of the Geographic science with the understanding of the problems the society faces, its demands, its needs, (iii) developing basic and applied research in the fields covered by Geography at international level, (iv) assuring the appropriate academic environment so that students, researchers and staff members may deploy at their best their capabilities. The Department offers one Undergraduate and one Postgraduate Program. Currently, the Department of Geography counts 15 Academic staff members, with recognition amongst the academics and intense presence in research.

Plenary Speakers

Huadong Guo

International Research Center of Big Data for Sustainable Development Goals (CBAS) / Chinese Academy of Sciences Aerospace Information Research Institute, China

Digital Earth Science Platform in facilitating SDGs

Tuesday, 11 July 2023

13.30 – 15:30	**Main Building**	**Main Auditorium**	**Level 0**

Alessandro Annoni

President-Elect of the International Society for Digital Earth (ISDE)

Is Digital Earth the Digital Twin of the Earth?

Tuesday, 11 July 2023

13.30 – 15:30	**Main Building**	**Main Auditorium**	**Level 0**

Maria Antonia Brovelli

Professor of GIS and Digital Mapping Politecnico di Milano, Italy

Training the machines with geospatial data

Wednesday, 12 July 2023

09.30 – 10:30	**Main Building**	**Main Auditorium**	**Level 0**

Fulong Chen

International Research Center of Big Data for Sustainable Development Goals, Beijing, China; Key Laboratory of Digital Earth Science, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China

Remote sensing empowers the sustainability of cultural heritage sites

Thursday, 13 July 2023

09.30 – 10:30   Main Building   Main Auditorium   Level 0

Arzu Çöltekin

University of Applied Sciences and Arts, Northwestern Switzerland's Institute of Interactive Technologies, Switzerland

Immersive technologies and extended reality: Implications for Digital Earth and beyond

Tuesday, 11 July 2023

13.30 – 15:30   Main Building   Main Auditorium   Level 0

Ioannis Papoutsis

Researcher, Institute for Astronomy, Astrophysics, Space Applications & Remote Sensing National Observatory of Athens, Greece

Artificial Intelligence in Earth Observation for Disaster Risk Management

Tuesday, 11 July 2023

13.30 – 15:30   Main Building   Main Auditorium   Level 0

Costas Varotsos

Faculty of Physics, National and Kapodistrian University of Athens, Greece

Advances in Remote Sensing and Nowcasting of Extreme Environmental Events

Wednesday, 12 July 2023

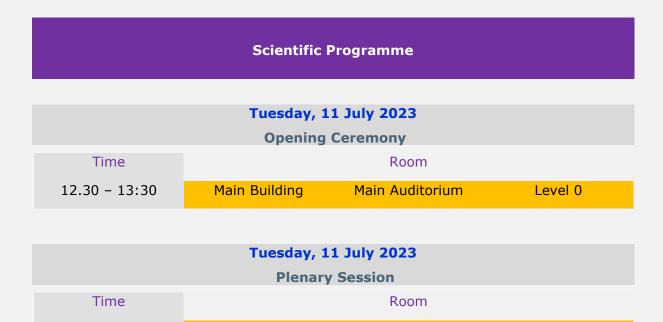**09.30 – 10:30   Main Building   Main Auditorium   Level 0**

Hiromichi Fukui

Professor, Vice President of Chubu University, Japan

Assessment of the impacts on the global environment by the Covid-19 pandemic lockdown and the Russian invasion using satellite time-series image – A case study in Ukraine and East Asia

Thursday, 13 July 2023

09.30 – 10:30   Main Building   Main Auditorium   Level 0

Scientific Programme

Tuesday, 11 July 2023		
Opening Ceremony		
Time	Room	
12.30 – 13:30	Main Building Main Auditorium	Level 0

Tuesday, 11 July 2023		
Plenary Session		
Time	Room	
13.30 – 15:30	Main Building Main Auditorium	Level 0

Chairs: Alessandro Annoni – Issaak Parcharidis

Digital Earth Science Platform in facilitating SDGs
Huadong Guo

Is Digital Earth the Digital Twin of the Earth?
Alessandro Annoni

Immersive technologies and extended reality: Implications for Digital Earth and beyond
Arzu Çöltekin

Artificial Intelligence in Earth Observation for Disaster Risk Management
Ioannis Papoutsis

Panel Session		
GeoAI Transfer Learning, Interoperability and Technology Transition		
Time	Room	
16.00 – 17:30	Main Building Main Auditorium Level 0	

Panelists:

Mike Goodchild (Emeritus Professor of Geography, U.C. Santa Barbara, USA)

May Yuan (Professor of Geospatial Information Sciences, University of Texas, Dallas, USA)

Budhu L Bhaduri (Director, Geospatial Science and Human Security Division, Oak Ridge National Laboratory, USA)

Kevin Dobbs (Foundation Pod Lead / Research Scientist, National Geospatial-Intelligence Agency, USA)

Lokendra Chauhan (Founder and CEO, Qen Labs, Inc., USA)

Alexander Zipf (chair of GIScience [Geoinformatics] at Heidelberg University, Heidelberg, Germany)

Tuesday, 11 July 2023 Climate Change and Adaptation A		
Time	Room	
16.00 – 17.30	New Building Ceremony Hall Level 1	

Chair: Gensuo Jia

Desert Locust Swarms impact on the local vegetation along India-Pakistan border and their possible development trends

Shibo Fang, Yuheng Wu, Zhifang Pei

The role of big Earth data in understanding climate change

Gensuo Jia, Xiyan Xu

Monitoring Stability Features of the Three Largest Ice Shelves in Antarctica

Rongxing Li, Guojun Li, Lu An, Menglian Xia, Aiguo Zhao, Xiangbin Cui, Shengkai Zhang, Shijie Liu, Yixiang Tian

Analysis of the spatial-temporal variations and influencing factors of ice velocity in Greenland and Antarctica

Di Jiang, Xinwu Li, Wen Hong, Yirong Wu

Mid-term progress of SDG 13 Climate Action in China estimated from Big Earth Data

Lei Huang

Tuesday, 11 July 2023   Earth Observation for Hydrological Events A

Time	Room		
16.00 – 17.30	Main Building	Class A1	Level 0

Chair: *Luis Felipe Patino Velasquez*
Spatial and temporal distributions of waterlogging disasters in the summer of 2021 in Mainland China and their possible impacts
Shibo Fang, Mangqian Li

Forecast and verification of hypoxia in summer 2022 using stratification factors in the central Bohai Sea

Jie Guo, Mengyu Zhang, Jing Ma, Xiangyang Zheng, Yanfang Li

Evaluating PlanetScope and Sentinel-2 Data in Representing Changes in Land Use and Land Cover in a Watershed

Chithrika Alawathugoda, Gilbert Hinge, Mohamed Hamouda

Quantifying water security using hyperresolution hydrological modelling on top of an Open Data Cube (ODC)

Luis Felipe Patino Velasquez, Elizabeth Lewis, Jon Mills

Tuesday, 11 July 2023   Satellite Systems: Present and Future

Time	Room		
17.30 – 19.00	Main Building	Main Auditorium	Level 0

Chair: Jiancheng Shi

3D Mapping using Low-cost PPP-GNSS and LiDAR

Satoru Sugita, Hiroshi Inoue, Hiromichi Fukui

Research on in-orbit detection method for moving targets of dual-line array satellite images

Ruofei Zhong, Cankun Yang, Jiawei Hao, Qingyang Li, Xin Du

Sustainable Development Satellite Constellation Serves UN 2030 Agenda for Sustainable Development

Haifeng Ding, Changyong Dou, Huadong Guo

A Concept Study on Cryosphere Monitoring Satellite

Jiancheng Shi, Hao Liu, Jinmei Pan

A Preliminary Study on Geometric Characteristics for Moon-based/Spaceborne Bistatic SAR Earth Observation

Ke Zhang, Huadong Guo, Chunming Han, Di Jiang

Tuesday, 11 July 2023	Climate Change and Adaptation B	
Time	**Room**	
17.30 – 19.00	New Building Ceremony Hall	Level 1

Chair: Zhen Li

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

Zhen Li, Ping Zhang, Xiaohua Hao, Lingmei Jiang, Pengfeng Xiao

A new method of diagnosing the permafrost changes using the Frost Number Model with Kappa coefficient for future adaption

Xiaoduo Pan, Hu Li, Rana Muhammad Ali Washakh

Unpacking the inter- and intra-urban differences of the association between health and exposure to heat and air quality in Australia using global and local machine learning models

Siqin Wang

Development of an IDL widget to automate the NL-DisTrad algorithm for downscaling the coarse resolution of satellite Data Product

Jayalakshmi Shanmugam, Naomi Lemuel, Vidhya R.

Tuesday, 11 July 2023	Earth Observation for Hydrological Events B	
Time	**Room**	
17.30 – 19:00	Main Building Class A1	Level 0

Chair: Aikaterini Bakousi

Earth Observation for drought monitoring in four different biogeographical regions in Europe

Aikaterini Bakousi, Aikaterini Stamou, Eleni Karachaliou, Ioannis Tavantzis, Ifigeneia Skalidi, Alexandros Skondras, Efstratios Stylianidis

Enhanced monitoring of water storage in on-farm reservoirs by combining optical remote sensing and LiDAR data

Yixuan Wang, Weiwei Zhu, Nana Yan

An intercomparison of multi-typed productions for capturing the precipitation characteristics and derived agricultural drought in the Amur River Basin over the Sino-Russian border region

Yezhi Zhou

Wednesday, 12 July 2023	Plenary Session	
Time	Room	
09.30 – 10:30	Main Building	Main Auditorium	Level 0

Chairs: Costas Varotsos – Issaak Parcharidis

Training the machines with geospatial data

Maria Antonia Brovelli

Advances in Remote Sensing and Nowcasting of Extreme Environmental Events

Costas Varotsos

Wednesday, 12 July 2023	Earth Observation & GIS A	
Time	Room	
11.00 – 12.30	Main Building	Main Auditorium	Level 0

Chair: Zhenguo Niu

Remote sensing monitoring of power consumption along the China-Pakistan Economic Corridor

Jinhu Bian, Ainong Li

A Rule and Graph-based Approach for 3D Roof Reconstruction from ALS Point Cloud Data

Gefei Kong, Mattia Manni, Gabriele Lobaccaro, Hongchao Fan

Comparison and assessment of SDGSat-1 data on monitoring urban wetlands and thermal environment-Taking Beijing city as an example

Zhenguo Niu, Linsong Liu, Qingyu Li

European Ground Motion Service for built heritage: a case study from Cyprus

Athos Agapiou, Vasiliki Lysandrou, Phaedon Kyriakidis, Stylianos Hadjipetrou, Nicholas Kyriakides, Renos Votsis

Wednesday, 12 July 2023   Innovative Practices in Agriculture

Time	Room		
11.00 – 12.30	New Building	Ceremony Hall	Level 1

Chair: Evgeny Panidi

FarmaDSS: Development of An Innovative DSS System for the Production of Cotton Using Remote Sensing, IOT Sensors and Advanced Agricultural Models
Theodoros Vakkas, Maria Pahoula, Gabriel Mavrellis, Simeon Taskaris, Dimitrios Leonidakis, Vasileios Papakonstantinou

Automation applied to zoning of agricultural field when studying erosional soil losses
Evgeny Panidi, Lubov Trofimetz, Roman Omarov

Spatial and temporal variation in the carrying capacity of grasslands in Mongolia
Nana Yan, Bingfang Wu, Weiwei Zhu, Battsetseg Tuvdendorj

Coupling Topographic Factors and Sentinel-1/2 Data for Soil Salinity Mapping
Tingting Zhang, Jie Li, Yun Shao, Zhengshan Ju

Wednesday, 12 July 2023   Artificial Geospatial Intelligence A

Time	Room		
11.00 – 12.30	Main Building	Class A1	Level 0

Chair: Getachew Workineh Gella

Weakly Supervised Semantic Segmentation for Dwelling Extraction in Refugee Camps from Very-High-Resolution Satellite Imagery

Yunya Gao, Stefan Lang, Dirk Tiede

A Latent Space Deblurring Algorithm for Optical Remote Sensing Image Based on Reference Image

Zhiyuan Li, Yueting Zhang, Jiayi Guo, Yirong Wu

Integration of sparse multi-source earth observation data with deep learning for crop type and yield estimation in smallholder farming areas

Getachew Workineh Gella, Daniel Asfaw Bekele, Daniel Ayalew Mengistu, Stefan Lang

Flooding mapping and analysis for Sentinel-1 SAR images based on clustering of deep features extracted from temporal autoencoder

Bin Liu, Bohui Jiang, Xiaofeng Li

Deep triplet networks based on multimodal data for high-resolution land use change detection

Yinhe Liu, Sunan Shi, Jue Wang, Yanfei Zhong, Liangpei Zhang

Hyperspectral Image Classification and Feature Importance Assessment based on CNN and Grad-CAM

Longfei Liu, Boyi Li, Adu Gong, Jing Li

Wednesday, 12 July 2023 Earth Observation & GIS B		
Time	Room	
14.00 – 15.30	Main Building　　Main Auditorium	Level 0

Chair: Tomas Reznik

Real transportation connections accounting applied to enhance settlement field potential models

Pavel Kuzmin, Mihail Karpenko, Evgeny Panidi, Aleksandr Sebentsov

Why Have Soil Data Harmonization Efforts Not Succeeded in Fulfilling the Digital Earth Visions So Far?

Tomas Reznik, Katharina Schleidt, Raúl Palma, Luís De Sousa, Fenny Van Egmond, Amil Ağayev

Process-oriented ocean spatiotemporal dynamic data mining for time-series of raster datasets and scientific discoveries

Cunjin Xue, Chaoran Niu

Wednesday, 12 July 2023		
Ocean Surface and Lower Atmosphere / Coastal Zone Management		
Time	Room	
14.00 – 15.30	New Building　　Ceremony Hall	Level 1

Chair: Ge Chen

Artificial Intelligence Aided Remote Sensing of the Intermediate Ocean

Ge Chen, Baoxiang Huang

Marine pollution and SAR dark spot of sea surface

Xupu Geng, Quankun Li, Dongsheng Liu

Deep learning-based reconstruction of temperature in the upper layers of the South China Sea from satellite observations

Qing Xu, Huarong Xie

The vertical fine structure of warming and cooling events in the near-surface layer of the ocean: Observed from wave-powered profiling float

Zetao Hu, Zhenyue Li, Fangjie Yu, Ge Chen

Two Deep-learning Models for Floating Green Tide Detection from satellite images acquired in the Yellow Sea

Le Gao

Wednesday, 12 July 2023   Artificial Geospatial Intelligence B

Time	Room		
14.00 – 15.30	Main Building	Class A1	Level 0

Chair: Juanle Wang

Deep learning method for large-scale automatic lake extraction using Sentinel-2 imagery

Jia Song, Xiangbin Yan, Chenyan Ma

Feasibility of nighttime lights data for the estimation of time-series gross domestic product and monitoring of industrial zones

Chuc Man Duc, Hiromichi Fukui

Sea Ice Concentration Product based on HY-2B SMR

Lijian Shi, Qimao Wang, Qian Feng, Bin Zou, Xiaoqing Lu

Opportunities and Challenges of Sustainable Development in the Mongolian Plateau Driven by Big Earth Data

Juanle Wang

HASM quantum machine learning

TianXiang Yue

Deep Unsupervised Building Extraction from High Resolution Remote Sensing Images

Zhen Li, Qiqi Zhu, Qingfeng Guan

Wednesday, 12 July 2023 ISDE Assembly			
Time	Room		
16.30 – 17.30	Main Building	Main Auditorium	Level 0

ISDE Short Presentation - Introduction to the ISDE Structure - Digital Earth Vision - ISDE Research Agenda - Welcome to Join ISDE

Wednesday, 12 July 2023 Societal Issues & Opportunities for Digital Earth			
Time	Room		
16.30 – 17.30	New Building	Ceremony Hall	Level 1

Chair: Joan Maso

Integration of a decentralized cloud-integrated spatial data infrastructure (SDI) and the Copernicus ecosystem in a public authoritiy: Lessons learned and solutions

Florian Beyer, Patric Brandt, Heike Gerighausen, Michael Schmidt, Markus Moeller

In Situ Earth Observation data requirements as key basis towards a full Digital Earth

Alba Brobia, Joan Maso, Ivette Serral, Marie-Françoise Voidrot

Multi-scale Remotely Sensed Estimation of Fractional Vegetation Cover in Desert Steppe, Inner Mongolia, China

Bayaer Wuliangha, Aodenggaowa Altchin, Xiaobo Liu, Yali Sun, Yukun Liu, Wuyangga Zhu, Xuesong Bai

Evaluating ethical values in current cartographic practices

Andriani Skopeliti

DestinE User Community: Stakeholder engagement for co-creating DESP use cases

Eleni Karachaliou, Aikaterini Bakousi, Costas Bissas, Antonio Romeo, Rob Carrillo, Efstratios Stylianidis

Study on Evaluation of Human Security Indicators (HSI) using Geographic Information System

Shin'ya Kawamura, Yukio Takasu, Yoichi Mine

Time	Room		
16.30 – 17.30	Main Building	Class A1	Level 0

Chair: Maria Antonia Brovelli

Big Earth Data-driven Design and compilation of Resources and Environment Atlas of South Asia along the Belt and Road

Ainong Li, Xi Nan, Wei Deng, Yu Chen, Ke Liao, Jinhu Bian

Geospatial User Feedback as a knowledge network through NiMMbus system

Javiera Crisóstomo López, Alaitz Zabala Torres

Global Three-Dimensional Aerosol Structure Construction with Regional Spectral Radiation Matching

Yong Xue

Innovative tools for lake water quality monitoring, citizen science and data sharing with SIMILE project

Maria Antonia Brovelli, Daniela Carrion

Inspiring Citizen Science Innovation on China's Monitoring of Water-related Sustainable Development Goals

Yaqian Wu, Muki Haklay, Carla Washbourne

Thursday, 13 July 2023	Plenary Session	
Time	Room	
09.30 – 10:30	Main Building Main Auditorium Level 0	

Chairs: Mario Hernandez - Issaak Parcharidis

Remote sensing empowers the sustainability of cultural heritage sites

Fulong Chen

Assessment of the impacts on the global environment by the Covid-19 pandemic lockdown and the Russian invasion using satellite time-series image – A case study in Ukraine and East Asia

Hiromichi Fukui

Thursday, 13 July 2023	Big Earth Data Platforms	
Time	Room	
11.00 – 12.30	Main Building Main Auditorium Level 0	

Chair: Dirk Tiede

Digital Earth Science Platform Supporting the SDG Applications: Infrastructure, Framework and Visualization

Xiaoping Du, Xiangtao Fan, Ruofei Zhong, Hongdeng Jian, Jian Liu, Zhenzhen Yan, Qin Zhan, Chen Xu

UNPT: unsupervised point clouds translation for better 3D perception

Youqi Liao, Kunning Zhen, Wuran Dai, Jianping Li, Bisheng Yang

Adding Semantic Interoperability to the Green Deal Data Space with Essential Variables products and user requirements

Joan Maso, Lucy Bastin, Ivette Serral, Alba Brobia, Victoria Lush

Transferrable Earth observation analyses in semantic EO data cubes using semantic querying across sensors

Dirk Tiede, Martin Sudmanns, Hannah Augustin, Andrea Baraldi

Deep Unsupervised Building Extraction from High Resolution Remote Sensing Images

Zhen Li, Qiqi Zhu, Qingfeng Guan

Thursday, 13 July 2023   Natural Hazards & Disaster Risk Reduction A

Time	Room		
11.00 – 12.30	New Building	Ceremony Hall	Level 1

Chair: Agus Hery Purnomo

PolarGO:A polar spatiotemporal information integration platform with real-time online 3D visualization services on polar regions

Songtao Ai, Fei Li, Feng Xiao

Rapid Greenhouse Mapping based on Interactive Object-Scene Awareness: A Case Study of China

Dingyuan Chen, Ailong Ma, Liqin Cao, Yuting Wan, Yanfei Zhong

Supporting place-based disaster risk assessment: An Indonesian-language book-based education initiative in Indonesia

Agus Hery Purnomo, Febi Dwirahmadi, Cheryl Desha, Iain MacKenzie

Innovative, collaborative, and cost-effective disaster preparedness: A case of Bali-Tsunami Early Warning Systems (B-TEWS)

I Gede Agung Teja Bhusana Yadnya, Febi Dwirahmadi, Cheryl Desha, Iain MacKenzie

Large-scale land subsidence and relative sea level rise in coastal areas of China revealed by multi-source observation data

Jie Dong, Sihui Li, Lu Zhang, Mingsheng Liao

Thursday, 13 July 2023   Data, Science and Technologies for Digital Earth

Time	Room		
11.00 – 12.30	Main Building	Class A1	Level 0

Chair: Han Ma

Digital Twin Human Geographic Environment

Hui Lin, Bingli Xu, Xin Xiao, Yuting Chen

Towards a spatial metaverse: Building immersive virtual experiences with digital twin and game engine

Chayn Sun

Retrieval of 30m spatiotemporal continuous Leaf Area Index (LAI) using a Temporal Convolutional Network approach

Han Ma

Time	Room		
14.00 – 15.30	Main Building	Main Auditorium	Level 0

Chair: Lixia Chu

Understand relationships between geo-spatial features and Covid-19 hospitalisations based on multi-source data and machine learning models

Lixia Chu, Jeroen Nelen, Alessandro Crivellari, Dainius Masiliunas, Carola Hein, Christoph Lofi

Estimation of radiative fluxes at the top and the bottom of the atmosphere from multispectral satellite data

Shunlin Liang, Chuan Zhan, Xiaotong Zhang, Qiang Liu, Jianglei Xu, Yunjun Yao, Bo Jiang

SDG Big Data Platform

Yingchao Piao

Refined Extraction of Desertification Information by Coupling Multi-source Big Earth Data and Deep Learning to Support SDG15.3

Shuxing Xu

Micro-scale urban operation model based on large-scale cell phone signaling data and its application in epidemic control policy evaluation

Kailu Xiong, Yao Yao

Time	Room		
14.00 – 15.30	New Building	Ceremony Hall	Level 1

Chair: Evgeny Panidi

Spatio-temporal monitoring method of landslide using multi-source remote sensing data

Qing Guo, Lianzi Tong, Hua Wang

Water Body Information Extraction of Qilu-1 Data with CNN-based SAR Image Feature Enhancement

Jie Li, Zhongqiu Xu, Mingzhi Wang, Suihua Liu, Bingchen Zhang, Yirong Wu

Application of satellite remote sensing for emergency response of Sichuan Luding M6.8 earthquake supported by domestic and international mechanisms

Longfei Liu, Kailong Hu

Simulation of River Basin Flood Based on Digital Earth

Jian Liu, Kangjie Wang, Xiangtao Fan

Geographically corrected clustering applied to establish medical service areas

Evgeny Panidi, Ilia Kuznetsov, Aleksandr Panteleev, Petr Yablonsky

Time	Room		
16.30 – 18.00	New Building	Ceremony Hall	Level 1

Chair: Angelly de Jesus Pugliese Viloria

Exploring the opportunities for GIS-enabled resilient communities, through trackless trams and transit activated corridors

Peter Newman, Dean Economou, Jan Scheurer, Savindi Caldera, Marie Verschuer, Mike Mauritz, Cheryl Desha

Urban spatial information analysis with multi-source large-scale long-time-series data: A case study of Wuhan, China

Ruyi Feng, Tao Xie, Lizhe Wang, Xianju Li

Understanding spatiotemporal patterns of social events based on social media data

Wei Huang, Huanying Chen

The Analysis of Land-use/Land-cover via a CA-Mokov Model associated with the Land Planning Policy

Min Jin, Ruyi Feng, Lizhe Wang, Jining Yan

Urban forestry for sustainable communities: Evidence from New York City

Jian Lin

Multi-hazard susceptibility mapping: air pollution, urban heat island, and flooding in Milan, Italy

Angelly de Jesus Pugliese Viloria, Andrea Folini, Daniela Carrion, Maria Antonia Brovelli

Time	Room		
16.30 – 18.00	New Building	Ceremony Hall	Level 1

Chair: Pavel Špulák

Brute Force Parallel Computation of the Czech Republic Area Coverage by Aerial Firefighting Resources for Combating Wildland Fires Based on Historical Data

Pavel Špulák

Registration to the Canine Search and Rescue Attestation Exams – System Integration with Spatial Data Processing on client and server side

Pavel Špulák

Multi-temporal change detection based on radar and optical satellite imagery to monitor the reconstruction and recovery process in Haiti after Hurricane Matthew

Wilson Andres Velasquez Hurtado, Deodato Tapete

Integration of Susceptibility, Vulnerability and Hazard Factors for Landslide Risk Assessment: A Case Study of Sichuan Province, China

Yuli Wang, Ting On Chan

SAR-Transformer: Decomposing InSAR time series and uncovering the temporal patterns of land deformation

Zherong Wu, Peifeng Ma

Friday, 14 July 2023   Cultural Heritage Monitor and Preservation

Time	Room		
11.30 – 13.00	New Building	Ceremony Hall	Level 1

Chair: Temenoujka Bandrova

European Ground Motion Service for built heritage: a case study from Cyprus

Athos Agapiou, Vasiliki Lysandrou, Phaedon Kyriakidis, Stylianos Hadjipetrou, Nicholas Kyriakides, Renos Votsis

Comparison of 3D Models of Objects Based on Handheld Scanner and Close-Range Photogrammetry

Tsvetelina Atanasova-Evdenova, Silvia Katsarska-Filipova, Dobromir Filipov

Geospatial Data for Immovable Cultural Heritage Properties in International Cartographic Standards

Yana Lipiyska, Temenoujka Bandrova

5D-ARCH-AID:Air Documentation of Architectural Heritage at Risk – The 5D-ARCH-AID Web Platform

Maria Pahoula, Theodoros Vakkas, Gabriel Mavrellis, Pavlos Chatzigrigoriou, Danae Kalliabetsou, Aliki Chamalidou, Gregory Biliris, Veronica Vaida, Teodor Calinoiu

Comprehensive Monitoring, Early Warning and Protection of Immovable Cultural Heritage

Yuan Qi, Jinlong Zhang, Hongwei Wang, Rui Yang

Friday, 14 July 2023

WORKSHOP

Building a global conscience through Industry-connected citizen engagement

Time	Room		
09.30 – 11.00	Main Building	Main Auditorium	Level 0

Friday, 14 July 2023   Natural Hazards & Disaster Risk Reduction D

Time	Room		
09.30 – 11.00	New Building	Ceremony Hall	Level 1

Chair: Fulong Chen

Global exacerbation of episodic local vegetation greenness decline by drought since the 21st century

Jianjun Wu

Adaptive identification of potential landslide hazards combining InSAR technology and disaster background indicators

Wenping Yin, Chong Niu, Yong Xue

Spatial downscaling of precipitation in geological hazard-prone areas based on multi-factor two-stage random forest regression

Simin Zhang, Ting On Chan

Detection and Characterization of Active Faults in Shandong Province, China using InSAR Time-Series Analysis

Meng Zhu, Fulong Chen, Wei Zhou

Friday, 14 July 2023 Monitoring and Protection of Biodiversity			
Time	Room		
11.30 – 13.00	New Building	Ceremony Hall	Level 1

Chair: Vitezslav Moudry

Processes and Tools for enabling Interoperability between Citizen Science and Expert Biodiversity Data in Agriculture

Berta Giralt, Gerid Hager, Joan Masó

HiLPD-GEE: High spatial resolution Land Productivity Dynamics calculation tool using Landsat and MODIS data

Xiaosong Li

Validation of high-resolution global canopy height maps and their applicability to biodiversity modelling

Vitezslav Moudry

Whole Process Monitoring and Conservation of Biodiversity in Qilian Mountain National Park

Yuan Qi, Jinlong Zhang, Hongwei Wang, Rui Yang

Can remote sensing-based crop classifications be used to monitor biodiversity in agricultural landscapes?

Jannes Uhlott, Florian Beyer, Heike Gerighausen, Markus Möller

Friday, 14 July 2023			
WORKSHOP			
Big Earth Data in Sustainable Cities			
Time	Room		
11.30 – 13.00	Main Building	Class A1	Level 0

Friday, 14 July 2023			
Closing Ceremony			
Time	Room		
13.00 – 13:30	Main Building	Main Auditorium	Level 0

P01. Urban Mapping in Coastal Regions of South Aegean Volcanic Arc Islands using Earth Obervation data

Pavlos Krassakis, **Andreas Karavias, Paraskevi Nomikou, Konstantinos Karantzalos, Nikolaos Koukouzas, Stavroula Kazana, Issaak Parcharidis**

P02. Web GIS applications of Kefalonia - Ithaca UNESCO Geopark and National Park of Mt. Ainos

Pavlos Krassakis, **Pavlos Delladetsimas, Issaak Parcharidis, Michail Xanthakis, Stavroula Kazana**

P03. Web INTEractive management tool for coal Regions in transition

Pavlos Krassakis, Konstantina Pyrgaki, Theodoros Zarogiannis, Nikolaos Koukouzas, Barbara Rogosz, Stefan Möllerherm, Andreas Karavias, Evangelia Zygouri, Anna Mpatsi, Stanislaw Pawliszyn, Adam Bajcar, Jacek Szczepinski, Lukas Kasperidus, Laura Cebula

P04. Assessment of Wind Energy Resources and Micro-Siting Optimization in Complex Terrain Wind Farms

Jun Zhou Hu

P05. A high-quality big ocean data processing and product development system

Bin Zhang, Xiaofeng Li, Lijing Cheng, Huanping Ren

P06. A cross-case analysis of spatiotemporal variations in surface temperatures of three different urban areas in Greece, using time-series Remotely Sensed data

Aikaterini Stamou

P07. WMO: A Useful Ontology for the Semantic Enrichment of Wetland Monitoring Data

Xin Xiao, **Hui Lin, Chaoyang Fang**

P08. Global monthly ocean dissolved oxygen concentration datasets based on BGC-Argo

Cunjin Xue, **Zhenguo Wang, Linfeng Yue**

P09. Integrate self-supervised learning and self-training to improve the domain adaptation for high-resolution remote sensing semantic segmentation

Jian Hui, Qiming Qin, Ling Wu, **Xin Ye**

P10. Land Surface Temperature Retrieval from Daytime Gaofen-5 Single-Channel Mid-Infrared Remote Sensing Data

Xin Ye, **Qiming Qin, Ling Wu**

P11. Mapping Aquaculture Areas with Sentinel-2 Time Series on Google Earth Engine based on Ensemble Learning: A Case Study of Fujian Province, China

Boyi Li, Zhiqing Huang, Wenxuan Bao , Jing Li , Jianjun Wu

P12. Mixed reality: Game design based on Digital Earth technology

Tian Li

P13. A Deep Learning Model for Hurricane Wind speed and Rainfall information retrieval from SAR Imagery

Shanshan Mu

P14. Potentials, limitations, and influencing factors of UAV-based soil moisture mapping for precision agriculture

László Bertalan, Szilárd Szabó, Angelika Pataki, Abdelmajeed Adam, Elrasheed Ali

P15. Deep Learning Strategies for Mapping desert-fringe Mediterranean Vegetation Patterns

Maxim Shoshany, Matan Cohen

P16. Quantifying the impacts of the Covid-19 pandemic lockdown and the Russian invasion on Sentinel 5P column NO2 variability in Ukraine

Anh Phan, Hiromichi Fukui

P17. Intraseasonal sea ice concentration variability over the Weddell Sea during austral autumn

Lei Song, Jialei Zhu

P18. Automated Estimation of Railway Ballast Volumes from LiDAR Data

Nil Ben Drihen, Ismaïl Ben Hariz, Flavien Viguier, Sirine Noura Kahil, Audrey Jacquin, Maxime Convert

P19. Geo-Intelligent retrieval framework based on machine learning in the cloud environment: A case study of soil moisture retrieval

Zhenghao Li, Qiangqiang Yuan

P20. Simulating the future through observations of the past: Concretizing the role of Geosimulation in the Geoinformatics discipline

Ian Estacio, Satoshi Hoshino

P21. A Preliminary Study on the Relationship between Urbanization Indicators and Biodiversity Indicators: A Case Study in the Chubu Region of Japan

Rie Kanai, Man Duc Chuc, Hiromichi Fukui

P22. Seabed Sediment Classification with Deep Dense Dilated Pyramid and Adaptive Graph Convolution Network

Xianju Li, Haoyi Wang, Weitao Chen

P23. An Earth Observation Data Processing Pipeline for Vector Borne Diseases Modeling

Konstantinos Tsaprailis, Lazaros Stamogiorgos, Charalampos Kontoes

P24. Analysing the relationship between land use and subsidence in the Randstad in the Netherlands

Stijn Mars, Lixia Chu, Dainius Masiliunas

P25. Correcting precipitation measurements at high altitudes using remote sensing data and in-situ meteorological observations

Hongyi Li, Xiaohua Hao

P26. National-Scale Mapping of the landside clustering of aquaculture ponds from Sentinel-1 and Sentinel-2 Time Series on Google Earth Engine

Boyi Li, Zhiqing Huang, Wenxuan Bao, Jing Li, Jianjun Wu

P27. Uncertainty-Aware Network for Building Extraction from High-Resolution Remote Sensing Images

Wei He, Jiepan Li, Ting Hu

P28. GIS for simulating air traffic by applying different multi-radar positioning techniques

Rafik Amara, **Maamar Bougherara, Mostefa Belhadj Aissa**

P29. Variation of sea ice area in Peter the Great Bay, Sea of Japan from 2011-2020 based on GOCI images

Yu Yan

P30. Image Variation Detection Based on Geometric Invariant Moments

Yunfei Lu, **Xiaoqing Lu, Qian Feng, Bin Zou, Lijian Shi**

P31. Polar Sea Ice Monitoring Using HY-2B Satellite Scatterometer and Scanning Microwave Radiometer Measurements

Qimao Wang, **Lijian Shi, Yunfei Lu, Xi Zhang**