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## Conference Committees

### General Conference Chairs

Dr. Liping Di, George Mason University, USA  
 Dr. Vladimir Crnojevic, BioSense Institute, Serbia

### Scientific Committee

Chairs	<p>Dr. Berk Üstündağ, Vice President, The International Society of Agromatics;            Professor, Istanbul Technical University            Dr. Jiali Shang, Agriculture and Agri-Food Canada, Canada            Dr. Zhengwei Yang, USDA NASS, USA</p>
Members	<p>Dr. Lizhe Wang, China University of Geosciences (Wuhan), China            Dr. Nengcheng Chen, China University of Geosciences (Wuhan), China            Dr. Yuqi Bai, Tsinghua University, China            Dr. Peng Yue, Wuhan University, China            Dr. Hong Fan, Wuhan University, China            Dr. Wenbin Wu, Chinese Academy of Agricultural Sciences, China            Dr. Jingfeng Huang, Zhejiang University, China            Dr. Lizhen Lu, Zhejiang University            Dr. Chao Zhang, Agricultural University of China, China            Dr. Xiaolong Dong, Chinese Academy of Sciences, China            Dr. John Qu, George Mason University, USA            Dr. Qinghan Dong, VITO, Belgium            Dr. Saeid Homayouni, INRS, Centre Eau Terre Environnement, Canada            Dr. Bedir Tekinerdogan, Wageningen University, Netherlands            Dr. Faisal Qamer, International Centre for Integrated Mountain Development, Nepal            Dr. Li Lin, George Mason University, USA            Dr. Zhongxin Chen, Food and Agriculture Organization of the United Nations (FAO)            Dr. Feng Gao, USDA Agricultural Research Service, USA            Dr. Wolfgang Kresse, Hochschule Neubrandenburg, Germany            Dr. Josh Lieberman, Open Geospatial Consortium (OGC), USA            Dr. Jenny Du, Mississippi State University, USA            Dr. Ruixin Yang, George Mason University, USA            Dr. Eugene Yu, George Mason University, USA            Dr. Liying Guo, George Mason University, USA            Dr. Chen Zhang, George Mason University, USA            Dr. Veraldo Liesenberg, Santa Catarina State University (UDESC), Brazil            Dr. Tien-Yin (Jimmy) Chou, Feng Chia University, Taiwan            Dr. R. Andres Ferreyra, Syngenta, USA</p>

## Local Organizing Committee

Chairs <TBD>

Members <TBD>

## Publication Committee

Chair Dr. Chen Zhang, George Mason University, USA

Member Bosen Shao, George Mason University, USA

## **Conference Sponsors**

### **Conference Financial Sponsors**

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### **Conference Company Sponsors**

PIESAT

### **Conference Technical Sponsors**

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Food and Agriculture Organization, United Nations

TARBIL Agricultural Informatics Applied Research Center

## Program at a Glance

<b>Day 1: July 15, 2024 (Monday)</b>	
10:00-17:00	Badge Pickup and On-site Registration (Location: TBD)
15:00-16:00	ISAM Board of Directors Meeting (Invited only)(Location: TBD)
16:00-17:00	Conference Committee Meeting (Invited only)(Location: TBD)
19:30-21:30	Conference Opening Reception (Foyer, BioSense Institute)
<b>Day 2: July 16, 2024 (Tuesday)</b>	
08:30-09:00	Badge Pickup and On-site Registration (Location: TBD)
09:00-09:40	Opening Ceremony
09:40-10:20	Keynote Speech
10:20-10:40	Coffee Break
10:40-12:00	Keynote Speech
12:20-14:00	Lunch (ground floor)
14:00-15:30	Breakout Sessions
15:30-15:50	Coffee Break
15:50-17:20	Breakout Sessions
<b>Day 3: July 17, 2024 (Wednesday)</b>	
9:00-10:30	Plenary session
10:30-10:50	Coffee Break
10:50-12.20	Plenary session
12:20-14:00	Lunch (ground floor)
14:00-15:30	Breakout Sessions
15:30-15:50	Coffee Break
15:50-17:20	Breakout Sessions
18:00-21:00	Conference Dinner and Award Ceremony (Location: TBD)
<b>Day 4: July 18, 2024 (Thursday)</b>	
09:00-10:30	Breakout Sessions
10:30-10:50	Coffee Break
10:50-12:20	Breakout Sessions
12:20-14:00	Lunch (ground floor)

## Table of Sessions

Note: There are four breakout sessions for each day: session 1 from 9:00-10:30; session 2 from 10:50 to 12:20; session 3 from 14:00-15:30; and session 4 from 15:50 to 17:20. The coffee breaks in both morning and afternoon are 20 minutes each.

The meaning of the breakout session label: Gds-r. For example, G13-1, which means the general breakout session is on day 1 of the meeting (Tuesday), the third session (from 14:00 to 15:30) at breakout room 1.

Breakout room 1: Conference Room 1 (ground floor)

Breakout room 2: Conference Room 2 (ground floor)

Breakout room 3: Conference Room 3 (ground floor)

K	Keynote
P	Plenary
G13-1	Agricultural Big Data Processing and Storage
G13-2	Geospatial Intelligence and Innovative Applications in Agriculture 1
G13-3	Student competition 1
G14-1	Agricultural Ecosystem Monitoring, Assessment, Conservation, and Service Sustainability
G14-2	Geospatial Intelligence and Innovative Applications in Agriculture 2
G14-3	Student competition 2
G23-1*	Agro-Informatics at Scale-Informatics for Agrifood Systems Digital Transformation 1
G23-2	GeoAI and Earth Observation Driven Advances in Agricultural and Environmental Science 1
G23-3	Precision Agriculture
G24-1*	Agro-Informatics at Scale-Informatics for Agrifood Systems Digital Transformation 2
G24-2	GeoAI and Earth Observation Driven Advances in Agricultural and Environmental Science 2
G24-3	Agro-AI/ML
G31-1	Theories, Methodologies and Algorithms in Agromatics
G31-2	Land Cover Mapping and Land Change Science
G31-3*	Remote-Sensing based Agricultural Disaster Monitoring, Assessment, and Mitigation 1

G32-1	Agricultural Digital Twin/Agro-AI/ML Panel Discussion
G32-2	Agricultural Decision Support Systems
G32-3*	Remote-Sensing based Agricultural Disaster Monitoring, Assessment, and Mitigation 2

\* Invited Session



# Conference Program

## Opening Ceremony

Tuesday, July 16, 2024

9:00 – 9:40

Chair: Berk Üstündağ

Location: Amphitheater (mezzanine level - one level up from the ground floor)

Time	Event
9:00-9:10	<b>Welcome Address</b> Dr. Vladimir Crnojevic, BioSense Institute
9:10-9:20	<b>Welcome Address</b> Liping Di, President of ISAM
9:20-9:30	<b>Introduction to the Conference Technical Program</b> Berk Üstündağ and Zhengwei Yang
9:30-9:40	<b>Announcement of Agro-geoinformatics 2025</b> Liping Di

## Keynote Session

Tuesday, July 16, 2024

9:40 - 12:00

Chair: Feng Gao, Berk Üstündağ

Location: Amphitheater (mezzanine level - one level up from the ground floor)

Time	Event
9:40-10:20	<b>Taking the Earth's Temperature - Diagnosing Evaporative Fluxes Across Scales</b> Martha C. Anderson, USDA ARS
10:20-10:40	Coffee Break
10:40-11:20	<b>&lt;TBD&gt;</b> Dejan Jakovljevic, FAO
11:20-12:00	<b>Geospatial data in Generative AI and Digital Twins</b> Piotr Zaborowski, OGC

## Plenary Session Schedule

Wednesday, July 17, 2024

9:00 – 12:00

Session Chair: Zhengwei Yang, Ruixin Yang

Location: Amphitheater (mezzanine level – one level up from the ground floor)

Time	Event
9:00-9:30	<b>Mapping Crop Emergence at 30-m Resolution over the Conterminous United States</b> Feng Gao, Haoteng Zhao and Martha Anderson, USDA ARS
9:30-10:00	<b>CropSmart Digital Twin—Automating the Cropping Decision Making</b> Liping Di, George Mason University
10:00-10:30	<b>Climate Risk Profiles and Agricultural Vulnerability in Africa: A Multi-dimensional Analysis</b> Zhe Guo, IFPRI; and Ruixin Yang, George Mason University
10:30-10:50	Coffee Break
10:50-11:20	<b>Incorporating Decision Tree and Deep Learning for Rapidly and Accurately Mapping of Large-Scale Photovoltaic Landuse</b> Lizhen Lu, Zhejiang University
11:20-11:50	<TBD>
11:50-12:20	<b>PIESAT</b>

## Breakout Session Schedule, July 16

### G13-1: Agricultural Big Data Processing and Storage

Session Chair: Feng Gao

Tuesday, July 16, 2024

14:00 – 15:30

Location: Conference Room 1 (ground floor)

Time	ID	Title & Authors
14:00-14:20	10	<b>Remote Sensing Insights: Generating Hawaiian Cropland Data Layers (HCDL) for Informed Decision Making</b> Zhe Li, Qi Chen, Zhengwei Yang, Haonan Chen, Noa Lincoln, Changyong Cao, Rick Mueller and Patrick Willis
14:20-14:40	64	<b>GEOSatDB: global civil earth observation satellite semantic database</b> Ming Lin, Meng Jin and Yuqi Bai
14:40-15:00	75	<b>Assess the Impact of Climate Change on Agricultural Productivity Using GES DISC Data on Temperature, Precipitation, and Drought Indices</b> Eugene Yu, Mahabaleshwara Hegde, Liping Di, Li Lin, Peisheng Zhao, Zhong Liu and Suhung Shen
15:00-15:20	76	<b>Implementation of a Data Interoperability Working Group (DIWG) Recommendation Compliance Test Tool for Earth Science Data Using pytest Framework</b> Eugene Yu, Mahabaleshwara Hegde, Liping Di and Peter J.T. Leonard
15:20-15:30		Q/A and Discussion
Coffee Break		

### G13-2: Geospatial Intelligence and Innovative Applications in Agriculture 1

Session Chair: Lizhen Lu, Berk Üstündağ

Tuesday, July 16, 2024

14:00 – 15:30

Location: Conference Room 2 (ground floor)

Time	ID	Title & Authors
14:00-14:20	1	<b>Study on fruit tree extraction method based on Sentinel-2 image --- Take Pingliang City, Gansu Province as an example</b> Tao Liu and Aihong Gai

14:20-14:40	83	<b>Detecting the impacts of Russia-Ukraine conflict on crop growth and human activity using multi-modal remote sensing time-series data</b> Lizhen Lu and Yiqing Zhu
14:40-15:00	33	<b>From Tradition to Innovation: A Comparative Study of Advanced Deep Learning and Traditional Techniques in Agricultural Field Boundary Detection in Rural South Africa</b> Dr. Cecilia Masemola, Prof Moses Cho and Wessel Bonnet
15:00-15:20	30	<b>Enhancing Machine Learning Crop Classification Models through SAM-Based Field Delineation Based on Satellite Imagery</b> Vladimir Kovačević, Branislav Pejak and Oskar Marko
15:20-15:30		Q/A and discussion
Coffee Break		

### G13-3: Student competition 1

Session Chair: Ruixin Yang

Tuesday, July 16, 2024

14:00 - 15:30

Location: Conference Room 3 (ground floor)

Time	ID	Title & Authors
14:00-14:20	7	<b>Spatiotemporal Patterns and Driving Factors of Growing Season Drought on the Loess Plateau</b> Zichen Yue, Shaobo Zhong and Xin Mei
14:20-14:40	8	<b>A framework of component temperature inversion for row crops based on high spatial resolution data</b> Qunchao He, Naijie Peng, Huazhong Ren and Wenjie Fan
14:40-15:00	58	<b>Prediction of Soil Organic Matter in Black Soil Region Based on BP Neural Network with Genetic Algorithm Variable Selection</b> Ma Yuyang, Yang Chao, Guan Haixiang, Xu Jingyue and Hu Chuli
15:00-15:20	6	<b>Maize leaf biomass retrieval at multi-growing stage using UAV multispectral images based on 3D radiative transfer process-guided machine learning</b> Dan Zhao, Hao Yang, Guijun Yang, Xingang Xu, Bo Xu
15:20-15:30		Q/A and discussion
Coffee Break		

## G14-1: Agricultural Ecosystem Monitoring, Assessment, Conservation, and Service Sustainability

Session Chair: Shuhe Zhao

Tuesday, July 16, 2024

15:50 - 17:30

Location: Conference Room 1 (ground floor)

Time	ID	Title & Authors
15:50-16:10	60	<b>Analysis of Climate Change Impacts on Vegetation Growth in the Aral Sea Basin: a case study in Uzbekistan</b> Xue Hu and Kenji Tanaka
16:10-16:30	42	<b>Agro-drought Monitoring and Prediction Based on Gaussian Process Regression (GPR) Using Intergated Remote Sensing Data</b> Shuhe Zhao and Jinlong Fan
16:30-16:50	73	<b>Advancements in research on sustainable ecosystem development in the Three Parallel Rivers region based on bibliometric analysis</b> Aihong Gai, Hua Liu, Junqing Lin and Congcong Lu
16:50-17:10	85	<b>Ecological Sensitivity Analysis of Weishan County Based on GIS</b> Dehao Li and Yuli Wang
17:10-17:30		Q/A and Discussion

## G14-2: Geospatial Intelligence and Innovative Applications in Agriculture 2

Session Chair: Berk Üstündağ, Lizhen Lu

Tuesday, July 16, 2024

15:50 - 17:30

Location: Conference Room 2 (ground floor)

Time	ID	Title & Authors
15:50-16:10	32	<b>AI-Based Precipitation Prediction in Local-Scale Agriculture</b> Mehmet Selahaddin Şentop, Meriç Yücel and Burak Berk Üstündağ
16:10-16:30	36	<b>HARVEST DATE PREDICTION BASED ON DATA FUSION WITH PECNET</b> Ajla Kulagic and Berk Üstündağ
16:30-16:50	37	<b>INTEGRATING PREDICTIVE ERROR COMPENSATED NETWORK WITH MEALY MACHINE MODEL FOR ENHANCED CROP YIELD PREDICTION AT DISTRICT AND PROVINCE LEVELS</b> Mustafa Abdullah Hakköz, Serkan Macit and Burak Berk Üstündağ

16:50-17:10	81	<b>OBJECT-BASED DETECTION OF HAZELNUT ORCHARDS USING VERY HIGH RESOLUTION AERIAL PHOTOGRAPHS</b> Ilay Nur Tumer, Gafur Semi Sengul, Elif Sertel and Beyza Ustaoglu
17:10-17:30	82	<b>DESIGN OF GIS BASED SPATIAL DECISION SUPPORT SYSTEM FOR HAZELNUT CULTIVATION: A CASE STUDY PART OF SAKARYA, TÜRKİYE</b> Beyza Ustaoglu, Elif Sertel, Şinasi Kaya, Yasemin Ezber, Samet Aksoy, Hüseyin İrfan Balık, Orhan Karakaya, Cercis İkiel, Derya Evrim Koç and Neriman Beyhan

### G14-3: Student competition 2

Session Chair: Ruixin Yang

Tuesday, July 16, 2024

15:50 - 17:30

Zoom Meeting: <https://gmu.zoom.us/j/92012610158?pwd=OCLNGSiWKUa8tqsjjGrZzDKbP1v0d7.1>

Time	ID	Title & Authors
15:50-16:10	54	<b>Generation of NAIP-like earth surface imagery using Generative Adversarial Networks</b> Bosen Shao, Hui Li, Ziao Liu, Chen Zhang, Li Lin, Gavin Middleton, Liying Guo and Liping Di
16:10-16:30	55	<b>The Impact of Early-Season Weather Factors and vegetation indices on Corn Yield at County level</b> Ziao Liu, Chen Zhang, Liping Di, Bosen Shao, Hui Li, Li Lin and Liying Guo
16:30-16:50	51	<b>In-season crop-type mapping in Kenya using Sentinel-2 imagery</b> Hui Li, Zhe Guo, Chen Zhang, Li Lin, Liying Guo, Haoteng Zhao, Ziao Liu, Bosen Shao and Liping Di
16:50-17:10	50	<b>Degradation of the Everglades Mangrove Forests from Intense Hurricane Events: a 20 Year Landsat Study</b> Gavin Middleton and Shahriar Bin Shahid
17:10-17:30		Q/A and discussion

## Breakout Session Schedule, July 17

### G23-1\*: Agro-Informatics at Scale-Informatics for Agrifood Systems Digital Transformation 1

Session Chair: Zhongxin Chen

Wednesday, July 17, 2024

14:00 - 15:30

Location: Conference Room 1 (ground floor)

Time	ID	Title & Authors
14:00-14:20	22	<b>Characterizing the extension and duration of plastic-mulched farmland using Sentinel-2 data</b> Hasituya Ms., Zhongxin Chen and Zhiyuan Yan
14:20-14:40	25	<b>Monitoring, evaluation and rationalization of water and land uses for sustainable agriculture in Libya: A Geospatial platform (MerWat-Libya) as a tool for information, knowledge transfer and decision-making</b> Abdourahman Maki, Bashir Nwer, Gautam Dadhich, Matieu Henry, Richmond Manasseh, Michael Tefera, Faycel Chenini and Karl Morteo
14:40-15:00	26	<b>FAO WaPOR open access data for improved irrigation advisory services: applications examples from countries</b> Livia Peiser, Insaf Cherif, Anis Bousselmi, Karim Bergaoui, Makram Fraj and Virginie Gillet
15:00-15:20	40	<b>Geospatial analysis for decision support, suitability assessment for value chain infrastructure interventions</b> Nelson Ribeiro
15:20-15:30		Q/A and Discussion
Coffee Break		

### G23-2: GeoAI and Earth Observation Driven Advances in Agricultural and Environmental Science 1

Session Chair: Veraldo Liesenberg

Wednesday, July 17, 2024

14:00 - 15:30

Location: Conference Room 2 (ground floor)

Time	ID	Title & Authors
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14:00-14:20	67	<b>A comparative study on CMIP6 data downscaling based on machine learning methods</b> Zeqiang Chen, Xinghao Li, Wenying Du and Nengcheng Chen
14:20-14:40	49	<b>Corn phenology and productivity with PlanetScope images</b> Leila Lucia Camintia, Veraldo Liesenberg, André Felipe Hess, Fabio Henrique de Barros, Marcos Benedito Schimalski, Fabio Marcelo Breunig and Leonardo Josoe Biffi
14:40-15:00	48	<b>Mapping Burned Scars over Grasslands using PlanetScope Images in Southern Brazil</b> Veraldo Liesenberg, Marchante Olímpio Assura Ambrósio, Gustavo Bassoli Branco, Vitória Regina Vinciguera, Marcos Benedito Schimalski and Michel Tadeu Rodrigues Nolasco de Omena
15:00-15:20	57	<b>Assessing Carbon Storage and Sequestration in Kenya: A Spatial-Temporal Analysis Using Remote Sensing and INVEST Modeling</b> Zhe Guo
15:20-15:40		Q/A and discussion
Coffee Break		

## G23-3: Precision Agriculture

Session Chair: Ayda Aktas

Wednesday, July 17, 2024

14:00 – 15:30

Location: Conference Room 3 (ground floor)

Time	ID	Title & Authors
14:00-14:20	34	<b>From Past to Present: Unraveling the Tapestry of Small-Scale Agriculture Impact on Rural South Africa Landscape</b> Dr. Cecilia Masemola, Prof Moses Cho and Wessel Bonnet
14:20-14:40	68	<b>Effects of continuous rainout deficit on growth and yield of spring wheat in the semi-arid region of the Loess Plateau, China</b> Congcong Lu, Xiaoping Wang and Aihong Gai
14:40-15:00	28	<b>Position Accuracy Evaluation Integrated with Ego Sensors for Crowdsourced HD Map</b> Yanhua Qi, Peng Yue, Jian Li, Kai Yan, Yuxiang Guo and Chuanwei Cai
15:00-15:20	35	<b>Assessing the Impact of Ground-mounted Photovoltaic Solar Farms using Remote Sensing</b> Ayda Aktas and Burak Berk Üstündağ

15:20-15:30		Q/A and discussion
Coffee Break		

## G24-1\*: Agro-Informatics at Scale-Informatics for Agrifood Systems Digital Transformation 2

Session Chair: Zhongxin Chen

Wednesday, July 17, 2024

15:50 - 17:20

Location: Conference Room 1 (ground floor)

Time	ID	Title & Authors
15:50-16:10	41	<b>GloSIS: Federating Global Soil Information and Data through a Global Network</b> Yusuf Yigini, Luis Rodriguez, Marcos Angelini, Isabel Luotto, Yi Peng and Newton Nyapwere
16:10-16:30	43	<b>Agro-informatics at Scale</b> Karl Morteo and Zhongxin Chen
16:30-16:50	46	<b>Agro-informatics for agrifood system digital transformation</b> Zhongxin Chen
16:50-17:10	47	<b>Real-time disease risk monitoring and forecasting for early action</b> Claudia Pittiglio, Fredrick Kivaria, Karl Morteo, Charles Bebay, Ismaila Seck, Alessandra Falcucci, Giuseppina Cinardi, Gianluca Franceschini, Baba Soumare and Madhur Dhingra
17:10-17:20		Q/A and discussion

## G24-2: GeoAI and Earth Observation Driven Advances in Agricultural and Environmental Science 2

Session Chair: Haoteng Zhao

Wednesday, July 17, 2024

15:50 - 17:20

Zoom Meeting: <https://gmu.zoom.us/j/94406629173?pwd=cvJKi8SHMbYBQj1eXapVMaUaRUlU9Y.1>

Time	ID	Title & Authors
15:50-16:10	79	<b>Enhancing Grazing Land Analysis through Integrated Earth Observation and Machine Learning</b>

		Jisung Chang, Richard Cirone, Haoteng Zhao, Feng Gao and Martha Anderson
16:10-16:30	59	<b>Phenologically Corrected Crop Condition Mapping and Assessment with Vegetation Index Time Series</b> Haoteng Zhao, Feng Gao, Martha Anderson, Richard Cirone, Jisung Chang, Li Lin, Chen Zhang, Hui Li, Ziao Liu and Bosen Shao
16:30-16:50	78	<b>Retiming Evaporative Stress Index to Vegetation Phenology in Iowa Croplands</b> Richard Cirone, Martha Anderson, Jisung Chang, Haoteng Zhao, Feng Gao and Christopher Hain
16:50-17:10	90	<b>Reconstructing SMAP-derived 1-km Soil Moisture Dataset Using DINEOF+ Algorithm</b> Haoteng Zhao, Haipeng Zhao and Chen Zhang
17:10-17:20		Q/A and Discussion

## G24-3: Agro-AI/ML

Session Chair: Burak Berk Üstündağ

Wednesday, July 17, 2024

15:50 - 17:20

Location: Conference Room 3 (ground floor)

Time	ID	Title & Authors
15:50-16:10	72	<b>AgriST-Trans: A self-supervised Transformer pre-trained model for crop classification based on time-series remote sensing</b> Haiyang Li, Yuhui Bie and Yaojun Wang
16:10-16:30	80	<b>Feature Selection for Performance Improvement of AI Applications in Agriculture</b> Burak Berk Üstündağ, Mehmet Selahaddin Şentop, Ayda Aktas, Mustafa Hakkoz and Meriç Yücel
16:30-16:50	17	<b>Establishing a novel algorithm of Chl-a concentration inversion and algae classification based on 1D-CNN with hyperspectral data measured by field spectroradiometer</b> Chengqi Huang, Shiyou Xu, Ran Bi, Xiaoyu Zhang, Ran Liao, Binbin Jiang, Yong Du and Hui Ma
16:50-17:20		Q/A and Discussion

## Breakout Session Schedule, July 18

### G31-1: Theories, Methodologies and Algorithms in Agromatics

Session Chair: Liang Liang

Thursday, July 18, 2024

9:00 – 10:30

Zoom Meeting: <https://gmu.zoom.us/j/93561707975?pwd=RRGsjsxBBJIOf4Axe9Z0n0QFIr0Jc0.1>

Time	ID	Title & Authors
9:00-9:20	62	<b>Estimation of Chinese terrestrial ecosystem NEP coupled with remote sensing and ground data</b> Zipeng Song and Liang Liang
9:20-9:40	65	<b>The Influence of Different Bandwidths on Crop Canopy Chlorophyll Content Estimation Using Vegetation Index</b> Liang Liang
9:40-10:00	70	<b>Spatiotemporal Characteristics and Influencing Factors of Net Primary Productivity (NPP) and Net Ecosystem Productivity (NEP) in European Terrestrial Ecosystems</b> Xiaohan Zhao and Liang Liang
10:00-10:20	69	<b>Dynamic monitoring of grassland vegetation degradation based on GF-6 data</b> Yan Zhang, Junjun Wu and Liang Liang
10:20-10:30	12	<b>Estimation of leaf C/N in crops based on canopy hyperspectral measurements and machine learning methods</b> Xingang Xu, Hao Yang, Wenbiao Wu, Guijun Yang, Xiaoyu Song, Xiaodong Yang, Yang Meng and Haikuan Feng
Coffee Break		

### G31-2: Land Cover Mapping and Land Change Science

Session Chair: Branislav Živaljević

Thursday, July 18, 2024

9:00 – 10:40

Location: Conference Room 2 (ground floor)

Time	ID	Title & Authors
9:00-9:20	24	<b>TSRSnet: A novel semantic segmentation algorithm for crop extraction from time-series multispectral remote sensing image</b> Bin Wen, Rumeng Pan and Yungang Cao

9:20-9:40	2	<b>Extraction of Settlements in Plains and Mountainous Areas Based on High-Resolution Remote Sensing Data and SAM Segmentation Algorithm</b> Miao Liu, Shijun Wang, Jing Chen and Zhenhai Li
9:40-10:00	3	<b>Winter wheat classification within heterogeneous agricultural landscapes</b> Jiayi Zhang, Zhenhai Li, Mingxian Zhao, Yingying Dong and Juntao Yang
10:00-10:20	16	<b>Multi-annual crop maps reveal cropping patterns in the Vojvodina region (Serbia)</b> Branislav Živaljević, Miljana Marković, Gordan Mimić, Oskar Marko and Sean Woznicki
10:20-10:40	88	<b>Analysis of Land Use Changes in Linyi City Based on RS Images</b> Xiaoli Jia and Yuli Wang
Coffee Break		

## G31-3\*: Remote-Sensing based Agricultural Disaster Monitoring, Assessment, and Mitigation 1

Session Chair: Xiaoyu Zhang

Thursday, July 18, 2024

9:00 - 10:40

Location: Conference Room 3 (ground floor)

Time	ID	Title & Authors
9:00-9:20	5	<b>Atmospheric correction technology of Sentinel-2 data aiming for small water bodies</b> Binbin Jiang, Xiaoyu Zhang, Ran Bi, Yong du and Chengqi Huang
9:20-9:40	9	<b>The Application of Blockchain Technology in the Area of Satellite Remote Sensing Data</b> Haiyu He, Yongheng Shang, Xiaoyu Zhang, Jianwei Yin and Shuiguang Deng
9:40-10:00	11	<b>CMMSNet: A Multi-modal Semantic Segmentation Network for Rooftop Extraction based on SAR and Optical Images</b> Zhengwei Shen, Yongheng Shang, Xiaoyu Zhang, Jianwei Yin, Jun Han and Cai Chao
10:00-10:20	14	<b>Performance of fusion methods of Sentinel and GF-2 satellite images aiming for reservoirs in Hainan Island, China and potential in feature classification of aquatic environmental</b> Yuchen Zhu, Xiaoyu Zhang, Binbin Jiang and Chen Su

10:20-10:40	15	<b>An innovative Method for Estimating Changes in Reservoir Storage Capacity Based on Digital Elevation Model and Gaofen-2</b> Mengqi Wang and Xiaoyu Zhang
Coffee Break		

## G32-1: Agricultural Digital Twin/Agro-AI Panel Discussion

Session Chair: Berk Üstündağ

Thursday, July 18, 2024

10:50 - 12:20

Location: Conference Room 1 (ground floor)

Time	ID	Title & Authors
10:50-12:20		This panel session will discuss the advancement of AI/ML and Digital Twin technology and how agriinformatics community should take advantage of the advancement  Panelists: TBD

## G32-2: Agricultural Decision Support Systems

Session Chair: Zeqiang Chen

Thursday, July 18, 2024

10:50 - 12:20

Location: Conference Room 2 (ground floor)

Time	ID	Title & Authors
10:50-11:10	38	<b>Enhancing Water Quality Monitoring in Irrigation Systems via Affordable Impedance Spectroscopy and Neural Network Integration</b> Oğuzhan Aybar, Zeynep Kara, Meriç Yücel and Burak Berk Üstündağ
11:10-11:30	4	<b>A Literature Survey of Study on Remote Sensing Drought Monitoring System</b> Zichen Yue, Xin Mei and Shaobo Zhong
11:30-11:50	71	<b>GraphCast-Qtf: an improved weather prediction model based on the uncertainty quantification method</b> Lang Zheng, Ruxue Xing and Yaojun Wang

11:50-12:10	89	<b>A Cyber-agricultural System for Automating Near Real-time Crop Yield Prediction and Dissemination</b> Zhengwei Yang, Xiaoyu Wang, Yuchi Ma, Songxi Yang, Haiyue Liu, Zhou Zhang and Qunying Huang
12:10-12:20		Q/A and Discussion

## G32-3\*: Remote-Sensing based Agricultural Disaster Monitoring, Assessment, and Mitigation 2

Session Chair: Xiaoyu Zhang

Thursday, July 18, 2024

10:50 - 12:30

Location: Conference Room 3 (ground floor)

Time	ID	Title & Authors
10:50-11:10	18	<b>Design of a monitoring system for surface drinking water sources integrated with satellites data and in-situ measurements</b> Xiaoyu Zhang, Yongheng Shang, Chen Su, Chengqi Huang, Yuchen Zhu, Ran Liao and Hui Ma
11:10-11:30	19	<b>Transparency inversion algorithm for surface drinking water sources based on high-resolution satellite (GF-2) data</b> Kai Zhang, Xiaoyu Zhang and Binbin Jiang
11:30-11:50	21	<b>Monitoring water quality of surface drinking water sources on Hainan island, China with Satellite time series dataset</b> Yong Du, Xiaoyu Zhang and Binbin Jiang
11:50-12:10	27	<b>Methods for Monitoring the Photovoltaic Pannel: A Review</b> Yongheng Shang, Haiyu He, Zilun Zhang, Zhengwei Shen, Xiaoyu Zhang, Xiaoye Miao, Jianwei Yin, Jun Han and Cai Chao
12:10-12:30	31	<b>Enhanced Monitoring of Microalgae Blooms in Aquaculture Areas via Polarized Light Scattering and Fluorescence Signal Pulse Features</b> Jianxiong Yang, Ran Bi, Chengqi Huang, Xiaoyu Zhang, Ran Liao and Hui Ma