

XXV ISPRS Congress

Preliminary Program

Disclaimer Regarding the Scientific Program: While every effort is made to ensure the accuracy of the program, the Organizing Committee reserves the right to make changes as necessary, including to the schedule, speakers, sessions, or other program details, in order to maintain scientific quality, ensure the smooth running of the program, and make effective use of available resources in preparing the *final program*. Please check the official conference website regularly for the latest updates.

Date: Saturday, 04-July-2026

8:30am - 5:00pm	TuT1: 3D Reconstruction from Multi-View Satellite Imagery: From Classic to Modern Methods Location: 713A
8:30am - 5:00pm	TuT2: A Full Immersion in 3D Underwater Mapping Location: 713B
8:30am - 5:00pm	TuT3: Geospatial Deep Learning in Practice Location: 714A
8:30am - 5:00pm	TuT4: Hybrid and Precise Camera Pose Estimation in MicMacV2 Location: 714B
8:30am - 5:00pm	TuT5: InSAR Time Series Analysis with SARvey and InSAR Explorer Location: 715A
8:30am - 5:00pm	TuT6: Open Point-to-point Correspondences for Loose or Tight Integration in Kinematic Laser Scanning Location: 715B
8:30am - 5:00pm	TuT8: Quantum Computing for Earth Observation Location: 716A
8:30am - 5:00pm	TuT9: Open Web-GIS for Disaster Response and Campus Routing: From Architecture to Deployment Location: 716B

Date: Sunday, 05-July-2026

8:30am - 12:00pm	TuT10: Open-source Scientific Software py4dgeo for Change Analysis in 3D/4D Point Clouds Location: 713A
8:30am - 12:00pm	TuT11: Photogrammetric Mapping by Drones: Theory and Practice Location: 713B
8:30am - 12:00pm	TuT12: Advanced Topographic Time Series Data Management Using the Topo4d Extension of the Spatiotemporal Asset Catalog (STAC) for Curation, Analysis, and Visualization of 4D Point Clouds Location: 714A
8:30am - 12:00pm	TuT13: Digital Twinning with UAV and Backpack Mobile Mapping Systems Location: 714B
8:30am - 12:00pm	TuT14: FastFlood: Rapidly Using Earth Observation Data for Flood Forecasts Location: 715A
8:30am - 12:00pm	TuT15: Getting Started with CNES Open-Source 3D Tools in Python Location: 715B
8:30am - 12:00pm	TuT16: Metrics That Make a Difference: How to analyze change and error Location: 716A
8:30am - 12:00pm	TuT17: Towards Geospatial Embeddings: Investigating Accurate and Accessible Deep Geospatial Feature Representations Location: 716B
8:30am - 12:00pm	TuT18: Urban Scene Modeling Location: 717A

8:30am - 3:00pm	General Assembly 1 Location: 701A
12:00pm - 1:15pm	ICWG I/IV: Robotics for Mapping and Machine Intelligence Location: 713A
12:00pm - 1:15pm	WG II/7A: Underwater Data Acquisition and Processing Location: 713B
12:00pm - 1:15pm	WG II/8A: Environmental & Infrastructure Monitoring Location: 714A
12:00pm - 1:15pm	WG III/7D: Remote Sensing of the Hydrosphere and Cryosphere Location: 714B
12:00pm - 1:15pm	SpS1: Roundtable Digital Twins for Conservation of World Heritage Sites Location: 715A
12:00pm - 1:15pm	WG IV/8A: Digital Twins for Mobility and Navigation Location: 715B
12:00pm - 1:15pm	ThS26: Earth Observation Foundation Models: Scalable, Multimodal AI for Environmental Intelligence Location: 716A
12:00pm - 1:15pm	ThS10: Resilient Localization, Mapping, and Perception in Adverse Conditions using Modern Civilian Radars Location: 716B
12:00pm - 1:15pm	ThS16: Earth Embeddings: Investigating Accurate and Accessible Deep Geospatial Feature Representations Location: 717A
1:30pm - 2:45pm	WG II/4A: AI/ML for Geospatial Data Location: 713A
1:30pm - 2:45pm	WG II/9A: Vision Metrology Location: 713B
1:30pm - 2:45pm	WG II/8B: Environmental & Infrastructure Monitoring Location: 714A
1:30pm - 2:45pm	ThS22: Earth Observation for Crop Health and Resilient Food Systems Location: 714B
1:30pm - 2:45pm	WG IV/1A: Spatial Data Representation and Interoperability Location: 715A
1:30pm - 2:45pm	WG IV/8B: Digital Twins for Mobility and Navigation Location: 715B
1:30pm - 2:45pm	ThS23A: Towards Large Cultural Heritage Foundation Models: Datasets, Semantic Alignment, and Component-Level Annotation Location: 716A
1:30pm - 2:45pm	SpS2: ISO Data Quality Measures Register and the ISPRS Community Location: 716B
1:30pm - 2:45pm	ThS13: CO3D Mission Location: 717A
3:00pm - 3:30pm	Afternoon Coffee Break Location: Exhibition Hall "E"
3:30pm - 5:15pm	Opening Ceremony Location: Exhibition Hall "G"
	Awards Ceremony <ul style="list-style-type: none"> • ISPRS Honorary Member • Brock Gold Medal Award • Val Shaw Memorial Award
5:30pm - 7:30pm	Congress Welcome Reception Awards Ceremony: <ul style="list-style-type: none"> • CP Lo Award • ISPRS WEC Kennert Torlegård Travel Grant

Date: Monday, 06-July-2026

8:30am - 10:00am	WG III/1A: Remote Sensing Data Processing and Understanding Location: 713A
8:30am - 10:00am	WG IV/2A: Artificial Intelligence and Uncertainty Modeling in Spatial Analysis Location: 713B
8:30am - 10:00am	WG II/7B: Underwater Data Acquisition and Processing Location: 714A
8:30am - 10:00am	WG III/8A: Remote Sensing for Agricultural and Natural Ecosystems Location: 714B
8:30am - 10:00am	ICWG III/IVa-A: Disaster Management Location: 715A
8:30am - 10:00am	WG II/3A: 3D Scene Reconstruction for Modeling & Mapping Location: 715B
8:30am - 10:00am	IvS3A: Advancing Digital Twins for Urban Environments: Approaches to Mapping, Monitoring, and Management Location: 716A
8:30am - 10:00am	ThS14: AI-Augmented Photogrammetry - Bridging Learning-based Approaches and Classical Geometric-based 3D Methods Location: 716B
8:30am - 10:00am	WG III/1M: Remote Sensing Data Processing and Understanding Location: 717A
10:00am - 10:30am	Morning Coffee Break Location: Exhibition Hall "E"
	Plenary Session 1 Location: Exhibition Hall "G"
	Keynote 1: To be announced
10:30am - 12:00pm	Awards Ceremony: <ul style="list-style-type: none">• The U.V. Helava Award• The Samuel Gamble Award Keynote 2: Professor Marc Pollefeys
12:00pm - 1:30pm	Lunch Location: Exhibition Hall "E"
1:30pm - 3:00pm	WG II/2A: Point Cloud Generation and Processing Location: 713A
1:30pm - 3:00pm	WG III/1H: Remote Sensing Data Processing and Understanding Location: 713B
1:30pm - 3:00pm	WG I/6A: Orientation, Calibration and Validation of Sensors Location: 714A
1:30pm - 3:00pm	WG I/2A: Mobile Mapping Technology Location: 714B
1:30pm - 3:00pm	WG III/8G: Remote Sensing for Agricultural and Natural Ecosystems Location: 715A
1:30pm - 3:00pm	WG IV/1B: Spatial Data Representation and Interoperability Location: 715B
1:30pm - 3:00pm	IvS3B: Advancing Digital Twins for Urban Environments: Approaches to Mapping, Monitoring, and Management Location: 716A
1:30pm - 3:00pm	Forum1A: Observing the Earth as One: Making space for everyone in Remote Sensing, Photogrammetry, and Spatial Information Science Location: 716B
1:30pm - 3:00pm	Youth Forum: Why Join? Early Career Engagement in Professional Associations Location: 717A Awards Ceremoney for the ISPRS Student Consortium Excellence Award

- 1:30pm - 3:00pm** InS1: Industry Tech Session
Location: 717B
- 3:00pm - 3:30pm** Afternoon Coffee Break
Location: Exhibition Hall "E"
- 3:30pm - 5:15pm** ThS4A: Toward Smart Forests: Emerging Tools in Remote Sensing, Artificial Intelligence, and Field Robotics
Location: 713A
- 3:30pm - 5:15pm** WG IV/5: Extended Reality and Visual Analytics
Location: 713B
- 3:30pm - 5:15pm** ICWG III/IIA: Planetary Remote Sensing and Mapping
Location: 714A
- 3:30pm - 5:15pm** WG IV/9A: Spatially Enabled Urban and Regional Digital Twins
Location: 714B
- 3:30pm - 5:15pm** WG I/8: Multi-sensor Modelling and Cross-modality Fusion
Location: 715A
- 3:30pm - 5:15pm** WG II/3B: 3D Scene Reconstruction for Modeling & Mapping
Location: 715B
- 3:30pm - 5:15pm** IvS4: Operationalizing Earth Observation for Sustainable Resource Development
Location: 716A
- 3:30pm - 5:15pm** Forum1B: Observing the Earth as One: Making space for everyone in Remote Sensing, Photogrammetry, and Spatial Information Science
Location: 716B
- 3:30pm - 5:15pm** Forum6: UN-IGIF: Capacity Building and Education Opportunities
Location: 717A
- 3:30pm - 5:30pm** InS2: Industry Tech Session
Location: 717B
- 3:30pm - 5:30pm** P1: Poster Session 1
Location: Exhibition Hall "E"
- 5:30pm - 7:30pm** Exhibition Opening & Reception
Location: Exhibition Hall "F"

Date: Tuesday, 07-July-2026

- 8:30am - 10:00am** WG II/2B: Point Cloud Generation and Processing
Location: 713A
- 8:30am - 10:00am** WG III/1I: Remote Sensing Data Processing and Understanding
Location: 713B
- 8:30am - 10:00am** WG I/6B: Orientation, Calibration and Validation of Sensors
Location: 714A
- 8:30am - 10:00am** WG IV/9B: Spatially Enabled Urban and Regional Digital Twins
Location: 714B
- 8:30am - 10:00am** WG III/8H: Remote Sensing for Agricultural and Natural Ecosystems
Location: 715A
- 8:30am - 10:00am** WG IV/1C: Spatial Data Representation and Interoperability
Location: 715B
- 8:30am - 10:00am** IvS1: Recent Advances in Iceberg Monitoring and Tracking
Location: 716A
- 8:30am - 10:00am** Forum2A: The Future of Space- based Earth Observation
Location: 716B
- 8:30am - 10:00am** ICWG III/IVb: Remote Sensing Data Quality
Location: 717A
- 10:00am - 10:30am** Morning Coffee Break
Location: Exhibition Hall "E"
- 10:00am - 5:30pm** Exhibition
Location: Exhibition Hall "F"
Showcase Theatre

- ISPRS Summer School Design Competition Winners
- IEEE GRSS IDEA Three-Minute Thesis (3MT®) Competition

Plenary Session 2

Location: **Exhibition Hall "G"**

Keynote 1: Jean-Claude Piedboeuf (CSA)

Awards Ceremony:

- The Jack Dangermond Award
- The Gottfried Konecny Award

Keynote 2: Dr. Eleni Paliouras (ESA)

10:30am - 12:00pm

Lunch

Location: **Exhibition Hall "E"**

12:00pm - 1:30pm

WG III/1B: Remote Sensing Data Processing and Understanding

Location: **713A**

1:30pm - 3:00pm

WG II/9B: Vision Metrology

Location: **713B**

1:30pm - 3:00pm

WG I/3: Multispectral, Hyperspectral and Thermal Sensors

Location: **714A**

1:30pm - 3:00pm

WG III/8B: Remote Sensing for Agricultural and Natural Ecosystems

Location: **714B**

1:30pm - 3:00pm

ICWG III/IVa-B: Disaster Management

Location: **715A**

1:30pm - 3:00pm

WG II/3C: 3D Scene Reconstruction for Modeling & Mapping

Location: **715B**

1:30pm - 3:00pm

IvS2: Canadian Advances in Geospatial AI for Intelligent and Resilient Mobility

Location: **716A**

1:30pm - 3:00pm

Forum2B: The Future of Space- based Earth Observation

Location: **716B**

1:30pm - 3:00pm

Forum7A: Entrepreneurship in the Industry 4.0 Geospatial Landscape

Location: **717A**

1:30pm - 3:00pm

InS3: Industry Tech Session

Location: **717B**

1:30pm - 3:00pm

General Assembly (tentative session)

Location: **701A**

1:30pm - 5:00pm

Afternoon Coffee Break

Location: **Exhibition Hall "E"**

3:00pm - 3:30pm

ThS12: TLS-based Deformation Analysis

Location: **713A**

3:30pm - 5:15pm

WG IV/2B: Artificial Intelligence and Uncertainty Modeling in Spatial Analysis

Location: **713B**

3:30pm - 5:15pm

WG III/4A: Landuse and Landcover Change Detection

Location: **714A**

3:30pm - 5:15pm

WG I/2B: Mobile Mapping Technology

Location: **714B**

3:30pm - 5:15pm

WG II/6: Cultural Heritage Data Acquisition and Processing

Location: **715A**

3:30pm - 5:15pm

WG II/3D: 3D Scene Reconstruction for Modeling & Mapping

Location: **715B**

3:30pm - 5:15pm

ApS: Applied Session

Location: **716A**

3:30pm - 5:15pm

Forum2C: The Future of Space- based Earth Observation

Location: **716B**

3:30pm - 5:15pm

Forum7B: Entrepreneurship in the Industry 4.0 Geospatial Landscape

Location: **717A**

3:30pm - 5:15pm

3:30pm - 5:30pm **InS4: Industry Tech Session**
Location: 717B

3:30pm - 5:30pm **P2: Poster Session 2**
Location: Exhibition Hall "E"

Date: Wednesday, 08-July-2026

8:30am - 10:00am **WG II/2C: Point Cloud Generation and Processing**
Location: 713A

8:30am - 10:00am **WG III/1J: Remote Sensing Data Processing and Understanding**
Location: 713B

8:30am - 10:00am **WG I/5: Microwave and InSAR Technology for Earth Observation**
Location: 714A

8:30am - 10:00am **WG III/8C: Remote Sensing for Agricultural and Natural Ecosystems**
Location: 714B

8:30am - 10:00am **ICWG III/IVa-C: Disaster Management**
Location: 715A

8:30am - 10:00am **WG II/3E: 3D Scene Reconstruction for Modeling & Mapping**
Location: 715B

8:30am - 10:00am **IvS6A: Canadian Remote Sensing for Urban Applications**
Location: 716A

8:30am - 10:00am **ThS5: Large Language Models for Intelligent LiDAR Point Cloud Processing**
Location: 716B

8:30am - 10:00am **ThS4B: Toward Smart Forests: Emerging Tools in Remote Sensing, Artificial Intelligence, and Field Robotics**
Location: 717A

10:00am - 10:30am **Morning Coffee Break**
Location: Exhibition Hall "E"

10:00am - 5:30pm **Exhibition**
Location: Exhibition Hall "F"

Plenary Session 3
Location: Exhibition Hall "G"

10:30am - 12:00pm **Keynote 1: Professor Jun Chen**
Awards Ceremony:

- The ISPRS Fritz Ackermann Award
- Giuseppe Inghilleri Award

Keynote 2: Professor Xiaoxiang Zhu

CRSS-SCT Member Meeting
Location: 709

Awards Ceremony

- CRSS-SCT Silver Medal
- Best Master's Thesis
- Best PhD Thesis
- Student Symposium Travel Grants
- Canadian Journal of Remote Sensing Best Paper Awards

12:00pm - 1:30pm **Lunch**
Location: Exhibition Hall "E"

1:30pm - 3:00pm **WG III/1C: Remote Sensing Data Processing and Understanding**
Location: 713A

1:30pm - 3:00pm **WG III/3A: Active Microwave Remote Sensing**
Location: 713B

1:30pm - 3:00pm **ICWG III/IIB: Planetary Remote Sensing and Mapping**
Location: 714A

1:30pm - 3:00pm **WG II/5: Temporal Geospatial Data Understanding**
Location: 714B

1:30pm - 3:00pm	WG III/5: Remote Sensing for Inclusive Pathways to Equality and Environmental Health Location: 715A
1:30pm - 3:00pm	WG II/4B: AI/ML for Geospatial Data Location: 715B
1:30pm - 3:00pm	IvS6B: Canadian Remote Sensing for Urban Applications Location: 716A
1:30pm - 3:00pm	Forum3A: Legacy Project: How to Secure Funding to Support Geospatial Activities Location: 716B
1:30pm - 3:00pm	Forum8A: Wildfire Remote Sensing - Bridging Public and Private Solutions Location: 717A
1:30pm - 3:00pm	InS5: Industry Tech Session Location: 717B
1:30pm - 5:00pm	General Assembly 2 Location: 701A
3:00pm - 3:30pm	Afternoon Coffee Break Location: Exhibition Hall "E"
3:30pm - 5:15pm	WG III/1D: Remote Sensing Data Processing and Understanding Location: 713A
3:30pm - 5:15pm	WG IV/2C: Artificial Intelligence and Uncertainty Modeling in Spatial Analysis Location: 713B
3:30pm - 5:15pm	WG III/4B: Landuse and Landcover Change Detection Location: 714A
3:30pm - 5:15pm	WG IV/9C: Spatially Enabled Urban and Regional Digital Twins Location: 714B
3:30pm - 5:15pm	WG III/8I: Remote Sensing for Agricultural and Natural Ecosystems Location: 715A
3:30pm - 5:15pm	WG III/6A: Remote Sensing of the Atmosphere Location: 715B
3:30pm - 5:15pm	IvS9: Remote Sensing and Geospatial Technologies for Vegetation Fire Management and Recovery Resilience Location: 716A
3:30pm - 5:15pm	Forum3B: Legacy Project: How to Secure Funding to Support Geospatial Activities Location: 716B
3:30pm - 5:15pm	Forum8B: Wildfire Remote Sensing - Bridging Public and Private Solutions Location: 717A
3:30pm - 5:30pm	InS6: Industry Tech Session Location: 717B
3:30pm - 5:30pm	P3: Poster Session 3 Location: Exhibition Hall "E"
	Congress Dinner Location: Art Gallery of Ontario
	Awards Ceremony:
6:30pm - 9:30pm	<ul style="list-style-type: none"> • ISPRS Fellow • The Schermerhorn Award • The Schwidofsky Medal • The Eduard Doležal Award • ISPRS Student Consortium Service Award

Date: Thursday, 09-July-2026

8:30am - 10:00am	WG III/1E: Remote Sensing Data Processing and Understanding Location: 713A
8:30am - 10:00am	ICWG II/1a: Autonomous Sensing Systems and their Applications Location: 713B

8:30am - 10:00am	WG III/7A: Remote Sensing of the Hydrosphere and Cryosphere Location: 714A
8:30am - 10:00am	WG III/9: Geospatial Environment and Health Analytics Location: 714B
8:30am - 10:00am	WG III/8J: Remote Sensing for Agricultural and Natural Ecosystems Location: 715A
8:30am - 10:00am	WG II/3F: 3D Scene Reconstruction for Modeling & Mapping Location: 715B
8:30am - 10:00am	IvS5: Next-Generation Flood Mapping: Integrating AI, Remote Sensing, and Evolving Landscapes Location: 716A
8:30am - 10:00am	Forum4A: Hybrid Intelligent Geospatial Computing Location: 716B
8:30am - 10:00am	WG I/4: LiDAR, Laser Altimetry and Sensor Integration Location: 717A
8:30am - 10:00am	ByA1: ISPRS Best Young Author Award Papers Location: 717B
10:00am - 10:30am	Morning Coffee Break Location: Exhibition Hall "E"
10:00am - 1:30pm	Exhibition Location: Exhibition Hall "F"
10:30am - 12:00pm	Plenary Session 4 Location: Exhibition Hall "G" Keynote 1: Mr. Alex Miller Awards Ceremony: <ul style="list-style-type: none"> • The Frederick J. Doyle Award • Wang Zhizhuo Award Keynote 2: Professor Margurite Madden
12:00pm - 1:30pm	Lunch Location: Exhibition Hall "E"
1:30pm - 3:00pm	WG II/2D: Point Cloud Generation and Processing Location: 713A
1:30pm - 3:00pm	WG III/1K: Remote Sensing Data Processing and Understanding Location: 713B
1:30pm - 3:00pm	ICWG II/Ib: Digital Construction: Reality Capture, Automated Inspection, and Integration to BIM Location: 714A
1:30pm - 3:00pm	WG III/8D: Remote Sensing for Agricultural and Natural Ecosystems Location: 714B
1:30pm - 3:00pm	ICWG III/IVa-D: Disaster Management Location: 715A
1:30pm - 3:00pm	WG IV/10: Applied Spatial Science for Public Health Location: 715B
1:30pm - 3:00pm	IvS7A: Innovative Remote Sensing of Wetlands in Canada and Beyond Location: 716A
1:30pm - 3:00pm	Forum4B: Hybrid Intelligent Geospatial Computing Location: 716B
1:30pm - 3:00pm	Forum9A: Exploring the Role of DGGS and AI in Addressing Challenges of National Mapping & Remote Sensing Agencies Location: 717A
3:00pm - 3:30pm	Afternoon Coffee Break Location: Exhibition Hall "E"
3:30pm - 5:15pm	SpS4A: Remote Sensing of Atmospheric Components for Climate Change and Air Quality: Bridging ISPRS and AERSS Location: 713A

3:30pm - 5:15pm	SpS3: Cooperation on Ground Motion Monitoring for Disaster Risk Reduction and Resilience Location: 713B
3:30pm - 5:15pm	WG III/4C: Landuse and Landcover Change Detection Location: 714A
3:30pm - 5:15pm	WG II/1A: Image Orientation and Fusion Location: 714B
3:30pm - 5:15pm	WG III/2A: Spectral and Thermal Data Processing and Analytics Location: 715A
3:30pm - 5:15pm	WG II/4C: AI/ML for Geospatial Data Location: 715B
3:30pm - 5:15pm	WG IV/6: Human Behaviour and Spatial Interactions Location: 716A
3:30pm - 5:15pm	Forum4C: Hybrid Intelligent Geospatial Computing Location: 716B
3:30pm - 5:15pm	Forum9B: Exploring the Role of DGGS and AI in Addressing Challenges of National Mapping & Remote Sensing Agencies Location: 717A
3:30pm - 5:15pm	CATCON Location: 717B
3:30pm - 5:30pm	P4: Poster Session 4 Location: Exhibition Hall "E"
5:30pm - 7:30pm	SEPT-TIF: ISPRS STudent and Early Professional (STEP) - TIF Evening Reception (by invitation only) Awards Ceremony: <ul style="list-style-type: none"> • TIF Travel Grants • Professional Travel Award • ESA Awards

Date: Friday, 10-July-2026

8:30am - 10:00am	WG II/2E: Point Cloud Generation and Processing Location: 713A
8:30am - 10:00am	WG III/1L: Remote Sensing Data Processing and Understanding Location: 713B
8:30am - 10:00am	ThS2: Remote Sensing of Methane: Technological and Methodological Advances Location: 714A
8:30am - 10:00am	WG III/8E: Remote Sensing for Agricultural and Natural Ecosystems Location: 714B
8:30am - 10:00am	ICWG III/IVa-E: Disaster Management Location: 715A
8:30am - 10:00am	WG II/3G: 3D Scene Reconstruction for Modeling & Mapping Location: 715B
8:30am - 10:00am	IvS7B: Innovative Remote Sensing of Wetlands in Canada and Beyond Location: 716A
8:30am - 10:00am	Forum5A: From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience Location: 716B
8:30am - 10:00am	ThS1: Advancements in Wildfire Science, Management, and Engagement: Integrating Earth Observation Technologies and Collaborative Development Location: 717A
10:00am - 10:30am	Morning Coffee Break Location: Exhibition Hall "E"
10:30am - 12:00pm	Plenary Session 5 Location: Exhibition Hall "G"

Keynote 1: Dr. Minda Suchan

Awards Ceremony:

- The Li Deren Award
- The Otto von Gruber Award

Keynote 2: Professor Michael Daly

12:00pm - 1:30pm

Lunch

Location: **Exhibition Hall "E"**

1:30pm - 3:00pm

WG III/1F: Remote Sensing Data Processing and Understanding

Location: **713A**

1:30pm - 3:00pm

WG III/3C: Active Microwave Remote Sensing

Location: **713B**

1:30pm - 3:00pm

WG III/7B: Remote Sensing of the Hydrosphere and Cryosphere

Location: **714A**

1:30pm - 3:00pm

ThS3: Spatial Intelligence in the Wild

Location: **714B**

1:30pm - 3:00pm

ThS28: Learning Across Temporal and Spatial Scales

Location: **715A**

1:30pm - 3:00pm

SpS4B: Remote Sensing of Atmospheric Components for Climate Change and Air Quality: Bridging ISPRS and AERSS

Location: **715B**

1:30pm - 3:00pm

IvS11: Remote Sensing and Geospatial Technologies for Vegetation Fire Management and Recovery Resilience

Location: **716A**

1:30pm - 3:00pm

Forum5B: From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience

Location: **716B**

1:30pm - 3:00pm

Forum10: Photogrammetry and Remote Sensing Enabled Geospatial Science for Equitable, Liveable Cities

Location: **717A**

1:30pm - 5:00pm

General Assembly 3

Location: **701A**

3:00pm - 3:30pm

Afternoon Coffee Break

Location: **Exhibition Hall "E"**

3:30pm - 5:15pm

ThS18: Advances in Reality Capture, AI, and Digital Twin Technologies for Construction Engineering

Location: **713A**

3:30pm - 5:15pm

ThS9: EuroSDR Thematic Session: Emerging Challenges and Opportunities for National Mapping and Cadastral Agencies

Location: **713B**

3:30pm - 5:15pm

WG III/4D: Landuse and Landcover Change Detection

Location: **714A**

3:30pm - 5:15pm

WG III/6B: Remote Sensing of the Atmosphere

Location: **714B**

3:30pm - 5:15pm

WG III/2B: Spectral and Thermal Data Processing and Analytics

Location: **715A**

3:30pm - 5:15pm

WG II/1B: Image Orientation and Fusion

Location: **715B**

3:30pm - 5:15pm

IvS10: Innovation in River Ice and Surveillance and Modeling: Best Practices and Emerging Technologies

Location: **716A**

3:30pm - 5:15pm

Forum5C: From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience

Location: **716B**

3:30pm - 5:15pm **Forum11: Canadian Earth Observation Supersites for Technology Advancement and Research**
Location: **717A**

3:30pm - 5:30pm **P5: Poster Session 5**
Location: **Exhibition Hall "E"**

Date: Saturday, 11-July-2026

8:30am - 10:00am **ThS21: The Global-local Exchange Loop: Coupling Earth Observation and Citizen Sciences for LCLU Mapping**
Location: **713A**

8:30am - 10:00am **ByA2: ISPRS Best Young Author Award Papers**
Location: **713B**

8:30am - 10:00am **WG III/7C: Remote Sensing of the Hydrosphere and Cryosphere**
Location: **714A**

8:30am - 10:00am **WG V/3: Open Source Promotion and Web-based Resource Sharing**
Location: **714B**

8:30am - 10:00am **ThS23B: Towards Large Cultural Heritage Foundation Models: Datasets, Semantic Alignment, and Component-Level Annotation**
Location: **715A**

8:30am - 10:00am **WG V/1: Education and Training through Curricula Development and Enhanced Learning Practices**
Location: **715B**

8:30am - 10:00am **WG IV/3: Geo-computation and Geo-simulation**
Location: **716A**

10:00am - 10:30am **Morning Coffee Break**
Location: **Exhibition Hall "E"**

10:30am - 12:00pm **WG III/1G: Remote Sensing Data Processing and Understanding**
Location: **713A**

10:30am - 12:00pm **ThS27: From Photogrammetry, Remote Sensing, and AI to Climate Action**
Location: **713B**

10:30am - 12:00pm **WG III/3B: Active Microwave Remote Sensing**
Location: **713B**

10:30am - 12:00pm **ThS15: Data-Centric Learning for Geospatial Data**
Location: **714A**

10:30am - 12:00pm **WG III/8F: Remote Sensing for Agricultural and Natural Ecosystems**
Location: **714B**

10:30am - 12:00pm **WG II/3H: 3D Scene Reconstruction for Modeling & Mapping**
Location: **715B**

10:30am - 12:00pm **WG IV/4: Data Management for Spatial Scenarios**
Location: **716A**

Closing Ceremony
Location: **Exhibition Hall "G"**

Awards Ceremony:

12:00pm - 1:30pm

- The President's Honorary Citation
- ISPRS Certificate of Recognition of Service
- Congress Best Reviewer Award
- ISPRS Best Poster Award
- The ISPRS CATCON Award

SAT
04
JulySUN
05
JulyMON
06
JulyTUE
07
JulyWED
08
JulyTHU
09
JulyFRI
10
JulySAT
11
July

Preliminary Presentation Schedules

Date: Saturday, 04-July-2026

8:30am - 5:00pm	TuT1: 3D Reconstruction from Multi-View Satellite Imagery: From Classic to Modern Methods Location: 713A
8:30am - 5:00pm	TuT2: A Full Immersion in 3D Underwater Mapping Location: 713B
8:30am - 5:00pm	TuT3: Geospatial Deep Learning in Practice Location: 714A
8:30am - 5:00pm	TuT4: Hybrid and Precise Camera Pose Estimation in MicMacV2 Location: 714B
8:30am - 5:00pm	TuT5: InSAR Time Series Analysis with SARvey and InSAR Explorer Location: 715A
8:30am - 5:00pm	TuT6: Open Point-to-point Correspondences for Loose or Tight Integration in Kinematic Laser Scanning Location: 715B
8:30am - 5:00pm	TuT8: Quantum Computing for Earth Observation Location: 716A
8:30am - 5:00pm	TuT9: Open Web-GIS for Disaster Response and Campus Routing: From Architecture to Deployment Location: 716B

Date: Sunday, 05-July-2026

8:30am - 12:00pm	TuT10: Open-source Scientific Software py4dgeo for Change Analysis in 3D/4D Point Clouds Location: 713A
8:30am - 12:00pm	TuT11: Photogrammetric Mapping by Drones: Theory and Practice Location: 713B
8:30am - 12:00pm	TuT12: Advanced Topographic Time Series Data Management Using the Topo4d Extension of the Spatiotemporal Asset Catalog (STAC) for Curation, Analysis, and Visualization of 4D Point Clouds Location: 714A
8:30am - 12:00pm	TuT13: Digital Twinning with UAV and Backpack Mobile Mapping Systems Location: 714B
8:30am - 12:00pm	TuT14: FastFlood: Rapidly Using Earth Observation Data for Flood Forecasts Location: 715A
8:30am - 12:00pm	TuT15: Getting Started with CNES Open-Source 3D Tools in Python Location: 715B
8:30am - 12:00pm	TuT16: Metrics That Make a Difference: How to analyze change and error Location: 716A
8:30am - 12:00pm	TuT17: Towards Geospatial Embeddings: Investigating Accurate and Accessible Deep Geospatial Feature Representations Location: 716B
8:30am - 12:00pm	TuT18: Urban Scene Modeling Location: 717A
8:30am - 3:00pm	General Assembly 1 Location: 701A
12:00pm - 1:15pm	ICWG I/IV: Robotics for Mapping and Machine Intelligence Location: 713A
	12:00pm - 12:15pm A category-specific prompt strategy for semantic 3D indoor mapping using RGB-D camera Jiwei Hou¹, Vivien Volland², Samer Karam¹, Dorota Iwaszczuk¹ ¹ Remote Sensing and Image Analysis, Department of Civil and Environmental Engineering, Technical University of Darmstadt, Germany; ² Geodetic Measurement Systems and Sensor Technology, Department of Civil and Environmental Engineering, Technical University of Darmstadt, Germany
	12:15pm - 12:30pm 3L-Planner: Lightweight LiDAR mapping and real-time local planning for ground robot autonomous navigation Wenlei Fan, Zhenqi Zheng, Mingyang Zhou, You Li State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China
	12:30pm - 12:45pm CMCL-PR: Cross-Modal Camera-to-LiDAR Place Recognition with Cross-Attention Contrastive Learning Qipeng Li, Yuan Zhuang Wuhan University, China, People's Republic of
12:00pm - 1:15pm	WG II/7A: Underwater Data Acquisition and Processing Location: 713B
	12:00pm - 12:15pm Explicit vs implicit Modelling of Refraction in underwater Structure-from-Motion – A practical Guide Fabio Menna¹, Robin Rofallski², Erica Nocerino³ ¹ Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Sassari, Italy; ² Institute for Applied Photogrammetry and Geoinformatics, Jade University of Applied Sciences, Oldenburg, Germany; ³ Department of Humanities and Social Sciences, University of Sassari, Sassari, Italy
	12:15pm - 12:30pm Investigating the Potential of SfM, MVS, and Monocular Depth Estimation for Water Surface Reconstruction Anatol Günthner¹, Markus Brezovsky², Frederik Schulte³, Lukas Winiwarter³, Gottfried Mandlbürger², Boris Jutzi¹ ¹ Institute of Photogrammetry and Remote Sensing, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany; ² Department of Geodesy and Geoinformation, TU Wien, Vienna, Austria; ³ Unit of Geometry and Surveying, University of Innsbruck, Innsbruck, Austria
	12:30pm - 12:45pm Complementary Usage of RTI and SfM-MVS for Inspecting Reflective Weld Seams under Water Oliver Kahmen, Thomas Luhmann Jade University of Applied Sciences, Institute for Applied Photogrammetry and Geoinformatics (IAPG), Ofener Str. 16/19, 26121 Oldenburg, Germany
12:00pm - 1:15pm	WG II/8A: Environmental & Infrastructure Monitoring Location: 714A
	12:00pm - 12:15pm Detection of hygroscopic dead tree branch movement using permanent laser scanning

Vanessa Guthier^{1,2}, Hannah Weiser^{1,2}, Ronald Tabernig^{1,2}, Mariana Campos³, Eetu Puttonen³, Bernhard Höfle^{1,2}

¹3DGeo Research Group, Institute of Geography, Heidelberg University, Germany; ²Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University, Germany; ³Department of Remote Sensing and Photogrammetry, Finnish Geospatial Research Institute, National Land Survey of Finland, Espoo, Finland

12:15pm - 12:30pm

3D Reconstruction of deciduous Trees using low-cost UAV- and Crane-based Photogrammetry for Monitoring Shoot Elongation across entire Canopies

Stephan Nebiker¹, Micha Tschanz¹, Nando Amport¹, Frederik Baumgarten²

¹FHNW University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; ²University of Basel

12:30pm - 12:45pm

In-Situ Gaussian Splatting-generated 3D Thermal Mesh Visualization for Urban Trees in Augmented Reality

Chaimaa Delasse^{1,2}, Dario Billi^{2,3}, I Gede Mahendra Darmawiguna⁴, Kadek Ananta Satriadi⁴, Arnadi Murtiyoso², H el ene Macher², Vincent Lecomte², Rafika Hajji¹, Tania Landes²

¹College of Geomatic Sciences and Surveying Engineering, Institute of Agronomy and Veterinary Medicine (IAV), Rabat 6202, Morocco; ²University of Strasbourg, INSA Strasbourg, CNRS, ICube UMR 7357 Laboratory, 67000 Strasbourg, France; ³Department of Civil and Industrial Engineering, ASTRO Laboratory, University of Pisa, Largo Lucio Lazzarino, 56122 Pisa, Italy; ⁴Faculty of Information Technology, Monash University, Australia

12:45pm - 1:00pm

Challenges in automated 4D Point Cloud Generation for Glacier Calving Monitoring at high temporal Resolution

Laura Camila Duran Vergara¹, Xabier Blanch Gorriz², Bindusara Nagathihalli Lokesh¹, Anette Eitner¹

¹Technische Universit at Dresden, Germany; ²Universitat Polit ecnica de Catalunya, Spain

12:00pm - 1:15pm

WG III/7D: Remote Sensing of the Hydrosphere and Cryosphere

Location: 714B

12:00pm - 12:15pm

Machine Learning-based Retrieval of Turbidity in Gorgan Bay, Southeastern Caspian Sea, using Sentinel-2 Multispectral Imagery

Salar Khani, Ata A. Kakroodi, Sara Attarchi

University of Tehran, Iran, Islamic Republic of

12:15pm - 12:30pm

Use of Remote Sensing and In Situ Monitoring to Evaluate Turbidity in an Open-Pit Mining Lake

Luisa da Cunha Vieira¹, Danilo Marques de Magalh aes², Hugo de Oliveira Fagundes³

¹Geotechnical Project Management, BVP Geotecnia e Hidrotecnia, Belo Horizonte, Brazil; ²Dept. of Geography and Environmental Planning, S ao Paulo State University, Rio Claro, Brazil; ³Water Resources Department, Campinas State University, Campinas, Brazil

12:30pm - 12:45pm

A Bio-Optical Model Modified for Estimating Red Tide Intensity

Wonkook Kim¹, Seungil Baek¹, Sooyoon Koh¹, Keunyoung Kim²

¹Pusan National University, Korea, Republic of (South Korea); ²Korea Institute of Ocean Science and Technology

12:45pm - 1:00pm

Comparative assessment of shallow water bathymetry derived from satellite imagery and aerial photogrammetric data in karimunjawa cays, indonesia

Wahyudi Nugraha^{1,2}, Gabriella Alodia³

¹Institut Teknologi Bandung, Faculty of Earth Sciences and Technology, Geodesy and Geomatics Engineering Postgraduate Programme, Bandung, Indonesia; ²Geospatial Information Agency (BIG), Cibinong, Indonesia; ³Institut Teknologi Bandung, Faculty of Earth Sciences and Technology, Hydrography Research Group, Bandung, Indonesia

12:00pm - 1:15pm

SpS1: Roundtable Digital Twins for Conservation of World Heritage Sites

Location: 715A

12:00pm - 12:15pm

3D Point Cloud-Based Digital Twin Reconstruction and VR Immersive Visualization of Borobudur's Hidden Foot Reliefs

Satoshi Takatori¹, Jiajun Gao¹, Liang Li¹, - Fadjar Ibnu Thufail², - Brahmantara³, Satoshi Tanaka¹

¹Ritsumeikan University, Japan; ²National Research and Innovation Agency, Indonesia; ³Indonesian Heritage Agency, Indonesia

12:15pm - 12:30pm

Enhancing 3D Point Cloud Visualization through Adaptive Transparency with Light Sources and Normal Vectors

Hatsuki Nojiri¹, Satoshi Takatori¹, Liang Li¹, Motoaki Adachi², R. Michael Feener³, Satoshi Tanaka¹

¹College of Information Science and Engineering, Ritsumeikan University, Japan; ²Shrewd Design Co., Ltd., Japan; ³Center for Southeast Asian Studies, Kyoto University, Japan

12:30pm - 12:45pm

Digital Twin in Heritage Buildings and Sites: a Comparative Literature Review of Integrated Technologies, Devices, and Applications (2020–2025)

Rana Tootoonchi, Mona Hess
University of Bamberg, Germany

12:45pm - 1:00pm

Coupling Hyperspectral and 3D Data for the preventive Conservation of Palace-museums

Julie Fromager¹, Vincent Gauthier¹, Loïc Martinez¹, Danilo Forleo², Stéphane Serfaty¹
¹SATIE UMR CNRS 8029; ²Musée national des châteaux de Versailles et de Trianon

12:00pm - 1:15pm

WG IV/8A: Digital Twins for Mobility and Navigation
Location: 715B

12:00pm - 12:15pm

Vision-Language Models for Urban Digital Twins

Amirhossein Nourbakhshrezaei, Saeed Abbasi, Mojgan Jadidi
Civil Engineering Department, Lassonde School of Engineering, York University, Canada

12:15pm - 12:30pm

GeoSceneGraph: Geometric Scene Graph Diffusion Model for Text-guided 3D Indoor Scene Synthesis

Antonio Ruiz^{1,2}, Tao Wu¹, Andrew Melnik², Qing Cheng¹, Xuqin Wang¹, Lu Liu¹, Yongliang Wang¹, Yanfeng Zhang¹, Helge Ritter²
¹Huawei Technologies; ²Center for Cognitive Interaction Technology (CITEC), Bielefeld University

12:30pm - 12:45pm

A Multi-Dimensional Digital Twin Framework for the Low-Altitude Economy

Yan Li, Chenming Ye, Wenxuan Shi, Wenqing Zhang, Yuyang Zhang, Teng Hu, Zhizhong Kang
China University of Geosciences (Beijing), China, People's Republic of

12:45pm - 1:00pm

Lightweight indoor Pedestrian Localization via multi-step State-extended Fusion of Wi-Fi weighted Fingerprinting and PDR

Renjie Yuan, **Zhiyong Wang**, Kunlin Yu, Lang Hu, Yonghan Liao, Yilang Lin, Junjie Lu
South China University of Technology, China, People's Republic of

12:00pm - 1:15pm

ThS26: Earth Observation Foundation Models: Scalable, Multimodal AI for Environmental Intelligence
Location: 716A

12:00pm - 12:15pm

From Orthophotos to Insights: AI-Powered Forest Monitoring for Digital Forest Twin

Nina Krueger¹, Sandra Uhlig², Taimur Khan³
¹M.O.S.S. Computer Grafik Systeme GmbH, Germany; ²Landesamt für Geobasisinformation Sachsen (GeoSN); ³Helmholtz Center for Environmental Research (UFZ)

12:15pm - 12:30pm

Scalable Framework for Peatland Aboveground Biomass Mapping Using Multi-source Satellite Data and Machine Learning

Mohammadali Hemati¹, Masoud Mahdianpari^{1,2}, Hodjat Shiri³, Fariba Mohammadimanesh⁴
¹Department of Electrical and Computer Engineering, Faculty of Engineering and Applied Sciences, Memorial University of Newfoundland; ²C-CORE; ³Civil Engineering Department, Faculty of Engineering and Applied Sciences, Memorial University of Newfoundland; ⁴Canada Centre for Remote Sensing, Natural Resources Canada

12:30pm - 12:45pm

A self-supervised method for soil moisture estimation using multisensor data over forests

Rouhollah Esmaeilisarteshniz¹, Ramata Magagi¹, Samuel Foucher¹, Aaron Berg², Andreas Colliander³
¹Centre d'applications et de recherches en télédétection (CARTEL), Université de Sherbrooke, Québec, Canada; ²Department of Geography, Environment and Geomatics, University of Guelph, Ontario, Canada; ³Finnish Meteorological Institute, Helsinki 00560, Finland

12:45pm - 1:00pm

Zero-shot multi-class semantic segmentation of remote sensing images using SAM 2 with prior database information

Paula Lilian Lippmann, Mareike Dorozynski, **Franz Rottensteiner**, Christian Heipke
Institute of Photogrammetry and Geoinformation - Leibniz University Hannover, Germany

12:00pm - 1:15pm

ThS10: Resilient Localization, Mapping, and Perception in Adverse Conditions using Modern Civilian Radars
Location: 716B

12:00pm - 12:15pm

Radar-centric sensor fusion for robust indoor SLAM in complex environments

Binliang Wang, **Jianzhu Huai**, Yulong Han
Wuhan University, China, People's Republic of

12:15pm - 12:30pm

RAMBA: 4D radar mapping by bundle adjustment

Jianzhu Huai, Yiwen Chen, Binliang Wang
Wuhan University, China, People's Republic of

	<p>12:30pm - 12:45pm Deep point matching for 4D radar odometry Yi Liu¹, Jianzhu Huai^{1,2}, Lin Zhao¹ ¹Dept. of Electrical and Computer Engineering, National University of Singapore; ²State Key Lab of Info Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, 129 Luoyu Road, Hongshan District, Wuhan, Hubei</p> <hr/> <p>12:45pm - 1:00pm LiDAR–Radar–IMU fusion for multi-robot SLAM in adverse environments Yiwen Chen, Jianzhu Huai Wuhan University, State Key Laboratory of Information Engineering in Surveying Mapping and Remote Sensing</p> <hr/> <p>1:00pm - 1:15pm Heuristic-Guided Extrinsic Calibration for 4D Radar-Camera Systems Using Dynamic Objects Hang Zhen, Ronghe Jin, Zhi Gao Wuhan University, China, People's Republic of</p>
<p>12:00pm - 1:15pm</p>	<p>ThS16: Earth Embeddings: Investigating Accurate and Accessible Deep Geospatial Feature Representations Location: 717A</p>
	<p>12:00pm - 12:15pm Beyond AlphaEarth: Toward Human-Centred Spatial Representation via POI-Guided Contrastive Learning Junyuan Liu¹, Quan Qin^{1,2}, Guangsheng Dong^{1,2}, Xinglei Wang¹, Jiazhuang Feng¹, Zichao Zeng¹, Tao Cheng¹ ¹University College London, United Kingdom; ²Wuhan University, China</p> <hr/> <p>12:15pm - 12:30pm Bridging Earth's surface and atmosphere with Copernicus embeddings Yi Wang¹, Zhitong Xiong¹, Chenying Liu^{1,2}, Adam Stewart^{1,2}, Thomas Dujardin¹, Nikolaos Ioannis Bountos^{3,4}, Angelos Zavras^{3,4}, Franziska Gerken⁵, Ioannis Papoutsis³, Laura Leal-Taixé⁵, Xiao Xiang Zhu^{1,2} ¹Technical University of Munich, Germany; ²Munich Center for Machine Learning, Germany; ³National Technical University of Athens & National Observatory of Athens, Greece; ⁴Harokopio University of Athens, Greece; ⁵NVIDIA</p> <hr/> <p>12:30pm - 12:45pm DESPINA: Synthesis of High-Fidelity Planetary Horizon Reconstructions Using DEM-Guided Diffusion Adam Nelson-Archer, Raunak Sarbajna, Christoph F. Eick University of Houston, United States of America</p> <hr/> <p>12:45pm - 1:00pm Towards improved crop type classification: a compact embedding approach suitable for small fields Madeline Lisaius¹, Andrew Blake³, Clement Atzberger², Srinivasan Keshav¹ ¹Department of Computer Science and Technology, The University of Cambridge, United Kingdom; ²Climate Labs, New York; ³Clare College, The University of Cambridge, United Kingdom</p> <hr/> <p>1:00pm - 1:15pm Utilising embeddings for maps of winter wheat and crop rotation in Henan China during 2018-2024 Ziwei Du¹, Keyi Rao¹, Chang Wu¹, Kexin Wang¹, Shixin Dong¹, Zhaocong Wu^{1,2} ¹School of Remote Sensing and Information Engineering, Wuhan University, China; ²Aerospace Information Research Institute, Henan Academy of Sciences, Henan 450046, China.</p>
<p>1:30pm - 2:45pm</p>	<p>WG II/4A: AI/ML for Geospatial Data Location: 713A</p>
	<p>1:30pm - 1:45pm Target Vessel Identification in Aerial Search Imagery via MLLM-Based Attribute Extraction and Geolocation Fusion Jeonghyo Oh, Youngon Oh, Impyeong Lee Dept. of Geoinformatics, University of Seoul, Seoul, Republic of Korea</p> <hr/> <p>1:45pm - 2:00pm Zero-shot Vision-Language Reranking for Cross-View Geolocalization Yunus Talha Erzurumlu¹, John E. Anderson², William J. Stuart², Charles Toth³, Alper Yilmaz³ ¹Dept. of Electrical and Computer Engineering, The Ohio State University, United States of America; ²US Army Engineer Research and Development Center, Geospatial Research Laboratory, United States of America; ³Dept. of Civil Engineering, The Ohio State University, United States of America</p> <hr/> <p>2:00pm - 2:15pm From Pixels to Polygons: Evaluating Vision Foundation Models for High-Resolution Orthophoto Segmentation and Vectorization Islam Mansour, Michael Schmitt University of the Bundeswehr Munich, Germany</p> <hr/> <p>2:15pm - 2:30pm</p>

	<p>Polarization-Aware Segmentation for Camouflaged Threat Detection from UAVs Youssef Korny, Sunghwan Yoo, <u>Gunho Sohn</u> Department of Earth and Space Science and Engineering, York University</p>
1:30pm - 2:45pm	<p>WG II/9A: Vision Metrology Location: 713B</p> <p>1:30pm - 1:45pm A Novel Camera-to-Robot Calibration Method for Vision-Based Floor Measurements Jan Andre Rudolph, Dennis Haitz, Markus Ulrich Karlsruhe Institut für Technologie, Germany</p> <p>1:45pm - 2:00pm Photogrammetric Monitoring of load-induced vertical Deformations in the Superstructure of a research Bridge Robert Blaskow, Hannes Sardemann, Hans-Gerd Maas Dresden University of Technology, Germany</p> <p>2:00pm - 2:15pm Assessing the effects of time on cadaveric facial anatomy using conventional photogrammetry, stereophotogrammetry and computed tomography Morgan Titmus¹, Hannah Radley¹, Paul Ellery¹, Gary Whittaker¹, Zhonghua Sun¹, <u>Petra Helmholz²</u> ¹Curtin Medical School, Curtin University, Australia; ²School of Earth and Planetary Sciences, Curtin University, Australia</p> <p>2:15pm - 2:30pm Investigating calibration constraints for the processing of a narrow-view multi-camera system Petra Helmholz¹, Derek Lichti², Liam Boyle¹, Richard Palmer^{1,3}, Roslyn Ward³ ¹Spatial Sciences, School of Earth and Planetary Sciences, Curtin University, Kent St, Bentley, Australia; ²Department of Geomatics Engineering, University of Calgary, Calgary, AB T2N 1N4, Canada; ³School of School of Allied Health, Curtin University, Kent St, Bentley, Australia</p>
1:30pm - 2:45pm	<p>WG II/8B: Environmental & Infrastructure Monitoring Location: 714A</p> <p>1:30pm - 1:45pm Reliability-qualified Nighttime Lights for Disaster Impact and Recovery in cloud-impacted tropical Regions Rene Jr Principe, Karin Reinke, Simon Jones RMIT University, Australia</p> <p>1:45pm - 2:00pm Drone-based photogrammetry for pavement deterioration detection and quantification in airport infrastructure Guido Staub, Elisabet Jara University of Concepción, Chile</p> <p>2:00pm - 2:15pm MultiChange3D: A Multi-Scene, Multi-Sensor Dataset for Benchmarking 3D Geometric Change Detection Zhaoyi Wang¹, Paweł Trybala², Andreas Wieser¹, Fabio Remondino² ¹Geosensors and Engineering Geodesy (GSEG), ETH Zurich, Zurich, Switzerland; ²3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy</p> <p>2:15pm - 2:30pm Time-Adaptive Change Analysis through Extension of the M3C2 Algorithm using Multi-Modal Laser Scanning Data in a Salt Marsh Environment Xiaoyu Huang¹, Mathilde Letard¹, Dimitri Lague^{2,3}, Bernhard Höfle^{4,5}, Ronald Tabernig^{4,5}, Paul Leroy², Katharina Anders¹ ¹Remote Sensing Applications, TUM School of Engineering and Design, Technical University of Munich, Ottobrunn, Germany; ²Univ Rennes, Plateforme LiDAR, OSERen, UAR 3343 CNRS, France; ³Univ Rennes, Géosciences Rennes, UMR 6118 CNRS, France; ⁴3DGeo Research Group, Institute of Geography, Heidelberg University, Heidelberg, Germany; ⁵Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University, Heidelberg, Germany</p>
1:30pm - 2:45pm	<p>ThS22: Earth Observation for Crop Health and Resilient Food Systems Location: 714B</p> <p>1:30pm - 1:45pm Evaluation of Sentinel-2 and EnMAP for crop classification across Canadian agricultural landscapes Emily Lindsay¹, Catherine Champagne², Oliver McMillan³ ¹Agriculture and Agri-Food Canada, Canada; ²Agriculture and Agri-Food Canada, Canada; ³Agriculture and Agri-Food Canada, Canada; Carleton University, Canada</p> <p>1:45pm - 2:00pm Loss of Agricultural Land in Slovakia: Evidence from LPIS and Sentinel-2 Data Šimon Opravil¹, Dobromil Galvánek², Miloš Rusnák¹, Monika Kopecká¹, <u>Tomáš Goga¹</u> ¹Institute of Geography, Slovak Academy of Sciences, Slovak Republic; ²Institute of Botany, Plant Science and Biodiversity Centre, Slovak Academy of Sciences, Slovak Republic</p> <p>2:00pm - 2:15pm</p>

A Hierarchical Robust Combined Index for Agricultural Drought Detection and Monitoring Using Earth Observation Big Data: Application to a Case Study in Southern Italy

Filippo Bocchino¹, Giulia Graldi¹, Camillo Zaccarini², Deodato Tapete³, Alessandro Ursi³, Maria Virelli³, Patrizia Sacco³, Valeria Belloni¹, Roberta Ravanelli⁴, Mattia Crespi¹

¹Geodesy and Geomatics Division, Department of Civil, Building and Environmental Engineering (DICEA), Sapienza University of Rome, Rome, Italy; ²Risk Management Department, Institute of Services for Agricultural and Food Market (ISMEA); ³Italian Space Agency (ASI), Rome, Italy; ⁴Geomatics Unit, Department of Geography, University of Liège, Liège, Belgium

2:15pm - 2:30pm

Remote Sensing of Maize Physiological and Nutrient Dynamics in Response to Fall Armyworm Infestation

Tatenda Dzurume^{1,2}, Roshanak Darvishzadeh¹, Timothy Dube², Wafaa Rushdi Saleh Isleem³, Ismail Ibrahim⁴, Andrew Nelson¹

¹Department of Natural Resources, Faculty of Geo-Information Science and Earth Observation, University of Twente, Enschede, the Netherlands; ²Institute for Water Studies, University of the Western Cape, Bellville, South Africa; ³Department of Plant Protection, Ministry of Agriculture, Amman, Jordan; ⁴Department of Plant Protection, School of Agriculture, The University of Jordan, Amman, Jordan

1:30pm - 2:45pm

WG IV/1A: Spatial Data Representation and Interoperability

Location: 715A

1:30pm - 1:45pm

Bridging Semantic Mesh, CityGML, and Gaussian Splatting for Urban Modelling and Visualization

Deni Suwardhi^{1,3}, Muhammad Arif Sudibyo², Wahyunan Andika³, Muhammad Ihsan², Agus Ambarwari², Ratri Widyastuti¹, Widiatmoko Azis Fadilah⁴, Arnadi Murtiyoso⁴, Pierre Grusenmeyer⁴, Fabio Remondino⁵

¹Spatial System and Cadastral Research Group, Institut Teknologi Bandung (ITB), Indonesia; ²Postgraduate Programmes, Institut Teknologi Bandung (ITB), Indonesia; ³PT Inovasi Mandiri Pratama, Spatial Information Company, Indonesia; ⁴Université de Strasbourg, CNRS, INSA Strasbourg, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, 67000, Strasbourg, France; ⁵3D Optical Metrology (3DOM) Unit, Bruno Kessler Foundation (FBK), Trento, Italy

1:45pm - 2:00pm

Linking Persistent Scatterers with Urban Features Using LoD2 Building Models

Natalia Wielgocka, Grzegorz Józków, Paweł Bogusławski
Wrocław University of Environmental and Life Sciences, Poland

2:00pm - 2:15pm

IFC and QGIS integration for the Integrated Water Service management

Michele Berlato¹, Giorgio Agugiaro², Ken Arroyo Ohori², Carlo Zanchetta³

¹DTG – Department of Management Engineering, University of Padua, Italy; ²3D Geoinformation group, Department of Urbanism, Faculty of Architecture and Built Environment, Delft University of Technology, Delft, The Netherlands; ³DICEA – Department of Civil, Building and Environmental Engineering, University of Padua, Italy

1:30pm - 2:45pm

WG IV/8B: Digital Twins for Mobility and Navigation

Location: 715B

1:30pm - 1:45pm

Topological Analysis of OpenDRIVE Models for Advanced Autonomous Vehicle Simulations

Janos Mate Logo, Viktor Gyoza Horvath, Vivien Poto, Arpad Barsi

Budapest University of Technology and Economics, Department of Photogrammetry and Geoinformatics, Hungary

1:45pm - 2:00pm

A Comprehensive Toolkit for Semi-Automated HD Maps Production: Integrating AI-Driven Feature Extraction with 3D Interactive Validation and Editing

YI-FENG CHANG, KAI-WEI CHIANG, MENG-LUN TSAI, PEI-LING LEE, SYUN TSAI, CHI-HSIN HUANG, TING-CHUN WU, YI-HAN JEN, JIUN-YO LIN, CHANG-LE LEE, CHING-HSIANG LIN, HAN-CHE HUANG

National Cheng Kung University, Chinese Taipei

2:00pm - 2:15pm

A Low-Altitude Data Space Framework Based on China's National 3D Mapping Program

Yin Gao^{1,2}, Jun Chen^{1,2}, Dehu Yang^{1,3}, Chaoquan Zhang¹, Fengyu Han¹

¹Moganshan Geospatial Information Laboratory, Huzhou, 313200, China; ²National Geomatics Center of China, Beijing 100830, China; ³Faculty of Geosciences and Engineering, Southwest Jiaotong University, Chengdu 610031, China

2:15pm - 2:30pm

Geometrically accurate 3D Gaussian Reconstruction using high-density UAV LiDAR point clouds and open-vocabulary semantic optimization

Banghui Yang^{1,2}, Kai Qin^{1,2}, Yucheng Li^{1,2}, Jing Li^{1,3}

¹Aerospace Information Research Institute, Chinese Academy of Science, China, People's Republic of; ²University of Chinese Academy of Sciences, Beijing; ³International Research Center of Big Data for Sustainable Development Goals, China

1:30pm - 2:45pm

ThS23A: Towards Large Cultural Heritage Foundation Models: Datasets, Semantic Alignment, and Component-Level Annotation

	<p>Location: 716A</p> <p>1:30pm - 1:45pm Investigating The Form And Restoration Of The Diji Altar <u>Wang Jinghan</u>, Qi Ying, Hou Miaole Beijing University of Civil Engineering and Architecture, China, People's Republic of</p> <p>1:45pm - 2:00pm A Digital Restoration Method for Earth God Altars from Discrete Components to Scene Reconstruction <u>Sining Li</u>¹, Nan Meng^{1,2}, Tao Zhang^{1,3}, Lili Jiang^{1,4}, Miaole Hou^{1,5} ¹Beijing University of Civil Engineering and Architecture, China, People's Republic of; ²Ancient Chinese Architecture Museum, China, People's Republic of; ³Beijing Institute of Archaeology, China, People's Republic of; ⁴Beijing Digsur Science & Technology Com. Ltd, China, People's Republic of; ⁵Beijing University of Civil Engineering and Architecture, China, People's Republic of</p> <p>2:00pm - 2:15pm Building a Multimodal Dataset of Rock Art: Integrating Text, Images, and 3D Point Clouds Dongxu Huo, <u>Chenxu Nie</u>, Miaole Hou Chang'an University, China, People's Republic of</p> <p>2:15pm - 2:30pm Monocular Depth Estimation from UAV images for 3D documentation of architectural heritage: a Depth Anything v2-based approach <u>Andrea Maria Lingua</u>¹, Filiberto Chiabrando², Francesca Gallitto¹, Stefania Manca¹, Alessio Martino², Francesca Matrone¹, Alessandra Spadaro¹ ¹Politecnico di Torino (DIATI), Italy; ²Politecnico di Torino (DAD), Italy</p>
<p>1:30pm - 2:45pm</p>	<p>SpS2: ISO Data Quality Measures Register and the ISPRS Community Location: 716B</p> <p>1:30pm - 1:45pm From Data Standards to GeoAI Governance: Strengthening Data Quality and Trust in the Next Era of Geospatial Intelligence <u>Nadine Alameh</u> LunateAI, United States of America</p> <p>1:45pm - 2:00pm Adding Data Quality and Licensing Aspects to Open Science Workflows <u>Robert Atkinson</u>¹, Ivana Ivanova² ¹Open Geospatial Consortium; ²Curtin University, Australia</p> <p>2:00pm - 2:15pm ISO 19157-3 Data quality measures register for geographic information: What is it, what can we do with it and why is it beneficial for the ISPRS and wider geocommunity? <u>Ivana Ivanova</u>¹, Torsten Svard², Robert Atkinson³ ¹Curtin University, Australia; ²Lantmateriet, The Swedish mapping, cadastral and land registration authority; ³Open Geospatial Consortium</p> <p>2:15pm - 2:30pm Investigating the Role of Post-Quantum Cryptography in Enhancing Blockchain-Based Geospatial Data Exchange Darshana Rawal, <u>Jan Seedorf</u>, Atharva Chaudhari, Matthias Hamann Hochschule für Technik Stuttgart, Germany</p> <p>2:30pm - 2:45pm Benchmarking the Quality of High-Resolution Global Land Cover Products: Toward a Shared Framework for Assessment Qiongjie Xu¹, Hao Wu², Jun Chen², <u>Maria Antonia Brovelli</u>¹ ¹Politecnico di Milano, Italy, Department of Civil and Environmental Engineering; ²Moganshan Geospatial Information Laboratory, Zhejiang Province, China</p>
<p>1:30pm - 2:45pm</p>	<p>ThS13: CO3D Mission Location: 717A</p> <p>1:30pm - 1:45pm The CO3D mission, a worldwide one-meter accuracy Digital Surface Model <u>Laurent Lebegue</u>, Fabrice Buffe, Olivier Melet, David Youssefi, Jean-Baptiste Henry CNES, France</p> <p>1:45pm - 2:00pm 3D Product Quality Control in the CO3D Mission: A Critical Role <u>David Youssefi</u>¹, Timothée Accadia¹, Emilie Collet², Aymeric Godet², Valentine Bellet¹, Dimitri Lallement¹, Yannick Tanguy¹, Laurent Lebegue¹ ¹CNES, France; ²IGN, Service de l'imagerie spatiale, France</p> <p>2:00pm - 2:15pm CO3D image quality calibration <u>BUFFE Fabrice</u>¹, LUCAS Sylvain¹, LATOURTE Alice¹, ACCADIA Timothée¹, YOUSSEFI David¹, LEBEGUE Laurent¹, COGGIOLA Clément¹, BRUNO Mickaël¹, LUITOT Clément¹, DICK Arthur¹, DELAYGUE Nicolas¹, THOMAS Colin², SCHILLINGER Marc², TANGUY Yannick¹, CHAMBRELAN Alice²</p>

¹CNES, France; ²Airbus Defense and Space, France

2:15pm - 2:30pm

CO(ast)3D: a predictive pipeline for CO3D satellite imagery acquisition decisions

Elora M. H. Oades¹, Erwin W. J. Bergsma¹, Stephanie Artigues¹, Déborah Idier², Marcello de Michele², Daniel Raucoules², Laurent Lebegue¹, Jean-Marc Delvit¹

¹CNES (Centre Nationale d'Études Spatiales); ²BRGM (Bureau de Recherches Géologiques et Minières)

2:30pm - 2:45pm

CNES CO3D Image Ground Segment

**Olivier Melet, Celine L'Helguen, Laure Pradines, David Youssefi, Valentine Bellet
CNES, France**

3:00pm - 3:30pm

Afternoon Coffee Break

Location: **Exhibition Hall "E"**

3:30pm - 5:15pm

Opening Ceremony

Location: **Exhibition Hall "G"**

Awards Ceremony

- ISPRS Honorary Member
- Brock Gold Medal Award
- Val Shaw Memorial Award

5:30pm - 7:30pm

Congress Welcome Reception

Awards Ceremony:

- CP Lo Award
- ISPRS WEC Kennert Torlegård Travel Grant

8:30am - 10:00am	WG III/1A: Remote Sensing Data Processing and Understanding Location: 713A
	8:30am - 8:45am Cube Kernel: A Novel Approach to Enable Local Gradient Flow Across Channels in CNNs <u>Zhimeng HE</u> , Yuwei Cai, Meiliu Wu, Xinyan Xian, Brian Barrett University of Glasgow, United Kingdom
	8:45am - 9:00am Land Surface Dynamics Modeling and Prediction with dual Latent-Space Representations Keli Shi ^{1,2} , Zheng Zhang ¹ , Liang Tang ³ , Wenhe Xu ⁴ , Xiaojun Shan ¹ , <u>Ping Tang</u> ¹ ¹ Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China; ² School of Electronic, Electrical and Communication Engineering, University of Chinese Academy of Sciences, Beijing, China; ³ Yazhou Bay Innovation Institute, Hainan Tropical Ocean University, Sanya, China; ⁴ The University of Hong Kong, Hong Kong, China
	9:00am - 9:15am Revealing Feature Contribution Mechanisms for Interpretable CNN-Transformer Remote Sensing Classification <u>He Chen</u> ¹ , Xianwei Zheng ¹ , Wei He ¹ , Jiansi Yang ¹ , Linwei Yue ² , Ting Hu ³ , Jianya Gong ¹ ¹ Wuhan university; ² China University of Geosciences; ³ Nanjing University of Information Science and Technology
	9:15am - 9:30am EfficientViM-CD: An Efficient Remote Sensing Change Detection Network Based on Hidden State-Mixer <u>haiming zhang</u> ¹ , hongyang fan ² ¹ State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, wuhan university, China, People's Republic of; ² School of Information Science and Engineering, Wuchang Shouyi University
	9:30am - 9:45am Local NMS: Enhancing Object Detection in Large-Scale Remote Sensing Images via iterative pipelined Postprocessing <u>Bettina Felten</u> , Wolfgang Gross, Andreas Michel Fraunhofer IOSB, Germany
	9:45am - 10:00am ERD: Extended RAW-Diffusion Framework for De-rendering sRGB Images <u>Jiaqi Shang</u> ¹ , Yifan Qu ¹ , Jianbo Qi ² ¹ Department of Computer Science, University of Toronto, Canada; ² Faculty of Geographical Science, Beijing Normal University, China
8:30am - 10:00am	WG IV/2A: Artificial Intelligence and Uncertainty Modeling in Spatial Analysis Location: 713B
	8:30am - 8:45am KG-MS-ResNet: A Knowledge-Guided Multi-Scale Attention Residual Network for Cultivated Land Change Monitoring <u>Jun Zhang</u> ¹ , Hao Wu ¹ , Haomiao Shang ^{1,2,5} , Dongyang Hou ³ , Chunju Zhang ⁴ ¹ National Geomatics Center of China, Beijing,China, 100830; ² China University of Mining & Technology(Beijing), Beijing, China, 100083; ³ School of Geoscience and Information Physics, Central South University, Changsha, China, 410083; ⁴ School of Civil Engineering, Hefei University of Technology, Hefei, China, 230009; ⁵ Corresponding author
	8:45am - 9:00am Road Change Detection for Map Updating Using Geometric Boundary Deviation Between Digital Maps and Aerial Segmentation Results <u>Juhee Lee</u> ¹ , Chong Lee ¹ , Inhyeok Lee ² , Jangwoo Cheon ² , An Bui ¹ , Impyeong Lee ¹ ¹ Dept. of Geoinformatics, University of Seoul, Seoul, Republic of Korea; ² Geospatial Team, InnoPAM, Seoul, Republic of Korea
	9:00am - 9:15am Local Rank-Based Prior Calibration and Graph-Cut Refinement for Building Change Detection Chong Lee ¹ , <u>Inhyeok Lee</u> ² , Jangwoo Cheon ² , An Bui ¹ , Juhee Lee ¹ , Impyeong Lee ¹ ¹ Dept. of Geoinformatics, University of Seoul, Seoul, Republic of Korea; ² Geospatial Team, InnoPAM, Seoul, Republic of Korea
	9:15am - 9:30am Automated Geometric Correction of OpenStreetMap Buildings via Context- and Boundary-Aware Segmentation <u>Inhyeok Lee</u> ¹ , Chong Lee ² , Jangwoo Cheon ¹ , An Bui ² , Juhee Lee ² , Impyeong Lee ² ¹ Geospatial Team, InnoPAM, Seoul, Republic of Korea; ² Dept. of Geoinformatics, University of Seoul, Seoul, Republic of Korea
	9:30am - 9:45am

Improving building footprint extraction using NAIP and 3DEP lidar derived features with deep learning

Jung kuan Liu¹, Rongjun Qin², Samantha Arundel¹, Lexie Yang³

¹USGS, United States of America; ²The Ohio State University, United States of America; ³Oak Ridge National Laboratory, United States of America

9:45am - 10:00am

Benchmarking a Lightweight Model for Pothole Detection in Asphalt Pavements

Laura Torres Peixoto Pimentel, Vivian de Oliveira Fernandes, Caroline Dias Amancio de Lima UFBA, Brazil

8:30am - 10:00am

WG II/7B: Underwater Data Acquisition and Processing

Location: 714A

8:30am - 8:45am

Refraction-aware integrated Georeferencing of bathymetric Laser Scanning Data

Gottfried Mandlbürger¹, Lucas Dammert¹, Jan Rhomberg-Kauert¹, Florian Pöppi², Martin Pfennigbauer²

¹TU Wien, Department of Geodesy and Geoinformation, Austria; ²RIEGL Laser Measurement Systems GmbH, Austria

8:45am - 9:00am

Automated classification of coastal defense structures using airborne bathymetric LiDAR

Jan Rhomberg-Kauert¹, Lucas Dammert¹, Gottfried Mandlbürger¹, Tomasz Kogut², Arkadiusz Tomczak², Malgorzata Jarzabek-Rychard³

¹Department of Geodesy and Geoinformation, TU Wien; 1040 Vienna, Austria; ²Faculty of Geoenvironment and Environmental Protection, Maritime University of Szczecin; ³Institute of Geodesy and Geoinformatics, Wrocław University of Environmental and Life Sciences

9:00am - 9:15am

Accuracy assessment of bathymetric LiDAR using planar reference geometries and total station measurements

Lucas Dammert¹, Jan Rhomberg-Kauert¹, Philipp Amon², Hans-Berndt Neuner¹, Gottfried Mandlbürger¹

¹Technische Universität Wien, Austria; ²Riegl Laser Measurement Systems GmbH

9:15am - 9:30am

Mapping topobathymetry at ultra-high spatial resolution using RGB UAV and PlanetScope SuperDove neural network fusion

Antoine Collin^{1,2}, Laurine Nogue^{1,2}, Dorothee James^{1,2}, Coralie Monpert³, Laetitia Dupuy⁴, Franck Dolique⁴

¹Coastal GeoEcology Lab, EPHE-PSL University, France; ²Laboratory of Biology of Aquatic Organisms and Ecosystems, France; ³Service Hydrographique et Océanographique de la Marine, France; ⁴Laboratory of Biology of Aquatic Organisms and Ecosystems, Martinique, France

9:30am - 9:45am

Mapping at the Boundary: simultaneous above- and underwater Surveying of rocky coastal Environments with an uncrewed surface vehicle

Sergey Khokhlov¹, Fabio Menna^{2,3}, Erica Nocerino⁴

¹PhD programme in Culture, Literature, Rights, Tourism and Territory, Department of Humanities and Social Sciences, University of Sassari, Sassari, Italy; ²Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Sassari, Italy; ³Department of Science and Technology, University of Napoli Parthenope, Napoli, Italy; ⁴Department of Humanities and Social Sciences, University of Sassari, Sassari, Italy

9:45am - 10:00am

Evaluation of an Underwater Laser Scanner and an Air-borne Laser Scanner in coastal shallow Waters

Annette Scheider¹, Sethmiya Herath Mudiyansele¹, Christoph Werner², Ellen Heffner¹, Annika L. Walter¹, Jannis Gangelhoff², Harald Sternberg¹

¹HafenCity University Hamburg, Germany; ²Fraunhofer Institute for Physical Measurement Techniques IPM

10:00am - 10:15am

Reconstructing Multibeam Echosounder Bathymetry with Generative Adversarial Networks: Toward Efficient Use of Survey Resources

Anna Brook, Haitham Ezzy, Dror Angel
University of Haifa, Israel

8:30am - 10:00am

WG III/8A: Remote Sensing for Agricultural and Natural Ecosystems

Location: 714B

8:30am - 8:45am

Solar-Induced Fluorescence as a Robust Proxy for Vegetation Productivity Across Climate Zones and Vegetation Types in the United States

Luka Mamic^{1,3,4}, Mj Riches^{2,5}, Delphine K. Farmer², Francesco Pirotti^{3,4}

¹Sapienza University of Rome, Department of Civil, Building and Environmental Engineering, Italy; ²Colorado State University, Department of Chemistry, USA; ³University of Padua, Department of Land and Agroforestry Systems (TESAF), Italy; ⁴University of Padua, Interdepartmental Research Centre in Geomatics (CIRGEO), Italy; ⁵Colorado State University, Department of Agricultural Biology, USA

8:45am - 9:00am

High-resolution GPP estimation from Sentinel-1/2 around flux tower sites using convolutional neural networks
High-resolution GPP estimation from Sentinel 1/2 around flux tower sites using convolutional neural networks

Taewoong Ham, Baoxin Hu
York University, Canada

9:00am - 9:15am

Benchmarking GPP Proxies: A Cross-Biome Evaluation of SIF and NIRvP

Fangyi Lv¹, Kaimin Sun¹, Shunxia Miao¹, Yi Xu¹, Tian Guo²

¹Wuhan University, China; ²North Automatic Control Technology Institute, China

9:15am - 9:30am

Deep Learning Framework for High Spatiotemporal Resolution Monitoring of Carbon Uptake Using Multi-source Satellite Imagery

Junggho Im, Bokyoung Son, Taejun Sung, Sejeong Bae

Ulsan National Institute of Science and Technology, Korea, Republic of (South Korea)

9:30am - 9:45am

Impact of spectral Resolution on SIF Quantification for explaining Almond Yield Variability

Thulasi Vishwanath Harish¹, Tomás Poblete¹, Victoria Gonzalez-Dugo², John Fielke³, Pablo Zarco-Tejada²

¹University of Melbourne, Australia; ²Instituto de Agricultura Sostenible, Consejo Superior de Investigaciones Científicas, Spain; ³Adelaide University, Australia

9:45am - 10:00am

Multi-temporal Green Roof Vegetation Assessment Using Sentinel-2: A Pilot Study

Afsana Alam Akhie, Darko Joksimovic

Toronto Metropolitan University, ON, Canada

8:30am - 10:00am

ICWG III/IVa-A: Disaster Management

Location: 715A

8:30am - 8:45am

A Camera System for Wildfire Detection and strategies against false positive Results

Gerhard Kemper¹, Denny Shaji², Christian Heipke³

¹GGS GmbH, Germany; ²GGS GmbH, Germany; ³Leibniz Universitaet Hannover (LUH) Institut fuer Photogrammetrie und GeoInformation (IPI)

8:45am - 9:00am

Effectiveness of Airborne LiDAR Intensity for Identifying Surface Fire Burned Areas in Wildfires

Takafumi Kakuno, Junichi Takanuki, Takaaki Ankai, Takumi Satou

Aero Toyota Corporation, Japan

9:00am - 9:15am

Assessing Fire Impacts on Aboveground Biomass using Multi Sensor Remote Sensing in the Western Ghats

Balaramdass K R¹, Mohanraj R², Abdul Rahaman S¹

¹Bharathidasan University, Tiruchirappalli, India; ²Sathyabama Institute of Science and Technology, Chennai, India

9:15am - 9:30am

BC Wildfire Risk Prediction Time-Series Dataset: 2002--2023

Zhengsen Xu¹, Lanying Wang², Yimin Zhu¹, Wentao Sun², Lincoln Linlin Xu¹

¹University of Calgary, Canada; ²University of Waterloo, Canada

9:30am - 9:45am

Long-term forest fire assessment over Zagros Forests

Fatemeh Motalebizade, Parviz Fatehi

University of Tehran, Iran, Islamic Republic of

8:30am - 10:00am

WG II/3A: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

8:30am - 8:45am

GT-LOD3: LOD3 Semantic 3D Building Reconstruction Benchmark Dataset

Han Sae Kim¹, Olaf Wysocki², Ludwig Hoegner³, Ksenia Bittner⁴, Joshua Carpenter⁵, Friedrich Fraundorfer^{4,6}, Arpan Kusari⁷, Max Mehlretter⁸, Franz Rottensteiner⁸, Anna Schadl⁹, Martin Weinmann¹⁰, Jinha Jung¹

¹Lyles School of Civil and Construction Engineering, Purdue University, West Lafayette, IN, USA; ²CV4DT, Department of Engineering, University of Cambridge, Cambridge, United Kingdom; ³Faculty of Civil Engineering, Hochschule München University of Applied Sciences, Munich, Germany; ⁴Remote Sensing Technology Institute, German Aerospace Center (DLR), Oberpfaffenhofen, Germany; ⁵Department of Civil Engineering, The University of Akron, Akron, OH, USA; ⁶Institute of Visual Computing, Graz University of Technology, Graz, Austria; ⁷University of Michigan Transportation Research Institute, University of Michigan, Ann Arbor, MI, USA; ⁸Institute of Photogrammetry and GeoInformation, Leibniz University Hannover, Hannover, Germany; ⁹Faculty of Geoinformatics, Hochschule München University of Applied Sciences, Munich, Germany; ¹⁰Institute of Photogrammetry and Remote Sensing, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

8:45am - 9:00am

LoD2-Former: Multi-Modal Transformer-Based 3D Building Wireframe Reconstruction

Youssef Abdelhedi¹, Daniel Panangian¹, Chaikal Amrullah¹, Houda Chaabouni-Chouayakh², Ksenia Bittner¹

¹Remote Sensing Technology Institute, German Aerospace Center (DLR), Wessling, Germany; ²Sm@rts Laboratory, Digital Research Center of Sfax, Tunisia

9:00am - 9:15am

Point2WSS: Reconstructing LoD2 Buildings from Aerial LiDAR Data using Multimodal Learning and Weighted Straight Skeleton

Pierre-Loïc Queffelec^{1,2}, Nicolas Trouvé¹, Stéphane Roussel¹, Teng Wu², Bruno Vallet²

¹DEMR, ONERA, Université Paris Saclay, F-91123 Palaiseau, France; ²Univ Gustave Eiffel, ENSG, IGN, LASTIG, F-77420 Champs-sur-Marne, France

9:15am - 9:30am

Wide-area Scene Reconstruction with polyhedral Buildings featuring recognized Regularities

Jochen Meidow

Fraunhofer IOSB, Germany

9:30am - 9:45am

The P3 Dataset: Pixels, Points and Polygons for Multimodal Building Vectorization

Raphael Sulzer^{1,2}, Liuyun Duan², Nicolas Girard², Florent Lafarge¹

¹Université Côte d'Azur, INRIA – Sophia-Antipolis, France; ²LuxCarta Technology, Mouans-Sartoux, France

9:45am - 10:00am

Building height estimation from stereo satellite images using contour vector registration

Yaxuan Duan, Wei Qin, Xin Huang, Pei Mi, Yang Yu, Pengjie Tao

School of Remote Sensing and Information Engineering, Wuhan University, Wuhan 430079, China

8:30am - 10:00am

lvS3A: Advancing Digital Twins for Urban Environments: Approaches to Mapping, Monitoring, and Management

Location: 716A

8:30am - 8:45am

A Decade of Aerial Mapping in Singapore

Daniel Kruimel, Esther Seah, Zaffar Sadiq Mohamed-Ghouse

Woolpert, United States of America

8:45am - 9:00am

Large-Scale Urban and Peri-Urban Mapping Using Deep Learning and PlanetScope Imagery

Yuhong He¹, Yindan Zhang¹, Jonathan Ruppert², Lyndsay Cartwright²

¹University of Toronto Mississauga, Canada; ²Toronto and Region Conservation Authority

9:00am - 9:15am

Research on Urban 3D Data Management and Representation Method Based on BeiDou Grid Code

Jiahui Wang, Tao Shen, Liang Huo, Xuejia Wei, Jinlong Wang

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

9:15am - 9:30am

Evaluating iPhone-based 3D-Scanning Applications for Heritage Documentation: Controlled Experiments and Future Directions

Abdelrahman Abdelghany¹, Derek Lichti¹, Peter Dawson¹, Shabnam Jabari²

¹University of calgary, Canada; ²University of New Brunswick

9:30am - 9:45am

Automatic DEM-infused 2D to 3D LoD1 Urban Morphology Python Framework

Omar Yasser¹, Mohsen Kalantari², Izni Zahidi¹

¹Monash University, Malaysia; ²The University of New South Wales (UNSW) Sydney

8:30am - 10:00am

ThS14: AI-Augmented Photogrammetry - Bridging Learning-based Approaches and Classical Geometric-based 3D Methods

Location: 716B

8:30am - 8:45am

Combining Photogrammetry and Gaussian Splatting

Fabio Remondino¹, Elisa Mariarosaria Farella¹, Gianluca Bertolasi¹, Simone Rigon¹, Rongjun Qin²

¹3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy; ²Department of Civil, Environmental and Geodetic Engineering, The Ohio State University, USA

8:45am - 9:00am

Refraction-Aware Two-Media NeRF for Underwater 3D Reconstruction

Markus Brezovsky¹, Anatol Guenther², Frederik Schulte³, Lukas Winiwarter³, Boris Jutzi², Gottfried Mandlbauer¹

¹Department of Geodesy and Geoinformation, TU Wien, Vienna, Austria; ²Institute of Photogrammetry and Remote Sensing, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany; ³Unit of Geometry and Surveying, University of Innsbruck, Innsbruck, Austria

9:00am - 9:15am

CENS: A Coverage-efficient Pixel Sampling Strategy for enhancing NeRF-generated Point Cloud Fidelity

Perpetual Hope Akwensi, Frederik Schulte, Lukas Winiwarter
Unit of Geometry and Surveying, Universität Innsbruck, Austria

9:15am - 9:30am

Explicit Reconstruction of thermal Environments based on dual-modal neural Radiation Fields for diagnosing Building Facade Defects

Sirui Chen¹, Yipeng Lu², Zhe Chen², Fuxun Liang^{1,2}, Zhen Dong²

¹School of Urban Design, Wuhan University, Wuhan, China, China, People's Republic of; ²State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, Wuhan, China

9:30am - 9:45am

Assessing the Reconstruction Potential of 3D Vision Foundation Models for Oblique Photogrammetry

Junfan Wang¹, Feng Liu², Zhihao Jia¹, Han Hu^{1,3}, Min Chen^{1,3}, Xuming Ge^{1,3}, Ping Wen^{3,4}, Chong Wang^{3,4}, Qing Zhu^{1,3}

¹Faculty of Geosciences and Engineering, Southwest Jiaotong University, 611756 Chengdu, China; ²CRSC Communication & Information Group Co., Ltd.; ³Yunnan Engineering Research Center of 3D Real Scene, Kunming 650500, China; ⁴Kunming Engineering Corporation Limited, Kunming 650500, China

9:45am - 10:00am

Evaluating the Performance of 3D Vision Foundation Models for DSM Reconstruction from Satellite Images

Liupeng Su¹, Yuhao Ye¹, Han Hu¹, Zeyuan Dai^{2,3}, Qianrui Guo⁴, Heyi Li⁴, Yulin Ding¹, Qing Zhu¹

¹Faculty of Geosciences and Engineering, Southwest Jiaotong University, Chengdu 611756, Sichuan, China; ²Department of Military Oceanography and Hydrography and Cartography, Dalian Naval Academy, Dalian 116018, China; ³Key Laboratory of Hydrographic Surveying and Mapping of PLA, Dalian Naval Academy, Dalian 116018, China; ⁴Institute of Remote Sensing Satellite, China Academy of Space Technology, Beijing 100094, China

8:30am - 10:00am

WG III/1M: Remote Sensing Data Processing and Understanding

Location: 717A

8:30am - 8:45am

Evaluating super-resolution models for real-world Sentinel-2 applications: A case study

Ron Mülhhaus², Sandeep Kumar Jangir¹, Cecilia Curreli², Paul Karlshöfer¹, Daniel Cremers²

¹German Aerospace Center (DLR), The Remote Sensing Technology Institute, Germany; ²Technical University of Munich. School of Computation, Information and Technology

8:45am - 9:00am

Fine-Grained Remote Sensing Imagery Generation Driven by Expert Knowledge and Hierarchical Captions

Jiaxin Ren^{1,2,3}, Wanzeng Liu⁴, Feng Zhang³, Jun Chen^{1,4}, Jiadong Zhang⁵, Shunxi Yin⁶, Shaoxuan Zhao⁵, Guanfan Xi¹, Di Chen¹, Kuanlin Dong¹

¹Moganshan Geospatial Information Laboratory, Huzhou, China; ²Key Laboratory of Monitoring, Evaluation and Early Warning of Territorial Spatial Planning Implementation, Ministry of Natural Resources, Chongqing, China; ³School of Earth Sciences, Zhejiang University, Hangzhou, China; ⁴National Geomatics Center of China, Beijing, China; ⁵School of Geosciences and Info-Physics, Central South University, Changsha, China; ⁶School of Environment and Spatial Informatics, China University of Mining and Technology, Xuzhou, China

9:00am - 9:15am

Image-level and Feature-level Semantic-aware Architecture for Cross Domain Semantic Segmentation of High-resolution Remote Sensing Imagery

Jianhao Miao¹, Xinghua Li², Xuechen Bai¹

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, People's Republic of China; ²School of Remote Sensing and Information Engineering, Wuhan University, People's Republic of China

9:15am - 9:30am

Automating Expansive Cliff-nesting Seabird Colony Counts with Deep Learning: A Case Study of Aerial Photo Surveys of Northern Fulmars in Arctic Canada

Dominique Chabot¹, Sarah Gutowsky², Emily Knighton³, Tomas Naprstek¹, Charles Francis², Clément Chevallier², Mark Mallory³, Lisa Pirie²

¹National Research Council Canada; ²Environment and Climate Change Canada; ³Acadia University, Canada

9:30am - 9:45am

Estimation of surface nitrogen dioxide (NO₂) using TEMPO satellite data and machine learning

Neda Kolahi, Costas Armenakis, Mark D Gordon
York University, Canada

9:45am - 10:00am

Learning from Maps to Update Them: A Deep Learning-Based Approach Using Multimodal Airborne Data

Geethanjali Anjanappa, Sander Oude Elberink
University of Twente, The Netherlands

10:00am - 10:30am	Morning Coffee Break Location: Exhibition Hall "E"
10:30am - 12:00pm	Plenary Session 1 Location: Exhibition Hall "G" Keynote 1: To be announced Awards Ceremony: <ul style="list-style-type: none"> The U.V. Helava Award The Samuel Gamble Award Keynote 2: Professor Marc Pollefeys
12:00pm - 1:30pm	Lunch Location: Exhibition Hall "E"
1:30pm - 3:00pm	WG II/2A: Point Cloud Generation and Processing Location: 713A
	1:30pm - 1:45pm LGSSM: Local-to-global state space model for serialized point cloud semantic segmentation Hao Wu , Li Yan, Huchen Li, Qimeng Li, Longze Zhu, Junjie Yuan, Hong Xie School of Geodesy and Geomatics, Hubei LuoJia Laboratory, Wuhan University
	1:45pm - 2:00pm Hierarchical Gaussian Partitioning for Semantic Segmentation of Airborne LiDAR Scenes Moussa Bendjilali ^{1,2} , Nicola Luminari ¹ , Pierre Alliez ² ¹ Alteia, France; ² Inria Sophia-Antipolis, France
	2:00pm - 2:15pm MCPF-Net: Multi-stage LiDAR-Image Collaborative Perception Fusion Network for Point Cloud Semantic Segmentation in Urban Scenes Huchen Li ¹ , Wubiao Huang ¹ , Haibing Liu ¹ , Shihan Chen ¹ , Bin Liu ² , Fei Deng ^{1,3} ¹ School of Geodesy and Geomatics, Wuhan University, Wuhan 430079, China; ² Hinton STAI Institute, East China Normal University, Minhang, Shanghai 200241, China; ³ Hubei LuoJia Laboratory, Wuhan 430079, China
	2:15pm - 2:30pm Cross-Sensor Robustness and Spatial Generalization for 3D Railway Point Cloud Semantic Segmentation Arshia Ghasemlou , Mario Soilán, Jesús Balado , Belén Riveiro CINTECX, GeoTECH group, Universidade de Vigo
	2:30pm - 2:45pm Revisiting NeRF for Street Scene Point Cloud Semantic Segmentation in the Era of 3DGS Yuzhou Zhou University of Oxford, United Kingdom
	2:45pm - 3:00pm Extraction of Pole-like Road Objects from MMS Point Clouds Using Deep Learning and Geometric-Topological Feature Fusion Shu Su , Masataka Shirai, Hiroyuki Yokota AERO TOYOTA CORPORATION, Japan
1:30pm - 3:00pm	WG III/1H: Remote Sensing Data Processing and Understanding Location: 713B
	1:30pm - 1:45pm Satellite-based Monitoring of Tree Restoration in Ethiopia Tenaw Workie ¹ , Alemu Gonsamo ¹ , Martin Brandt ² , Philippe Ciais ³ , Max Gaber ² , Petri Pellikka ⁴ ¹ McMaster University, Canada; ² University of Copenhagen; ³ Laboratoire des Sciences du Climat et de l'Environnement, France; ⁴ University of Helsinki
	1:45pm - 2:00pm Synthetic Forest: A UAV Laser Scanning Benchmark Dataset for Individual Tree Segmentation, Classification, and Wood Volume Estimation Habib Pouredelan , Martin Tomko, Kourosh Khoshelham University of Melbourne, Australia
	2:00pm - 2:15pm Synergizing foundation model transfer and phenological information for fine-grained forest segmentation Youcef Ben Ghorbel , Guneet Mutreja, Mareike Weishaupt, Jiaojiao Tian German Aerospace Center (DLR), Germany
	2:15pm - 2:30pm Combining specialized Sentinel-2 time series features with AlphaEarth Foundations for forest type mapping Benedikt Hiebl ¹ , Nicola Alessi ² , Giacomo Calvia ³ , Alessandro Bricca ³ , Gianmaria Bonari ⁴ , Giulio Zangari ³ , Stefan Zerbe ^{5,6} , Martin Rutzinger ¹ ¹ University of Innsbruck, Austria; ² Italian Institute for Environmental Protection and Research, Rome, Italy; ³ University of Bolzano/Bozen, Italy; ⁴ University of Siena, Italy; ⁵ University of Göttingen, Germany; ⁶ University of Hildesheim, Germany
	2:30pm - 2:45pm

	<p>Tree species classification based on detailed shape evaluation of bark and leaf using deep learning</p> <p>Tomohiro Mizoguchi Sanyo-Onoda City University, Japan</p>
1:30pm - 3:00pm	<p>WG I/6A: Orientation, Calibration and Validation of Sensors Location: 714A</p>
	<p>1:30pm - 1:45pm Proposal and Verification of AI-Based Automatic Geometric Correction Technology for Satellite Images Using Open Access Basemaps Han-Gyeol Kim, Jaewon Hur Data Science Department, TelePIX, Korea, Republic of (South Korea)</p> <hr/> <p>1:45pm - 2:00pm An Adaptive Multi-Scale Star Centroid Localization Algorithm with Bayesian Iterative Weighting and Performance Analysis Tiyou Zhou¹, Mi Wang¹, Huang Zhang², Tengting Dong¹, Xinsheng Wang¹, Yifan Lou¹, Zhongyu Hu³ ¹State Key Laboratory of information Engineering in Surveying, Mapping and Remote Sensing(LIESMARS), Wuhan University, Wuhan 430072, China; ²Hubei Subsurface Multi-scale Imaging Key Laboratory, School of Geophysics and Geomatics, China University of Geosciences, Wuhan, 430074, China; ³Chang Guang Satellite Technology Company, Ltd., Changchun 130102, China</p> <hr/> <p>2:00pm - 2:15pm Investigating PhaseOne Cameras and its IIQ Format for Photogrammetric Applications Fabio Remondino¹, Robert Bosch² ¹3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy; ²PhaseOne</p> <hr/> <p>2:15pm - 2:30pm Comprehensive Evaluation of Small-Format Multi-Head Camera Systems for 3D Topographic Mapping Thirawat Bannakulpiphat^{1,2}, Wilfried Karel¹, Ana-Maria Loghin^{3,4}, Valeria-Ersilia Oniga³, Norbert Pfeifer¹ ¹TU Wien, Department of Geodesy and Geoinformation, Austria; ²Chulalongkorn University, Mapping and Positioning from Space Technology Research Center, Department of Survey Engineering, Thailand; ³Technical University "Gheorghe Asachi" of Iasi, Department of Terrestrial Measurements and Cadastre; ⁴Federal Office of Metrology and Surveying (BEV), Vienna, Austria</p> <hr/> <p>2:30pm - 2:45pm Geometric performance of the small satellite CE-SAT-IE carrying an optical sensor derived from the COTS camera Canon EOS R5 Junichi Takaku¹, Takeo Tadono², Sota Hirayama², Yuki Asahi³, Fumi Ohgushi¹ ¹Remote Sensing Technology Center of Japan; ²Earth Observation Research Center, Japan Aerospace Exploration Agency; ³Canon Electronics Inc.</p> <hr/> <p>2:45pm - 3:00pm Hybrid Calibration between a Laser Scanner and Smartphone Camera Using hourglass targets and Deep Learning Lorenz Krefft, Ludwig Hoegner Munich University of Applied Sciences, Germany</p>
1:30pm - 3:00pm	<p>WG I/2A: Mobile Mapping Technology Location: 714B</p>
	<p>1:30pm - 1:45pm Evaluation of VGGT with ALS Point Clouds for Large-Scale Dense Mapping Yandi Yang, Naser El-Sheimy University of Calgary, Canada</p> <hr/> <p>1:45pm - 2:00pm Semantic-Guided Geometric Feature Extraction from Dense LiDAR for Vehicle Localization with Abstract Maps Mohamad Wahbah¹, Rozhin Moftizadeh¹, Christopher Klugmann², Daniel Kondermann², Ingo Neumann¹, Hamza Alkhatib¹ ¹Geodetic Institute, Leibniz University Hannover, Germany; ²Quality Match GmbH, Germany</p> <hr/> <p>2:00pm - 2:15pm Enhanced Path Planning Strategies for Drone-Based Infrastructure Monitoring Under Signal -Denied Conditions Phillip Kim¹, Junhee Youn², Jiheon Jung¹ ¹Department of Future&Smart Construction Research, Korea Institute of Civil Engineering and Building Technology, Republic of Korea; ²Corresponding Author, Department of Future&Smart Construction Research, Korea Institute of Civil Engineering and Building Technology, Republic of Korea</p> <hr/> <p>2:15pm - 2:30pm UAV-Assisted Collaborative Positioning in GNSS-Denied Environments Andrea Masiero¹, Charles Toth², Luca Morelli³, Pawel Trybala³, Fabio Remondino³ ¹University of Padua, Italy; ²The Ohio State University, US; ³Fondazione Bruno Kessler, Italy</p> <hr/> <p>2:30pm - 2:45pm Melbourne multi-sensor urban positioning and mapping dataset Junjie Zhang^{1,2}, Marko Radanovic², Yuan Zhao², Amir Khodabandeh², Kourosh Khoshelham²</p>

2:45pm - 3:00pm

CMLGF-LIO: A Cross-Modal Local-Global Fusion Framework for Robust LiDAR-Inertial Odometry

Xin Yang, Li Yan, Hong Xie

School of Geodesy and Geomatics, Wuhan University, Wuhan, China

3:00pm - 3:15pm

A Low-Cost Vehicle-Based Mobile Mapping System: LiDAR SLAM with Multi-GNSS/IMU Fusion

Rami Tamimi¹, Baris Suleymanoglu², Abdelgwad Elashry³, Toth Charles¹

¹The Ohio State University, United States of America; ²Yildiz Technical University, Istanbul, Türkiye;

³University of Hertfordshire, New Administrative Capital, Egypt

1:30pm - 3:00pm

WG III/8G: Remote Sensing for Agricultural and Natural Ecosystems

Location: 715A

1:30pm - 1:45pm

Biomass Distribution Mapping of Boreal Forests using GEDI, Sentinel-2, and SRTM Data

Chandra Sekhar Utlal¹, Brijesh Kumar Yadav¹, Vaasudevan Srinivasan², Rakesh Kumar Mishra², Ajay Dashora¹, Yun Zhang²

¹Indian Institute of Technology Guwahati, India; ²University of New Brunswick, Fredericton, Canada

1:45pm - 2:00pm

Aboveground biomass estimation using a transformer framework with multi-temporal Sentinel-1/2 data and growth constraints

Wen Zhang, Baoxin Hu

York University, Canada

2:00pm - 2:15pm

Spatio-Temporal Inversion of Forest Fuel Moisture Content Using Multi-Source Remote Sensing: A Deep Learning Framework Incorporating Vegetation Spatial Autocorrelation

Cui Zhou, Junxiang Zhang, Wenjun Wang

Central South University of Forestry and Technology, China

2:15pm - 2:30pm

Tracking the efficacy of prescribed burns in three phases: fuel removal, wildfire mitigation, and vegetation recovery

Tianjia Liu¹, Kento Otobe¹, Makoto Kelp²

¹Department of Geography, University of British Columbia, Vancouver, BC, Canada; ²Department of Atmospheric Sciences, University of Utah, Salt Lake City, UT, United States

2:30pm - 2:45pm

Winter coherence as an indicator of fire-influenced vegetation for mapping and monitoring Canada's Sub-arctic wetland ecosystem extents

Laura Dingle Robertson¹, Emily Dyer¹, Sarah Banks¹, Marco van der Kooij²

¹Environment and Climate Change Canada, Canada; ²Van der Kooij Consult

2:45pm - 3:00pm

Boosting Accuracy with the Synergistic Use of Sentinel-1, Sentinel-2, and EnMAP Data for Land Cover & Crop Type Mapping in Greece

Christina Karakizi^{1,2}, Eleni Sofikiti^{1,2}, Olympia Gounari², Zacharias Kandylakis², Konstantinos Karantzalos²

¹Hellenic Space Center, Greece; ²Remote Sensing Laboratory, National Technical University of Athens

1:30pm - 3:00pm

WG IV/1B: Spatial Data Representation and Interoperability

Location: 715B

1:30pm - 1:45pm

Zonology: An Ontology-Based Framework for Harmonizing Zoning Semantics Across Multi-Jurisdictional Greater Toronto Area (GTA) Planning Systems

Arian Mesbahian¹, Amin Sarang², Arash Shahi³, Mojgan Jadidi¹

¹Department of Civil Engineering, Lassonde School of Engineering, York University, Canada; ²DevNext Inc., Canada; ³AECO Innovation Lab Inc., Canada

1:45pm - 2:00pm

GeoGraphJSON: A lightweight semantic data model integrating spatial geometry and graph connectivity for AI-driven spatial reasoning

Muhamad Alrajhi¹, Christian Heipke², Mohammed Afroz Khan¹

¹RASIKH Institute for Education and Training, Riyadh; ²Leibniz Universität Hannover

2:00pm - 2:15pm

Urban Morphological Clustering of Cairo, and Makkah A Comparative Analysis Using Spatial Networks

Ahmad M. Senousi^{1,2}, Wael Ahmed^{1,2}, Adel Elshazly¹, Moustafa Baraka³, Walid Darwish^{1,2}

¹Geomatics Engineering Lab, Public Works Department, Cairo University, Giza 12613, Egypt; ²NAMAA for Engineering Consultations, Dokki, Giza 12612, Egypt; ³Civil Engineering Program, German University in Cairo 11835, Egypt

	<p>2:15pm - 2:30pm</p> <p>An Assessment of Spatiotemporal Dynamics of Urban Illumination and Socioeconomic Patterns in Delhi Using VIIRS Nighttime Light Data</p> <p>Manisha Kumari¹, Aditya Kumar Thakur²</p> <p>¹Tilka Manjhi Bhagalpur University, India; ²Indian Institute of Technology Roorkee, India</p>
	<p>2:30pm - 2:45pm</p> <p>Artificial Intelligence for territorial interpretation: from image clustering to perceptual mapping</p> <p>Fabio Bianconi, Marco Filippucci, Chiara Mommi</p> <p>University of Perugia, Italy</p>
	<p>2:45pm - 3:00pm</p> <p>Towards the Development of a Metadata-driven Usability Awareness Prototype for Interoperable GIS Operation Design</p> <p>Jung-Hong Hong, How-Han Chang, Ting-Yi Lee, Ting-Yu Chang</p> <p>Dept. of Geomatics, National Cheng Kung University, Chinese Taipei</p>
1:30pm - 3:00pm	<p>IvS3B: Advancing Digital Twins for Urban Environments: Approaches to Mapping, Monitoring, and Management</p> <p>Location: 716A</p>
	<p>1:30pm - 1:45pm</p> <p>Digital Building Analysis (DBA): Cloud-GIS-Based 3D Building Modelling and Multi-Agent AI Analytics Using Gaussian Splatting and Google Maps Platform</p> <p>Kyle Gao¹, Jonathan Li^{1,2}, Linlin Xu³, David Clausi¹</p> <p>¹Department of Systems Design Engineering, University of Waterloo, Canada; ²Department of Geography and Environmental Management, University of Waterloo, Canada; ³Department of Geomatics Engineering, University of Calgary</p>
	<p>1:45pm - 2:00pm</p> <p>A Comprehensive Evaluation of the Spatial Accuracy of Building Gaussian Splatting</p> <p>Samuel McNally¹, Shabnam Jabari¹, Heather McGrath², Mark Masry³</p> <p>¹Dept. of Geodesy and Geomatics Engineering, University of New Brunswick, Canada; ²Natural Resources Canada; ³Modelar</p>
	<p>2:00pm - 2:15pm</p> <p>Geopose-enabled Urban Digital Twin for Rapid Road Quality Analysis using Geo-AI</p> <p>Soheil Sabri</p> <p>University of Central Florida, United States of America</p>
	<p>2:15pm - 2:30pm</p> <p>Towards Roof Material Identification by Fusing Aerial and Street View Imagery</p> <p>Faezeh SoleimaniVostikolaei¹, SeyedPooya Soofbaf¹, Travis Moore², Shabnam Jabari¹</p> <p>¹University of New Brunswick, Canada; ²Construction Research Centre, National Research Council Canada</p>
	<p>2:30pm - 2:45pm</p> <p>Evaluating Comparative Performance of 2D and 3D Feature Detection Models for Digital Twinning</p> <p>Colin Richardson¹, Shabnam Jabari¹, Liam DeLong¹, Darian Crouse¹, Travis Moore², Derek Lichti³</p> <p>¹University of New Brunswick, Canada; ²National Research Council Canada; ³University of Calgary, Canada</p>
1:30pm - 3:00pm	<p>Forum1A: Observing the Earth as One: Making space for everyone in Remote Sensing, Photogrammetry, and Spatial Information Science</p> <p>Location: 716B</p>
1:30pm - 3:00pm	<p>Youth Forum: Why Join? Early Career Engagement in Professional Associations</p> <p>Location: 717A</p> <p>Awards Ceremony for the ISPRS Student Consortium Excellence Award</p>
1:30pm - 3:00pm	<p>InS1: Industry Tech Session</p> <p>Location: 717B</p>
3:00pm - 3:30pm	<p>Afternoon Coffee Break</p> <p>Location: Exhibition Hall "E"</p>
3:30pm - 5:15pm	<p>ThS4A: Toward Smart Forests: Emerging Tools in Remote Sensing, Artificial Intelligence, and Field Robotics</p> <p>Location: 713A</p>
	<p>3:30pm - 3:45pm</p> <p>AI-Enabled Forest Inventory in TerraScan: Integrating Georeferencing, Species Identification, and Volume Computation</p> <p>Anna Shcherbacheva, Helen Rost, Ana Puttonen, Arttu Soininen</p> <p>Terrasolid LTD, Hatsinanpuisto 8, 02600, Espoo, Finland</p>
	<p>3:45pm - 4:00pm</p> <p>Spatiotemporal Foundation Model for Aboveground Biomass Estimation: A case study in Mixedwood Plains Ecozone, Ontario, Canada</p> <p>Zilong Zhong¹, José Bermúdez¹, Dominic Cyr², Alemu Gonsamo¹</p> <p>¹McMaster University; ²Environment and Climate Change Canada</p>
	<p>4:00pm - 4:15pm</p> <p>Improving Tree Species Detection for Operational Forestry: The Role of Dataset Design</p>

Mirela Beloiu, [Khatereh Meshkini](#), Zhongyu Xia, Severin Broch, Verena C. Griess
Department of Environmental Systems Science, Institute of Terrestrial Ecosystems, ETH Zurich, 8092 Zurich, Switzerland

4:15pm - 4:30pm

Self-Supervised Leaf-Off Segmentation of Tree Functional Types and Buildings from Airborne NIRGB and LiDAR Data in Southern Ontario

[Jose David Bermudez Castro](#)¹, Zilong Zhong¹, Dominic Cyr², Alemu Gonsamo¹

¹McMaster University, School of Earth Environment Society, Canada; ²Environment and Climate Change Canada

4:30pm - 4:45pm

Updating Forestry Road networks in Ontario Using Single Photon LiDAR and Deep Learning-enhanced algorithms

[Hamid Ghanbari](#), Emmanuelle Baby-Bouchard, Catherine Chagnon, Alexandre Morin-Bernard, Alexis Achim

Department of Wood and Forest Sciences, Université Laval, Québec, Canada

4:45pm - 5:00pm

Attention-guided Multi-Scale Deep Learning Approach for Tree Health Detection Using Very High-Resolution Aerial Imagery

[Khatereh Meshkini](#), Mirela Beloiu, Zhongyu Xia, Verena C. Griess

Department of Environmental Systems Science, Institute of Terrestrial Ecosystems, ETH Zurich, Zurich, Switzerland

5:00pm - 5:15pm

Fine-grained vegetation segmentation in complex urban park environments using a deeply supervised parallel SegFormer

[Haixin Zhang](#), Qinying Zhang

Department of Landscape Architecture, Tianjin University, 300072 Tianjin, China,

3:30pm - 5:15pm

WG IV/5: Extended Reality and Visual Analytics

Location: 713B

3:30pm - 3:45pm

Towards evaluating the effects of visualization and task types on urban planning decisions

[Bettina Lobriza-Kalt](#)¹, [Elif Gurcinar](#)², [Halil Ibrahim Senol](#)³, [Arzu Çöltekin](#)²

¹Department of Geography, University of Zurich, Switzerland; ²Institute of Interactive Technologies, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Switzerland; ³Department of Geomatics, Harran University, Turkey

3:45pm - 4:00pm

Collaborative Wildfire Planning with Agentic AI: Automated Simulation and Mixed-Reality Visualization for Community Engagement

[Haowen Xu](#)¹, [Sisi Zlatanova](#)¹, [Ruiyu Liang](#)², [Ismet Canbulat](#)²

¹GRID, School of Built Environment, UNSW Sydney, NSW 2052 Australia; ²School of Minerals and Energy Resources Engineering, UNSW Sydney, NSW 2052 Australia

4:00pm - 4:15pm

Situated augmented reality for urban planning: A privacy-aware on-device localization pipeline

[Muhammad Alfakhori](#), Sven Schneider, Volker Coors

Stuttgart Technical University of Applied Sciences, Germany

4:15pm - 4:30pm

What Features of the Street Influence Visual Walkability? An Innovative Approach Using Cinematic Virtual Reality

[Chongan Wang](#), [Florian Massuyeau](#), [Vincent Tourre](#), [Thomas Leduc](#), [Myriam Servières](#)

Nantes Université, ENSA Nantes, Ecole Centrale Nantes, CNRS, AAU-CRENAU, UMR 1563, F-44000 Nantes, France

4:30pm - 4:45pm

Cartography-oriented Visual Design of Hydrodynamic Ocean-Physics Datasets

[Brad W. Robertson](#), [Steffen D. Frey](#), [Christian Kehl](#)

Bernoulli institute, Rijksuniversiteit Groningen, The Netherlands

4:45pm - 5:00pm

Night Sky Explorer VR

[Maxim Spur](#)¹, [Philippe Deverchère](#)², [Michèle Atié](#)³, [Olivier Augereau](#)¹, [Edna Hernández González](#)⁴

¹ENIB, Lab-STICC UMR 6285 CNRS, Brest, France; ²ScotopicLabs, Lyon, France; ³Archimmersion, Nantes, France; ⁴Univ Brest (UBO), Institut de Géoarchitecture, Brest, France

5:00pm - 5:15pm

STAG: System for outdoor Augmented reality using GeoWebXR

[Corentin Gautier](#), [Mathieu Brédif](#)

Univ Gustave Eiffel, Géodata Paris, IGN, LASTIG

3:30pm - 5:15pm

ICWG III/IIA: Planetary Remote Sensing and Mapping

Location: 714A

3:30pm - 3:45pm

LunarDEM2025: A near-global lunar topography model using fused multi-sensor data

[Bin Liu](#)^{1,3}, [Xiang Shen](#)^{2,3}, [Kaichang Di](#)^{1,3}

¹State Key Laboratory of Remote Science and Digital Earth, Aerospace Information Research Institute, Chinese Academy of Sciences; ²State Key Laboratory of Geodesy and Earth's Dynamics, Innovation Academy for Precision Measurement Science and Technology, Chinese Academy of Sciences; ³University of Chinese Academy of Sciences

3:45pm - 4:00pm

1:1,000,000-scale Geologic Map of the Copernicus Quadrangle (LQ-58) on the Moon

Kai Zhu¹, Jianzhong Liu¹, Jingwen Liu¹, Jian Chen²

¹Center for Lunar and Planetary Science, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang 550081, China; ²Shandong Key Laboratory of Optical Astronomy and Solar-Terrestrial Environment, Institute of Space Sciences, School of Space Science and Physics, Shandong University, Weihai 264209, China

4:00pm - 4:15pm

Quality Control for Large-scale Bundle Adjustment of Planetary Remote Sensing Images

Xun Geng, Pengying Liu, Honghai Ma, Jia Wang, Zhen Peng, Jin Wang, Yuying Wang, Yinhui Wang, Jianwei Xu, Guohua Chang, Can Feng

State Key Laboratory of Spatial Datum, Henan University, Zhengzhou, China, 450046

4:15pm - 4:30pm

Advances and Applications of Spatio-Temporal Intelligence in China's Lunar and Mars Explorations

Kaichang Di¹, Zhaoqin Liu¹, Bin Liu¹, Man Peng¹, Wenhui Wan¹, Yexin Wang¹, Wai Chung Liu¹, Zongyu Yue², Sheng Gou²

¹Aerospace Information Research Institute, Chinese Academy of Sciences, China; ²Institute of Geology and Geophysics, Chinese Academy of Sciences, China

4:30pm - 4:45pm

Eliminating Latitudinal Bias for Improved Correlation Between Microwave Data and (FeO+TiO₂) Abundance on the Moon

Liansheng Mei¹, Cai Liu¹, Zhiguo Meng¹, Roberto Bugiolacchi²

¹Jilin university, China, People's Republic of; ²Macau University of Science and Technology, China, People's Republic of

4:45pm - 5:00pm

Spectroscopy of lunar surface: remote sensing, In situ and laboratory measurements

Yunzhao Wu^{1,2}, Yimin Chai¹, Hengyue Jiao¹

¹Purple Mountain Observatory, Chinese Academy of Sciences, China, People's Republic of; ²Space Science Institute, Macau University of Science and Technology, Macau, China

3:30pm - 5:15pm

WG IV/9A: Spatially Enabled Urban and Regional Digital Twins

Location: 714B

3:30pm - 3:45pm

The UoC Virtual Campus 3D Geospatial Data Infrastructure

Rijin Shaji¹, Calvin Hinzer², Elena Luisa Castrucci¹, Jessica Schuster³, Nils Naatz³, Julia Rauchalles¹, Christian Willmes¹

¹Institute of Geography, University of Cologne, Germany; ²Advanced Media Institute, Cologne University of Applied Sciences, Germany; ³Department for Digital Humanities, University of Cologne, Germany

3:45pm - 4:00pm

BirdCV-LiDAR: A Multi-Modal Data Fusion Framework for Automated Sidewalk Infrastructure Assessment

Chan Young Koh¹, Marwan Abdelatti², Abdeltawab Hendawi¹

¹University of Rhode Island, United States of America; ²Providence College, United States of America

4:00pm - 4:15pm

A Micro-Scale Walkability Metric for Pleasant Pedestrian Route Planning

George Taylor¹, Kaloyan Karamitov¹, Dessislava Petrova-Antonova^{1,2}

¹GATE Institute; ²Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski"

4:15pm - 4:30pm

Building upward, dividing deeper: Three-dimensional urban expansion assessment reveals regional heterogeneity of preferential developments worldwide

Yifan Teng¹, Liqun Sun², Xuefeng Guan¹, Xiaozhen Ren¹, Tao Zhou², Qingyang Xu¹, Chang Liu¹, Zhangyan Xu¹, Xu Li¹

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, China; ²Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China

4:30pm - 4:45pm

Quantifying vertical Differences in Green Visibility in High-Density Cities: A Voxel-Based Analysis Method

Haoyu Wang¹, Liu Liu¹, Sisi Zlatanova²

¹College of Architecture and Urban Planning, Tongji University, Shanghai, People's Republic of China;

²UNSW Built Environment, Red Centre Building, Kensington NSW 2052, Sydney, Australia

4:45pm - 5:00pm

Urban Building-Level Positioning using Data-driven Algorithms enhanced by Spatial Variations in Sensor Features

Die Zhang^{1,2}, Xin Liu³, Yong Ge^{1,2,4}, Yixi Wei⁵, Mengxiao Liu⁶

¹School of Geography and Environment / Key Laboratory of Poyang Lake Wetland and Watershed Research (Ministry of Education), Jiangxi Normal University, Nanchang, People's Republic of China; ²Jiangxi Province Key Laboratory of Ecological Intelligent Monitoring and Comprehensive Treatment of Watershed, Jiangxi Normal University, Nanchang, People's Republic of China; ³2012 Lab, Huawei Technologies Co. Ltd., Shenzhen, People's Republic of China; ⁴State Key Laboratory of Resources and Environmental Information System, Beijing, China; ⁵Department of Mathematics, Xi'an Medical University, Xi'an, People's Republic of China; ⁶Chinese Research Academy of Environmental Sciences, Beijing, People's Republic of China

5:00pm - 5:15pm

Detecting Urban Spatial Porosity and Fragmentation from Local Population Patterns

Kiichiro Kumagai, Ayano Shiraishi
Setsunan University, Japan

3:30pm - 5:15pm

WG I/8: Multi-sensor Modelling and Cross-modality Fusion

Location: 715A

3:30pm - 3:45pm

Geometry-aware Subsampling and pole-enhanced Map Constraints for urban Localization of LiDAR-based Systems

Marvin Scherff, Dominik Ernst, Hamza Alkhatib
Leibniz University Hanover, Germany

3:45pm - 4:00pm

Tracking topological relationships and spatiotemporal changes occurring in vague shape phenomena monitored by sensor network: a distributed fuzzy reasoning approach

Roger Ntankou Njila, Mir Abolfazl Mostafavi
Universite Laval, Canada

4:00pm - 4:15pm

An INS-Centric Locator for Autonomous Vehicles Aided by GNSS, Monocular Visual-Inertial Odometry, and HD Vector Maps

Chin-Chia Hsu, Chi-Hsin Huang, Syun Tsai, Yi-Feng Chang, Kai-Wei Chiang, Meng-Lun Tsai
Dept. of Geomatics, National Cheng Kung University, Tainan, Taiwan

4:15pm - 4:30pm

Motion Correction for Scanning of Moving Objects using LiDAR: Experimental Validation and Analysis

Salil Goel, Abhishek Yadav
Indian Institute of Technology Kanpur, India

4:30pm - 4:45pm

Multi-sensor Modelling for Temporal Gait Analysis: Evaluating IMU and UWB-Based Approaches

Aditi Sahu, Ashwani Kumar, Salil Goel
Indian Institute of Technology Kanpur, India

4:45pm - 5:00pm

A Non-rigid Polygon Registration Framework and its Application to Enhancing Building Footprint Accuracy using Aerial LiDAR

Amine Boussik¹, Bruno Vallet¹, Liuyun Duan², Nicolas Girard²

¹Univ Gustave Eiffel, IGN - LASTIG lab, Géodata Paris, France; ²LuxCarta Technology, Mouans Sartoux, France

5:00pm - 5:15pm

Multi-stage mask-aware Depth Enhancement for RGB-IR-stereo Fusion on historic Timber Surfaces

Junquan Pan¹, Maria Chizhova¹, Mona Hess¹, Thomas Luhmann², Ferdinand Maiwald³

¹Digital Technologies in Heritage Conservation, Centre for Heritage Conservation Studies and Technologies (KDWT), University of Bamberg, Bamberg, Germany; ²Institute for Applied Photogrammetry and Geoinformatics (IAPG), Jade University of Applied Sciences, Oldenburg, Germany; ³Chair of Optical 3D-Metrology, Dresden University of Technology, Dresden, Germany

3:30pm - 5:15pm

WG II/3B: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

3:30pm - 3:45pm

3D gaussian splatting for large-scale 3D reconstruction: an evaluation and quality analysis

Jiangxue Yu¹, Yueling Liao¹, San Jiang^{2,3}, Xing Zhang^{2,3}, Zhijun Wang⁴, Qingquan Li^{2,3}

¹School of Computer Science, China University of Geosciences, Wuhan 430074, China; ²Guangdong Key Laboratory of Urban Informatics, Shenzhen University, Guangdong Shenzhen, 518060, China; ³MNR Key Laboratory for Geo-Environmental Monitoring of Great Bay Area, Shenzhen University, Guangdong Shenzhen, 518060, China; ⁴Guangdong Laboratory of Artificial Intelligence and Digital Economy (Shenzhen), Guangdong Shenzhen, 518060, China

3:45pm - 4:00pm

RobustGauss: Robust 3D gaussian splatting for distractor-free 3D scene reconstruction

Haibing Liu¹, Shihan Chen¹, Huchen Li¹, Wubiao Huang¹, Shuai Zhang¹, Fei Deng^{1,2}

¹School of Geodesy and Geomatics, Wuhan University, Wuhan 430079, China; ²Hubei Luoja Laboratory, Wuhan 430079, China

4:00pm - 4:15pm

BetterScene: 3D Scene Synthesis with Representation-Aligned Generative Model

Yuci Han¹, Charles Toth¹, John Anderson², William Shuart², Alper Yilmaz¹

¹the ohio state university, United States of America; ²USACE ERDC GRL

4:15pm - 4:30pm

EMVSNet: Evidential multi-view stereo reconstruction for sampling-free depth and uncertainty estimation

Christian Grannemann, Max Mehlretter

Leibniz University Hannover, Germany

4:30pm - 4:45pm

Adaptive Scaling with Geometric and Visual Continuity of completed 3D objects

Jelle Vermandere, Maarten Bassier, Maarten Vergauwen

KU Leuven, Belgium

4:45pm - 5:00pm

MambaPanoptic: a Vision Mamba-based Structured State Space Framework for panoptic Segmentation

Qing Cheng^{1,2}, Damiano Bertolini^{1,3}, Wei Zhang⁴, Dong Wang⁵, Niclas Zeller⁶, Daniel Cremers^{1,2}

¹Technical University of Munich, Germany; ²Munich Center for Machine Learning; ³Polytechnic University of Milan; ⁴University of Stuttgart; ⁵Wuhan University; ⁶Karlsruhe University of Applied Sciences

5:00pm - 5:15pm

GeoPrior-Diff: Using Stable Diffusion as a geometric Prior for single-view 3D Point Cloud Reconstruction

Youssef Korny¹, Sunghwan Yoo¹, Mohammad Moein Sheikholeslami¹, Daniel Panangian², Ksenia Bittner², Andreas Wichmann³, Gunho Sohn¹

¹Dept. of Earth and Space Science and Engineering, York University, Canada; ²Remote Sensing Technology Institute, German Aerospace Center (DLR), Germany; ³Institute for Applied Photogrammetry and Geoinformatics (IAPG), Jade University of Applied Sciences, Germany

3:30pm - 5:15pm

lvS4: Operationalizing Earth Observation for Sustainable Resource Development

Location: 716A

3:30pm - 3:45pm

Supporting Canada's Ring of Fire Regional Assessment Through Earth Observation

Darren Janzen, Wenjun Chen, Sylvia Thomas, Sylvain Leblanc

Natural Resources Canada, Canada

3:45pm - 4:00pm

Forest Biomass Estimation in Québec with Multi-Source Earth Observation and Machine Learning in Google Earth Engine

Maryam Rahimzad, Anne Ola, Saeid Homayouni

INRS, Canada

4:00pm - 4:15pm

The Terrestrial Snow Mass Mission (TSMM) Academic Consortium: Ku-Band SWE Retrieval Advances and Validation from Mountainous and Arctic Field Campaigns

Nicolas Marchand, Alexandre Langlois

Université de Sherbrooke / CARTEL, Canada

4:15pm - 4:30pm

Gaussian Process Regression-Based Geospatial Framework for Emergency Shelter Suitability Assessment

Sanmitha V S, Shanjanaa G, Mukilarasan V, Nijanthanathan M, Vani K

College of Engineering Guindy, India

4:30pm - 4:45pm

Earth Observation-Based Geospatial Analysis of Population-Air Quality Interaction

Xuejia Wei¹, Zechang Li², Liang Huo¹, Tao Shen¹, Jiahui Wang¹, Jinlong Wang¹

¹Beijing University of Civil Engineering and Architecture, China, People's Republic of; ²Hebei Provincial Coalfield Geological Bureau New Energy Geological Team

4:45pm - 5:00pm

Comparing PlanetScope and Sentinel 2 for mapping water quality using machine learning models in Fanshawe Lake, Ontario, Canada

Kathy Tang, Jinfei Wang

Western University, Ontario, Canada

5:00pm - 5:15pm

Climate-Induced Changes in Glacier and Snow Dynamics Using Integrated Remote Sensing for Water Resource and Ecosystem Resilience

Dr. Hania Arif

LCWU, Pakistan

3:30pm - 5:15pm

Forum1B: Observing the Earth as One: Making space for everyone in Remote Sensing, Photogrammetry, and Spatial Information Science

Location: 716B

3:30pm - 5:15pm

Forum6: UN-IGIF: Capacity Building and Education Opportunities

Location: 717A

3:30pm - 5:30pm

InS2: Industry Tech Session

Location: 717B

3:30pm - 5:30pm

P1: Poster Session 1

Location: Exhibition Hall "E"

Denoising microwave interferometry data for high-Rise buildings with CEEMDAN energy-Correlation dual Criteria

Haiqian Wu¹, Runjie Wang¹, Xianglei Liu¹, Zhao Lu¹, Yuqi Zhang¹, Songxue Zhao²

¹Beijing University Of Civil Engineering And Architecture, China, People's Republic of; ²School of Land Science and Technology, China University of Geosciences, Beijing 100083, China

Precision Increase for LiDAR-based Localisation using a predefined global Map

Martin Hesse, Andreas Nuechter

Julius-Maximilians-Universität Würzburg, Germany

Monocular ORB-SLAM3 Evaluation for Multi-Altitude VTOL UAV Mapping

Ming-Jyun Yang¹, Jyun-Ping Jhan², Ru-Shan Tang³

¹Graduate Institute of Artificial Intelligence Cross-disciplinary Technology, National Taiwan University of Science and Technology, Taipei, Taiwan; ²Graduate Institute of Artificial Intelligence Cross-disciplinary Technology, National Taiwan University of Science and Technology, Taipei, Taiwan; ³Systems Development Center, National Chung-Shan Institute of Science and Technology, Taiwan

Mitigating InSAR Tropospheric Delays via Least Squares Collocation: GNSS-Based Correction and Data-Driven Filtering

Hailu Chen, Yunzhong Shen, Lei Zhang

Tongji university, China, People's Republic of

Multi-sensor fusion

Wang Yankun¹, Fan yong², Wang Weixi³, Li Xiaoming⁴, Guo Renzhong⁵

¹Shenzhen Polytechnic University, China, People's Republic of; ²School of Artificial Intelligence, Shenzhen Polytechnic University, Shenzhen; ³School of Artificial Intelligence, Shenzhen Polytechnic University, Shenzhen; ⁴School of Artificial Intelligence, Shenzhen Polytechnic University, Shenzhen; ⁵School of Artificial Intelligence, Shenzhen Polytechnic University, Shenzhen

Hybrid Explicit-Implicit Dense Mapping with Quality-Guided Refinement and Residual Feedback

Xing Lin, Leyang Zhao, Weixi Wang, Yizhen Yan, Rui Yuan, Zirui Liu, Junjie Huang, Hao Zhang

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

Simultaneous Calibration of Bore-sight and Lever Arm for mobile LiDAR Systems on hydrographic Platforms using synthetic and real Data

Jordan McManus¹, Christian Larouche¹, Mohsen Hassanzadeh Shahraji²

¹Laval University, Canada; ²Quebec Geomatics Center

Road Surface Condition Evaluation Using Multi-Grade Accelerometers

Aser Eissa, Mona Hodaie, Raja Manish, Ayman Habib

Lyles School of Civil and Construction Engineering, Purdue University, West Lafayette, USA -

Design and Development of a Livox-Based Indoor Surveying System for Floor Mapping Applications

Walid Darwish^{1,2}, Mostafa G. Abdelmageed³, Moustafa Baraka⁴, Adel Elshazly¹, Ahmad M. Senousi^{1,2}, Wael Ahmed^{1,2}

¹Geomatics Engineering Lab, Public Works Department, Cairo University, Giza 12613, Egypt; ²NAMAA for Engineering Consultations, Dokki, Giza 12612, Egypt; ³Mechanical Design & Production Department, Faculty of Engineering, Cairo University, Giza 12613, Egypt.; ⁴Civil Engineering Program, German University in Cairo 11835, Egypt

The Potential of HT-1 Spaceborne InSAR for Forest Vertical Structure Inversion

Jiawei Ye¹, Lijun Lu¹, Xu Zhang², Shibo Guo³, Ruiyun Yang³, Hanchao Zhang¹

¹State Key Laboratory of Spatial Datum, Chinese Academy of Surveying and Mapping; ²State Key Laboratory of Information Engineering in Surveying, Mapping, and Remote Sensing, Wuhan University; ³Zhuzhou Space Interstellar Satellite Technology Co., Ltd.

An integrated HSI Reconstruction Model combining supervised and unsupervised Learning

Dongyi Li, Xiaobin Guan, Zhonghang Qiu, Huanfeng Shen

wuhan university, China, People's Republic of

Evaluation of TLS and PMLS sensors for cultural heritage documentation and HBIM modelling: the case study of San Giacomo Church in Como, Italy

Manuel Garramone, Luigi Barazzetti, Marco Scaioni

Dept. of Architecture, Built Environment and Construction Engineering, Politecnico di Milano, via Ponzio 31, 20133 Milano, Italy

Evaluating RTK GNSS-Assisted Close-Range Photogrammetry for Cultural Heritage Applications without GCPs

Wojciech Ostrowski^{1,2}, Kinga Węzka¹, Aleksandra Brzozowska-Jawornicka³

¹Warsaw University of Technology, Poland; ²Jagiellonian University, Poland; ³Wrocław University of Science and Technology, Poland

Comparative Analysis of UAS Photogrammetric Accuracy: Influence of Flight Altitude on Accuracy and Operational Efficiency in Urban Mapping

Emanuel Amorim, Diogo Inojosa, Jailson Rodrigues Júnior, Evelyn Matias, Leandro França, Simone Sato
Universidade Federal de Pernambuco, Brazil

The concept of metrological validation of active measurement sensors - CENAGIS-MET

Jakub Markiewicz¹, Sławomir Łapiński¹, Adrian Macek¹, Mariusz Wiśniewski²

¹Warsaw University of Technology, Faculty of Geodesy and Cartography, Plac Politechniki 1, 00-661 Warsaw, Poland; ²Central Office of Measures, Ul. Elekoralna 2, 00-139 Warsaw, Poland

Fathom Topo-bathymetric Airborne System for Shoreline Mapping: Preliminary Results

Hongxin Yang¹, Ziwen Kang¹, Wenhan Mi¹, Bingnan Wei¹, Mingming Guo², Dedong Zhang², Jonathan Li²

¹Hinton STAI Institute and Key Laboratory of Geographic Information Science (Ministry of Education), East China Normal University, Minhang, Shanghai 200241, China; ²Department of Geography and Environmental Management, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada

Enhancing hyperspectral VNIR spatial resolution on the coastal landscape: getting 63 bands at 3 m through the PRISMA VNIR and PlanetScope Dove-R fusion

Antoine Collin^{1,2}, Laurine Nogue^{1,2}, Manuel Salgueiro Simon³, Gwenaël Hervouët⁴, Tony Durozier⁵

¹Coastal GeoEcology Lab, EPHE-PSL University, France; ²Laboratory of Biology of Aquatic Organisms and Ecosystems, France; ³Laboratory of Geoarchitecture – University of Western Brittany, France; ⁴Délégation Bretagne, Conservatoire du Littoral, France; ⁵Délégation Normandie, Conservatoire du Littoral, France

Calibration and Georeferencing for Consumer - Tesla Model Y (HW4) Video Mapping

Rami Tamimi, Charles Toth

The Ohio State University, United States of America

Insights into the PAS Pana Stitching Algorithm

Richard Ladstaedter, Karlheinz Gutjahr, Erich Riegler, Roland Perko

Joanneum Research Forschungsgesellschaft mbH, Austria

Lidar-Camera Integration for High Precision Airborne Mapping

Bernhard Schachinger¹, Mohamed Mostafa², Nico Jager², Armin Borovcnik¹, Jonathan Hall Riaza¹, Marc Muick¹

¹Vexcel Imaging GmbH, Austria; ²Trimble Applanix

Radiometric features and ground processing for high-resolution Earth observation satellites Bayer matrix-based images like CO3D

Sylvain Lucas¹, Olivier Amram², Christophe Latry¹, Colin Thomas³, Marc Schillinger³

¹Centre National d'Etudes Spatiales (CNES), France; ²Magellium Artal Group, France; ³Airbus Defense and Space, France

Relative Accuracy Evaluation of UAV Photogrammetry for Drifting Arctic Sea Ice

Zhiqi He¹, Shuhang Zhang^{1,2}, Daikun Yang¹, Wuming Zhang^{1,2}

¹School of Geospatial Engineering and Science, Sun-Yatsen University, Zhuhai, China; ²Key Laboratory of Comprehensive Observation of Polar Environment (Sun Yat-sen University), Ministry of Education, China

Radiometric Intercalibration Methodologies for High-Resolution Satellite Imagery in Precision Agriculture

Christian Massimiliano Baldin, Vittorio Marco Casella

Università degli Studi di Pavia, Italy

Integrated Airborne Sensor System for MWIR–Aerial Camera–GNSS/IMU Synergy in High-Resolution Remote Sensing

Yanning Wang

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

An Integrated Multi-Mode Imaging Task Scheduling Framework for Remote Sensing Satellite in Diverse Observation Scenarios

Wei Yao¹, Xin Shen¹, Guo Zhang¹, Zezhong Lu², Jiaying Wang¹

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, China; ²Urban and Environment Sciences, Hubei Normal University, Huangshi, China

UAV Visual Localization in GNSS-Denied Environments

Tai-Cyuan Wang¹, Lai-Han Tsou¹, Jyun-Ping Jhan¹, Ru-Shan Tang²

¹NTUST, Chinese Taipei; ²NCSIST, Chinese Taipei

Geometric and Visual SLAM: The accuracy of modern handheld LiDAR scanners

Christoph Strecha¹, Ryan Hughes¹, Andrea Dotti¹, Davide Antonio Cucci¹, Marta Coelho Lopes², Pierangelo Rothenbühler¹

¹Pix4D SA, Switzerland; ²École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

An integrated workflow for urban tree DBH estimation from handheld mobile laser scanning (HMLS) data

George-Catalin Males¹, Valeria-Ersilia Oniga^{1,2}, Iosif Lavric¹, Norbert Pfeifer³, Markus Hollaus³

¹Technical University of Civil Engineering Bucharest, Romania; ²“Gheorghe Asachi” Technical University of Iasi, Romania; ³Technische Universität Wien, Austria

Real-Time Mapping and Planning Intelligent Paths using Optical Lidar and Quadrupeped Robot

Wen-Yang Chang^{1,2}, Chen-Hsiang Hung¹, Zheng-Xun Huang³, Hsuan-Jui Chang⁴

¹Department of Mechanical and Computer-Aided Engineering, National Formosa University; ²Smart Machine and Intelligent Manufacturing Research Center, National Formosa University; ³Doctoral Degree Program in Smart Industry Technology Research and Development, National Formosa University;

⁴Department of Bioscience and Biotechnology, National Taiwan Ocean University

A Multi-Strategy Adaptive Error Modeling and Compensation Method for Star Point Centroid Extraction

Yifan Lou¹, Mi Wang¹, Tiyou Zhou¹, Haonan Zhang¹, Huang Zhang²

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, 430079, China; ²Hubei Subsurface Multi-scale Imaging Key Laboratory, School of Geophysics and Geomatics, China University of Geosciences, Wuhan, 430074, China

Integration and Intelligent Monitoring Technology System of Space-Air-Ground Remote Sensing and Its Applications

Lirong Liu¹, Shucheng You¹, Weiyei Jiang^{2,1}, Xinming Tang¹, Ke Liu¹, Zhengyu Luo¹, Xue Li³

¹Land Satellite Remote Sensing Application Center, MNR, Beijing100048,China; ²School of Geography and Ocean Science, Nanjing University, Nanjing 210023,China; ³Changchun Institute of Technology-College of Exploration and Surveying Engineering, Changchun 130021, China

Dynamic Shadow Removal and Quality Assessment of High-Resolution Orthophotos for Pavement Inspection

Yueh-Che Li¹, Juin-Ping Jhan²

¹Graduate Institute of A.I. Cross-disciplinary Technology, NTUST, Taiwan; ²Graduate Institute of A.I. Cross-disciplinary Technology, NTUST, Taiwan

Enhancing UWB Indoor Positioning using Bias-Aware EKF and Anchor Self-Localization

Shreya Todmal, Salil Goel

Indian Institute of Technology Kanpur, India

Geometrical Accuracy Investigations of Handheld 3D Scanners in Comparison: Low-Cost vs. High-End

Thomas Kersten¹, Malte Marsmann¹, Heinz-Jürgen Przybilla²

¹HafenCity University Hamburg, Germany; ²former Bochum University of Applied Sciences, Germany

Loose Coupling Modeling of LiDAR-based Localization and SLAM

Chenglu Wen^{1,2}, Huanjia Zhang^{1,2}, Cheng Wang^{1,2}

¹Fujian Key Laboratory of Urban Intelligent Sensing and Computing, Xiamen University, China; ²Key Laboratory of Multimedia Trusted Perception and Efficient Computing, Xiamen University, China

Line Of Sight Calibration For Satellite Imagery Based On Matrix Detector

Guillaume Laurent¹, Alice Latourte², Fabrice Buffe², Bruno Vidal²

¹Thales Services Numeriques, France; ²CNES, France

A Data-Driven Framework for Structural Crack Identification in 3D Mobile LiDAR Scans Using Deep Learning Classification Models

Yasmine Megahed¹, Omar Elsisy², Ahmed Shaker³

¹Toronto Metropolitan University, Canada; ²Toronto Metropolitan University, Canada; ³Toronto Metropolitan University, Canada

Integration of multi-source point clouds for bridge inventory – case study

Paulina Jaczewska, Klaudia Pasternak, Anna Fryskowska-Skibniewska

Military University of Technology, Poland

Estimating laser scanner's effective beam shape using line spread function

Omar AbdelGafar¹, Selin Palaz¹, Yihui Yang¹, Derek Lichti², Christoph Holst¹

¹Chair of Engineering Geodesy, TUM School of Engineering and Design, Technical University of Munich, Munich, Germany; ²Department of Geomatics Engineering, University of Calgary, Calgary, Canada

Vectorized Grid Detection and Color Rectification for 3D Point Clouds of Photovoltaic Panels

Yuezhen Cai², Ting On Chan¹

¹Sun Yat-sen University, China, People's Republic of; ²Southern Power Grid General Aviation Services Co., Ltd.

EarthDaily Constellation: Systematic, AI-Ready Daily Change Detection Superspectral Visible, Near-Infrared, Shortwave Infrared, and Thermal Mission

William Parkinson, Chris Rampersad

EarthDaily, Canada

Plane-based estimation of boresight misalignment of a laser scanning system

Marcela Valle Machado¹, Antonio Maria Garcia Tommaselli¹, Thiago Tiedtke Reis², Leticia Ferrari Castanheiro³, Thaisa Aline Correia Garcia¹

Assessment of SWOT observations based on in-situ measurements for water surface elevation

Rodolfo Alvarado Montero, Alain Pietroniro
University of Calgary, Canada

Advancing High-Resolution Earth Observation: GNSS-SAR Imaging with Spaceborne GNSS-Reflectometry Satellites

Yang Yang, Mengyu Ding, Songbo Wu, Xiaolong Mi, Wu Chen
Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

A low-cost universal multi-sensor framework for seamless indoor-outdoor 3D mapping in urban environments

Eslam Muhammed, Ahmed Shaker
Toronto Metropolitan University, Canada

From Imaging Modeling to Field Validation: A Calibration Framework for a Hybrid Solid-state LiDAR System for Small Body Mapping and Navigation

Qingfan Zhang, Huan Xie, Xiongfeng Yan, Yanmin Jin, Yuaning Xi, Xiaohua Tong
College of Surveying and Geo-Informatics, and Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, Tongji University, Shanghai 200092, China

Utilization of Thermal and Optical Dataset for Deep Learning based Damage Detection in Heritage Structures of Hauz Khas, Delhi

Om Singh Lilhare, Hina Pande, Poonam S. Tiwari
Indian Institute of Remote Sensing, Dehradun, India

Integration of multi-sensor core scanning data in mineral mapping

Chuiqing Zeng¹, John Manchuk²

¹Technology Development Group, GeologicAI, Toronto, ON M5T 1V7, Canada; ²Management Team, GeologicAI, Calgary, AB T2C 5S9, Canada

ForestLayers: an R package to Quantify Forest Vertical Structure from 1D or 3D Vegetation Density Data

Amélie Juckler^{1,2,3}, Richard A. Fournier¹, Camille Rouet¹, Osvaldo Valeria^{2,4}, Philippe Lejeune³, Félix Chabot^{1,5}, Johannie Lemelin¹

¹Department of Applied Geomatics, Centre d'Applications et de Recherches en Télédétection (CARTEL), Université de Sherbrooke, Canada; ²Chaire en aménagement forestier durable UQAT-UQAM, Canada;

³TERRA Teaching and Research Center – Forest Is Life - Gembloux Agro-Bio Tech, Université de Liège, Belgium; ⁴Institut de recherche sur les forêts, Université du Québec en Abitibi-Témiscamingue, Canada;

⁵Department of Computer Science, Université de Sherbrooke, Canada

Quantitatively Evaluate and Optimize the Target Network of the Calibration Field for the Self-Calibration of Terrestrial Laser Scanners

Xu ZHANG, Qingzhou MAO
武汉大学, China, People's Republic of

The impact of calibration method on point cloud accuracy in shallow water photogrammetry

Paulina Kujawa, Jarosław Wajs, Damian Kasza
Department of Geodesy and Geoinformatics, Wrocław University of Science and Technology, Poland

L-band SAR continuity in Japan and it's applications

Shinichi Sobue
JAXA, Japan

Evaluating the impact of UAV-LIDAR point cloud density on the accuracy of canopy radiative transfer simulations

Takumi Fujiwara¹, Hiroki Naito², Naoko Miura², Fumiki Hosoi²

¹Dept. of Computer Science, National Defense Academy of Japan, Japan; ²Graduate School of Agricultural and Life Sciences, The University of Tokyo, Tokyo

Machine learning applications for modeling and mapping soil erosion in tropical regions

Francisco Hélder Fernandes do Amaral¹, Andrés Velastegui-Montoya^{2,3}, Eder MS de Paula⁴

¹Postgraduate Program in Geography, Federal University of Pará, Belém, Brazil; ²Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University, Guayaquil, Ecuador; ³Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University, Guayaquil, Ecuador; ⁴Faculty of Geography, Federal University of Pará, Belém, Brazil

Heat Wave and Heat Stress Space-Time Patterns Assessment Using Climate Reanalysis Data and In Situ Measurements

Alberto Vavassori, Matej Žgela, Filippo Bissi, Maria Antonia Brovelli
Dept. of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy

Spatio-temporal semantic alignment and standardization of multimodal data in cultural landscape heritage

Shao Tong¹, He Jie²

¹School of Architecture, Tianjin University, China; ²School of Architecture, Harbin Institute of Technology (Shenzhen)

Rapid identification of components of categorical changes during a time series of maps

Robert Gilmore Pontius Jr¹, Antonio Fonseca¹, Aiyin Zhang¹, Sergio Fagherazzi²

¹Clark University, USA; ²Boston University, USA

Local pathways of association

Rui Qu¹, Jiao Hu², Yongze Song³, Bing Wang⁴, Yanfang Sun⁵, Yufei Wang⁶, Xueyuan Zhang⁷, Kai Ren⁸

¹School of computer science and technology, Aba Teachers College, Aba Zhou 623002, China; ²Key Laboratory of Poyang Lake Wetland and Watershed Research Ministry of Education, Jiangxi Normal University, Nanchang, 330022, China; ³School of Design and the Built Environment, Curtin University, Perth 6845, Australia; ⁴China National Offshore Oil Research Institute Co., Ltd., Beijing, China; ⁵College of Civil Engineering, Taiyuan University of Technology, Taiyuan, China; ⁶Department of Primary Industries and Regional Development, 1 William St, Perth WA 6000, Australia; ⁷School of Environment and Resources, Taiyuan University of Science and Technology, Taiyuan 030024, China; ⁸State Key Laboratory of Climate System Prediction and Risk Management, Nanjing Normal University, Nanjing 210023, China

High-Resolution Sub-daily Wildfire Progression Monitoring with MODIS, VIIRS and Sentinel-3 Using Flow-Matching Generative Models

Eric Brune, Yifang Ban

KTH Royal Institute of Technology, Sweden

A new way of interoperability - Implementing a JSON-LD for OGC SensorThings API Standard

Colm Walsh¹, Alexandra Kokkinaki¹, James Clare¹, Shreyash Musale¹, Christopher Thompson¹, Rob Atkinson², Alejandro Villar Fernandez², Markus Wilhelm Jahn²

¹British Oceanographic Data Centre, United Kingdom; ²Open Geospatial Consortium, Germany

Spatiotemporal Prediction of Hourly NO2 concentrations using dynamic DTG data

Yoohyung Joo, Sehoon Oh, Jiwan Hong, Joon Heo

Yonsei University, Korea, Republic of (South Korea)

Extending CityGML with a Multi-LoD4 ADE for Urban Digital Twins: Geometry Visualization and Semantic Integration of BIM/GIS

Peyman Azari, Songnian Li, Ahmed Shaker

Department of Civil Engineering, Toronto Metropolitan University, Toronto, Ontario, Canada

Adaptive Photovoltaic Panel Detection Pipeline with Deep Learning

Hewerton Alves da Silva, Nicolas Rafael Silva Lucena, Rubens Oliveira da Cunha Junior, Ana Paula de Barros Araújo, Christian Willibald Biehler

Senai Innovation Institute for Information and Communication Technologies (ISI-ICT), Brazil

Spatial and non-spatial clustering of Advanced Producer Services in the United Kingdom

Zhiya Xu¹, Mingshu Wang¹, Ziqi Li²

¹University of Glasgow, UK; ²Florida State University, USA

Efficient Allocation and Routing of Disaster Responders: Formulation and Validation of a Regional Travel Problem

Toshihiro Osaragi

Institute of Science Tokyo, Japan

Hybrid Quantum Genetic Algorithm for Hyperparameter Optimization in a Burnscar Segmentation Model

Mahkame Salimi-Moghadam¹, Sohrab Ganjian¹, Mozhdeh Shahbazi¹, Mikhail Sokolov¹, Barry Sanders²

¹Canada Centre for Mapping and Earth Observation, Natural Resources Canada, Canada; ²Institute of Quantum Science and Technology, University of Calgary, Canada

Joint Optimization of Location and Capacity for Spatial Equity of EV Charging Infrastructure : A Case Study in Jeju Island

Geonu Park, Sehoon Oh, Jiwan Hong, Yoohyung Joo, Joon Heo

Department of Civil and Environmental Engineering, Yonsei University, Seoul, Republic of Korea

The "Last Meter" Dilemma: Global Disparities in Accessible Information Labelling of Urban Parks for Wheelchair Users

Luoan Yang, Wei Huang

College of Surveying and Geo-informatics, Tongji University, Shanghai, China

Advancing Image Geo-localization by Embedding Geospatial Intelligence into Vision-Language Models

Meiliu Wu

University of Glasgow, United Kingdom

Classifying Tourism and geographic Texts using fine-tuned LLMs with Chain-of-Thought Data

Tian Lan, Donglin Cheng, Zhiwei Wu, Zhilin Li

Faculty of Geosciences and Engineering, Southwest Jiaotong University

High Spatio-Temporal Resolution Estimation of XCO2 Observations using Spatial Feature Fusion

Yang Hui¹, Cui Liu¹, Feng Gefei²

¹China University of Mining and Technology, China, People's Republic of; ²Jiangsu Normal University, China, People's Republic of

Walking Speed and Climate Resilience: a dynamic Approach to Accessibility for vulnerable urban Populations

Andrea Ajmar, Alexandra Stankulova, Luca Staricco

Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and Università di Torino, Torino, Italy

Game Engine-Based Urban Tree Digital Twin for visualizing and simulating Carbon Flux

Laura Ikonen, Heikki Kauhanen, Petri Rönholm, Matti Tapio Vaaja

Department of Built Environment, Aalto University, Finland

Spatio-Temporal Lag Detection for Virtual-Physical Trajectories

Guangsheng Dong¹, Hui Wang³, Shuhan Zhang², Tao Cheng²

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, China; ²SpaceTimeLab for Big Data Analytics, Dept. of Civil, Environmental and Geomatic Engineering, University College London, London, UK; ³School of Electronic Information, Wuhan University, Wuhan, China

A Study on Building a Virtual Tribe for Indigenous Peoples Living Away from Their Home Tribe

Sendo Wang

National Taiwan Normal University, Taiwan

A review of spatiotemporal locust modeling methods under remote sensing-ecostatistical coupling: from Markov approaches to hierarchical Bayesian frameworks

Shuhong Peng^{1,2}, Jing Qian¹, Jing Wang³

¹Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, China, People's Republic of; ²School of Computer Science and Engineering, Huizhou University, China, People's Republic of; ³School of Arts and Design, Huizhou University, China, People's Republic of

Development of a hash interaction algorithm via urban object information generation based on a variable 3D geohash framework

Hongki Sung, Woochul Choi, Youngjae Jeon, Ckyusoo Chong

Korea Institute of Civil Engineering and Building Technology

Fly with GIS: A GIS-Based Electronic Flight Bag Decision-Support Concept for In-Flight Weather Deviation in the Cockpit

Rockie U Kei Kuok, Zheng Lei

Department of Aviation, School of Engineering, Swinburne University of Technology, Australia

Spatiotemporal graph network-based method for predicting urban emergency events

Shishuo Xu, Xiaoqian Hu, Fan Xie, Yihua Wang, Jiahui Guo

School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, China

Research on Collaborative Visual Analysis Method of Mixed Reality Across Geographic Scenarios

Yaqin Sun

China University of Mining and Technology, China, People's Republic of

Spatial Distribution Pattern of Elderly Care Facilities in Urban Areas of Beijing from the Perspective of Spatial Accessibility

Dayong Zhang^{1,2}, Siqiao Chen^{1,2}, Yanhui Wang^{1,2}

¹College of Resources Environment and Tourism, Capital Normal University, Beijing 100048, China; ²Key Laboratory of 3Dimensional Information Acquisition and Application, Ministry of Education, Capital Normal University, Beijing 100048, China

Research on Strengthen the Supervision and Administration of Geographic information Security and Data Governance

Heng Li^{1,2}

¹National Geomatics Center of China, China, People's Republic of; ²Technology Innovation Center for Geographic Information Public Service, Ministry of Natural Resources, China

High-resolution land cover mapping with GeoAI: instance segmentation for land cover analysis

Federica Gerla^{1,2}, Lindo Nepi³, Mihnea Căţeanu^{4,5}, Francesca Ferroni^{6,7}, Khew Ee Hung⁸, Krystian Mocny⁹, Shahla Yadollahi¹⁰, Caterina Balletti¹, Roberto Pierdicca¹¹, Mattia Balestra^{11,12}

¹CIRCE Laboratory of Cartography and GIS, Department of Architecture and Arts, Università Iuav di Venezia, Dorsoduro 1827, 30123 Venezia, Italy; ²Department of Civil and Environmental Engineering (DICEA), Sapienza Università di Roma, Roma, 00185, Italy; ³Department of Information Engineering (DII), Università Politecnica delle Marche, Ancona, 60131, Italy; ⁴Department of Forest Engineering, Forest Management Planning and Terrestrial Measurements, Faculty of Silviculture and Forest Engineering, Transilvania University of Braşov, Şirul Ludwigh van Beethoven 1, 500123 Braşov, Romania; ⁵Faculty of Geodesy, Technical University of Civil Engineering, 020396 Bucharest, Romania; ⁶Department of Environmental Biology, Sapienza Università di Roma, Roma, 00185, Italy; ⁷Mountain

Partnership Secretariat, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy; ⁸School of Agriculture, Hokkaido University, 060-0809, Japan; ⁹Department of Geomatics, Institute of Soil Science and Plant Cultivation, Czarotoryskich 8 Str. 24-100 Pulawy, Poland; ¹⁰Environment Campus, Liege University, Arlon, 6700, Belgium; ¹¹Department of Civil, Building and Architectural Engineering (DICEA), Università Politecnica delle Marche, Ancona, 60131, Italy; ¹²Department of Agricultural, Food and Environmental Sciences (D3A), Università Politecnica delle Marche, Ancona, 60131, Italy

Wind field risk aware Global Path Planning and Trajectory Optimization in Urban Low-altitude Environments

Sichang Wang, [Leyang Zhao](#), Xiaoming Li, Hang Mei, Lei Han, Yang Zhao, Ding Ma

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

Analysis of Crowd Behaviour Intensity in Historic Urban Areas from the Perspective of Transportation Spatial Pattern: Case Study of Kunming, China

[Yi Zhang](#), Jie Jiang

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

Recognition and Extraction of Spatial Coordinates in Natural Language Texts Using BERTimbau for Land Document Analysis

Tais de Sousa Pereira, Mauro José Alixandrini Junior, Jorge Ubirajara Pedreira Junior, [Vivian de Oliveira Fernandes](#)

UFBA, Brazil

From orthophotos to building footprints over a decade: model inference-based approach for urban densification analysis in Iași, Romania

Loredana-Mariana Crenganis¹, Ana-Maria Loghin¹, Constantin Stoian², [Ana-Maria Olteanu-Raimond](#)², Arnaud Le Bris², Juste Raimbault², Julien Perret², Benedicte Bucher², Nicolas Gonthier²

¹“Gheorghe Asachi” Technical University of Iasi, Romania; ²Univ. Gustave Eiffel, IGN-ENSG, LaSTIG – Saint-Mande, France

Design and Implementation of an AR System for Real-Time Urban Model Editing and Visualization

[Céphas MWIMANGIRE](#)^{1,2}, Mohammad Hosseingholizadeh², Hamidreza Ostadabbas^{1,2}, Zhihang Yao¹

¹Centre for Geodesy and Geoinformatics, Stuttgart University of Applied Sciences (HFT Stuttgart), Stuttgart, Germany; ²Geoinformatics Department, die STEG Stadtentwicklung GmbH, Germany

Integrating Road Surface Condition Data into OpenDRIVE Models for Autonomous Vehicle Simulations

Vivien Poto, [Janos Mate Logo](#), Viktor Gyozo Horvath, Arpad Barsi

BME Department of Photogrammetry and Geoinformatics, Hungary

Spatiotemporal uncertainty of movement data in unstructured geographic areas: Approaches to generate possibility spaces from ship movements

[Monika Sester](#)¹, Stefan Fuest¹, Andreas Gollenstede², Claus Brenner¹

¹Institute of Cartography and Geoinformatics, Germany; ²Institute for Applied Photogrammetry and Geoinformatics, Jade University of Applied Sciences, Oldenburg, Germany

High-definition road map generation from mobile mapping data: a case study on the Tangenziale di Napoli

[Enrico Breggion](#)¹, Maria Alicandro², Caterina Balletti¹, Nicole Pascucci², Francesco Guerra¹, Andrea Martino¹, Giovanni Pugliano³, Sara Zollini², Donatella Dominici²

¹Università Iuav di Venezia, Italy; ²Università degli studi dell'Aquila, Italy; ³Università degli studi di Napoli Federico II, Italy

Investigating Array Programming for Spatial Operations with Vector Geometries

Balthasar Teuscher, [Xuanshu Luo](#), Paul Walther, Martin Werner

Technical University of Munich, Germany; TUM School of Engineering and Design, Department of Aerospace and Geodesy, Professorship of Big Geospatial Data Management

Automatic surface extraction and web visualization workflow for large laser scanner point clouds with open-source solutions

[Marcello La Guardia](#)¹, Mauro Lo Brutto², Mila Koeva³, Giuseppe Mussumeci¹

¹Department of Engineering, University of Messina, 98158 Messina, Italy; ²Department of Engineering, University of Palermo, Viale delle Scienze, 90128, Palermo, Italy; ³Faculty of Geo-Information Science and Earth Observation, University of Twente, Enschede, The Netherlands

HBIM of the Galleria Grande in the Reggia di Venaria Reale: A Scan-to-BIM Workflow towards Digital Twin Integration

[Xiang Li](#), Filiberto Chiabrando

Politecnico di Torino, Italy

Dynamic Landslide Susceptibility Assessment Using Machine Learning Models

[Yuya Tanaka](#)¹, Shintaro Goto²

¹Doctoral student, Graduate School of Geo-Environmental Science, Risssho University, Kumagaya, Saitama, Japan; ²Professor, Department of Environmental Systems, Faculty of Geo-Environmental Science, Risssho University, Kumagaya, Saitama, Japan

Improving Sentinel-5P Imagery Usability Through Machine Learning Gap-Filling

Zhanbin Wu, [Vasil Yordanov](#), Maria Antonia Brovelli

Ecuadorian Amazon Deforestation Hotspots Due to Oil Infrastructure Development Over the Last Century

José Agustín García-Romero¹, Isabel Adriana Chuizaca-Espinoza^{2,3}, Andrés Velastegui-Montoya^{1,3}, Yasmim Carvalho Guimarães⁴, Luciana das Dores de Jesus da Silva⁵, Fabiola D. Yépez-Rincón⁶, Kevin Rodríguez González⁶, Aylet Vega Aguilar⁶

¹Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ²Earth Observation and Geoinformatics Division, National Institute for Space Research (INPE); ³Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ⁴Graduate Program in Natural Disasters (Unesp /CEMADEN); ⁵Departament of Aquatic Systems, Concepción University, Concepción, Chile; ⁶Universidad Autónoma de Nuevo León, Faculty of Civil Engineering, Department of Geomatics

Leveraging SDGSAT-1 Data for Exploring the Interactions of Nighttime Lights and Human Settlement Structure at High Spatial Resolution

Johannes H. Uhl¹, Martino Pesaresi¹, Michele Melchiorri¹, Panagiotis Politis³, Linlin Lu², Thomas Kemper¹

¹European Commission, Joint Research Centre (JRC), Ispra, Italy; ²Key Laboratory of Digital Earth Science, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China; ³European Dynamics Belgium S.A, Brussels, Belgium

Deep Learning-based underwater mapping of Posidonia Oceanica from satellite data for coastal habitat monitoring

Payam Yari¹, Filiberto Chiabrando², Francesca Gallitto¹, Valeria Longhi¹, Stefania Manca¹, Paolo Maschio¹, Francesca Matrone¹, Andrea Maria Lingua¹

¹Geomatics Lab, Department of Environment, Land and Infrastructure Engineering (DIATI), Politecnico di Torino, Corso Duca degli Abruzzi, 24, Torino (TO), Italy; ²Laboratory of Geomatics for Cultural Heritage (LabG4CH), Department of Architecture and Design (DAD), Politecnico di Torino, Viale Pier Andrea Mattioli, 39, Torino (TO), Italy

A Generative Adversarial Network Framework for Vertiport Location: A Case Study in Toronto

Naghmeh Jafarpournaser, Songnian Li
Toronto Metropolitan University, Canada

Using textureless, low-detailed 3D city models for visual localization

Yasmin Loeper¹, Markus Gerke¹, Phillipp Fanta-Jende²

¹Institute of Geodesy and Photogrammetry, Technische Universität Braunschweig; ²Unit Assistive and Autonomous Systems, Center for Vision, Automation and Control, AIT Austrian Institute of Technology

Indoor Positioning, Wi-Fi, BLE, BIM, Digital Twin, Hybrid Localization

Hossein Barakati¹, Majid Kiavarz¹, Mohammadreza Jelokhani-Niaraki¹, Hamid Kiavarz²

¹Department of Remote Sensing and GIS, Faculty of Geography, University of Tehran, Iran; ²Department of Earth & Space Science & Engineering, York University, Toronto, Canada

Scenario-based Energy Simulation of Tree Planting Strategies to Reduce the Heating and Cooling Demand of Buildings under 2050 Climate Conditions

Adhisye Rahmawati¹, Weixiao Gao^{2,3}, Camilo León Sánchez³, Giorgio Agugiaro³

¹Master in Geomatics, Delft University of Technology, The Netherlands; ²Department of Geo-information Science and Remote Sensing, Wageningen University & Research, The Netherlands; ³3D Geoinformation Group, Department of Urbanism, Faculty of Architecture and Built Environment, Delft University of Technology, The Netherlands

Thermography-based Energy Classification: Integration of Point Cloud Segmentation and Energy Performance Certificates for Urban Energy Modelling

Sebastiano Anselmo¹, Vittorio Scolamiero^{1,2}, Maria Ferrara³, Piero Boccardo¹

¹Interuniversity Department of Regional and Urban Studies and Planning (DIST), Polytechnic of Torino; ²Department of Civil, Building and Environmental Engineering (DICEA), Sapienza Università di Roma, Via Eudossiana, 18, 00184 Roma; ³Department of Energy, Polytechnic of Torino

Organizing temporally vague Raster Data in Cloud Environments for machine-learning Applications

Tobias Werner, Thomas Brinkhoff
Jade University of Applied Sciences, Germany

Analysing the Evolution of Kenya's Road Network since the 1950s using Historical and Contemporary Road Datasets

Tanja Kramm¹, Nicodemus Nyamari², Vincent Mosei³, Annika Klee¹, Leon Vehikien¹, Jing Jing¹, David M. Anderson⁴, Chrisina Bogner^{2,5}, Georg Bareth¹

¹GIS and Remote Sensing Group, Institute of Geography, University of Cologne, Germany; ²Ecosystem Research Group, Institute of Geography, University of Cologne, Germany; ³Center for Development Research (ZEF), University of Bonn, Germany; ⁴Department of History, University of Warwick, United Kingdom; ⁵Global South Studies Center, University of Cologne, Germany

Spatiotemporal Data Management for subnational Census Data on global Scale

Thomas Brinkhoff
Jade University of Applied Sciences Oldenburg, Germany

A geographic knowledge integrated computation framework based on grid graph modelling

Bing Han^{1,2}, **Tengteng Qu**³

¹School of Mathematical Sciences, Peking University, Beijing 100871, China; ²National Engineering Laboratory for Big Data Analysis and Applications, Peking University, Beijing 100871, China; ³School of Mechanics and Engineering Science, Peking University, Beijing 100871, China

Evaluating the spatial resolution of raster data products

Nicholas Hamm

University of Nottingham, China, People's Republic of

Improving GNSS performance in Location-Based Services through synthetic carrier-phase measurements

Paolo Dabove, **Milad Bagheri**, **Neil Gogoi**

Politecnico di Torino, Italy

A Semantic-Spatial Cognition Driven Approach for Indoor Element-Level Layout Rationality Mapping

Mengtao Wang¹, **Jianwu Jiang**^{1,2}, **Jingwen Li**^{1,2}, **Zhizhong Kang**³, **Bo Song**^{1,2}, **Hong Huang**¹

¹College of Geomatics and Geoinformation, Guilin University of Technology, Guilin 541004, China;

²Ecological Spatiotemporal Big Data Perception Service Laboratory, Guilin 541004, China; ³School of Land Science and Technology, China University of Geosciences, Beijing 100083, China

Text-Guided Semantic Segmentation Method for Indoor 3D Point Clouds

Jinyu Tan¹, **Juntao Yang**¹, **Yutao Zhang**¹, **Sa Li**¹, **Dandan Liu**¹, **Zhengwen Wang**¹, **Xue Zhang**²

¹College of Geodesy and Geomatics, Shandong University of Science and Technology, Qingdao 266590, China; ²College of Computer Science and Engineering, Shandong University of Science and Technology, Qingdao 266590, China

A Coarse-to-Fine Indoor Point Cloud Registration Method Guided by Prior Correspondences

Mengchong Sun¹, **Juntao Yang**¹, **Yutao Zhang**¹, **Sa Li**¹, **Dandan Liu**¹, **Xue Zhang**²

¹College of Geodesy and Geomatics, Shandong University of Science and Technology, Qingdao 266590, China; ²College of Computer Science and Engineering, Shandong University of Science and Technology, Qingdao 266590, China

GRACE-Based Long-Term Terrestrial Water Storage Decline in the Susurluk Basin, Türkiye

Ilgin Ozemir¹, **Dilek Eren Akyuz**², **Fusun Balik Sanli**¹

¹Yildiz Technical University, Türkiye; ²Istanbul University-Cerrahpasa, Türkiye

Digital Detectives of Environment Tackling Cigarette Butt Pollution

Ibrahim Topcu, **Berk Anbaroglu**

Hacettepe University, Türkiye

Multi-Sensor Spatial Data Fusion for Road Condition Monitoring Digital Twins

Deepak Satheesan, **Songnian Li**, **Michael Chapman**

Toronto Metropolitan University, Canada

A Lightweight Mobile Monitoring System For Detection Of Small-Scale Road Debris

Shaozhuang Xu, **Jianqin Zhang**, **Xinhao Geng**, **Zikai Wang**

School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, China, People's Republic of

A Framework for Integrating and Managing Heterogeneous 3D Geospatial Data in Urban Digital Twins

Jeson Lonappan, **Olga Shkedova**, **Udo Feuerhake**, **Monika Sester**

Leibniz Universität Hannover, Germany

Towards a Digital Twin infrastructure for landslides: users and data requirements

Federica Gaspari, **Marco Gentile**, **Daniela Carrion**, **Riccardo Barzaghi**, **Lorenzo Panzeri**, **Laura Longoni**

Dept. of Civil and Environmental Engineering (DICA), Politecnico di Milano, Milan, Italy

Spatio-temporal modelling of H5N1 avian influenza outbreaks in Europe (2021–2024)

Mehak Jindal^{1,2}, **Samsung Lim**^{1,2}, **Raina McIntyre**^{2,3}

¹School of Civil and Environmental Engineering, University of New South Wales Sydney, New South Wales 2052, Australia; ²Biosecurity Program, Kirby Institute, University of New South Wales Sydney, New South Wales 2052, Australia; ³College of Health Solutions & College of Public Service & Community Solutions, Arizona State University, Tempe, United States.

Optimization of Satellite Antenna Placement at a Ground Control Station using UAV LiDAR Data

Patryk Wróblewski, **Anna Fryškowska-Skibniewska**, **Paulina Jaczewska**

Military University of Technology, Poland

Integrating Microsoft Building Footprints and OpenStreetMap to Improve Building Representation

Cidália Fonte^{1,2}, **Joaquim Patriarca**^{1,2,3}, **Diogo Duarte**^{2,4}

¹University of Coimbra, Department of Mathematics; ²INESC Coimbra; ³University of Coimbra, Department of Informatics Engineering; ⁴University of Coimbra, Department of Electrotechnic Engineering

An Integrated Geomatic and HBIM Workflow for Reviving Lost Architectural Heritage: The "TURIN 1911-project" Case Study

Mohammadreza Mehdizadeh, [Filiberto Chiabrando](#), Beatrice Tanduo
Department of Architecture and Design - Politecnico di Torino, Italy

Discussion on Quality Model and Evaluation Methodology for WMS

Han Wenli, Ge Juan, [Zhang Libo](#), Shen Jing, Tan Yang
National Quality Inspection and Testing Center for Surveying and Mapping Products, China, People's Republic of

Driver training in immersive virtual reality (VR) and transfer to the real world: A feasibility study on learning to reverse a truck in VR

Andrea Frick^{1,2}, [Arzu Çöltekin](#)³

¹Institute for Research and Development of Collaborative Processes, School of Applied Psychology, University of Applied Sciences Northwestern Switzerland (FHNW), Switzerland; ²Institute of Mental Health, School of Applied Psychology, Zurich University of Applied Sciences (ZHAW), Switzerland; ³Institute of Interactive Technologies, School of Computer Science, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Switzerland

3D Geodata Based Optimization of UAV Docking Stations in Mountainous Areas for Emergency Response

YiLang Lin, [Zhiyong Wang](#), Yongjie Lin, Yonghan Liao, Junjie Lu, Runze Huang, Lang Hu, Yuanren Jie

South China University of Technology, China

A Framework for Enabling Data Sharing and Accessibility in a Transdisciplinary Federated Marine Spatial Infrastructure

[Bolelang Sibolla](#)^{1,2}, Raymond Molapo^{1,3}, Lufuno Vhengani¹, Diego Madanga¹, Gasethata Maduenyane¹

¹Next Generation Enterprises and Institutions, Council for Scientific and Industrial Research, South Africa; ²Department of Geography Geoinformatics and Meteorology, University of Pretoria, South Africa; ³Multilingual Speech Technologies, North-West University, Potchefstroom 2520, South Africa

A Spatiotemporal Knowledge Graph Construction and Management System

Xiuli Zhu^{1,2}, Wei Zhang¹, Jie Yang³, Ye Zhang^{1,2}, Ping Lu^{1,2}, [Xiaoyu Liu](#)⁴, Yunlu Peng^{1,2}, Ran Li^{1,2}, Tingting Zhao^{1,2}, Xinpeng Wang^{1,2}, Xinli Di^{1,2}

¹National Geomatics Center of China, 28 Lianhuachi West Road, Haidian District, Beijing, 100830, China; ²Key Laboratory of Spatio-temporal Information and Intelligent Services (LSIIS), MNR, 28 Lianhuachi West Road, Haidian District, Beijing, 100830, China; ³State Key Laboratory of Resources and Environmental Information System, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, 100101, China; ⁴Chongqing Institute of Surveying and Monitoring for Planning and Natural Resources, Chongqing, 401120, China

Unsupervised Mapping of Flood-prone Areas in Ghana Using Sentinel-1 Time-Series

[Felix Enyimah Toffah](#)¹, Francesco Pirotti^{2,3}

¹Dept. of Civil, Building and Environmental Engineering, Sapienza University of Rome, Via Eudossiana 18, 00184 Rome, Italy; ²Dept. of Land and Agroforestry Systems (TESAF), University of Padua, Viale dell'Università 16, 35020 Legnaro, Italy; ³Interdepartmental Research Centre in Geomatics (CIRGEO), University of Padua, Viale dell'Università 16, 35020 Legnaro, Italy

3D Modelling of Easement Rights Using BIM : A Feasibility Study

[Hamta Amini](#)¹, Mahmoud Reza Delava², Saeid Emamgholian³

¹School of Geomatics and Geospatial engineering, University of Tehran, Iran, Islamic Republic of; ²Centre of Excellence in Geomatic Eng. in Disaster Management and Land Administration in Smart City Lab., School of Surveying and Geospatial Eng., College of Engineering, University of Tehran, Tehran, Iran; ³Faculty of Forestry, Geography, and Geomatics, Dept. of Geomatics, Université Laval

Digital Tools for Interpretation of Reconstructed Mining Features. Project Digital Geopark Muskau Arch.

[Jan Blachowski](#)¹, Anna Buczynska¹, Monika Hajnrych¹, Aleksandra Kaczmarek¹, Damian Kasza¹, Paulina Kujawa¹, Jaroslaw Wajs¹, Jörg Benndorf², Kersten Löwen³

¹Politechnika Wroclawska, Wroclaw, Poland; ²Technical University Freiberg, Germany; ³European Group of Territorial Cooperation Geopak Muskau Arch, Klein Kolzig, Germany

Integrating Point of Interest and BERT to identify potentially contaminating Enterprises in Datong City

[Xin Du](#)¹, Bin Yang¹, Jing Tong², Xiaomin Du², Liya Liu¹, Jinzhong Yang², Weiling Yao²

¹Hebei Remote Sensing Center; ²China Aero Geophysical Survey and Remote Sensing Center for Natural Resources

GeoAI: A Pipeline for Environmental Monitoring and Feature Discovery

Hana Gamracy¹, [Paramdeep Sodhi](#)¹, George Spiccas¹, Divya D'Souza¹, Puranjai Garg¹, Noga Gottlieb¹, Sahil Sanjay Gupta¹, Rucha Maslekar¹, Atanas Patterson¹, Noah Steaderman¹, William Stout¹, Fernanda Lopez Ornelas², David Saah², David Guy Brizan¹, Christopher Brooks¹

¹Department of Computer Science, University of San Francisco, United States of America; ²Department of Environmental Science, University of San Francisco, United States of America

Evaluating the Relationship between Atmospheric Pollutants and Land Surface Indices Using Multi-Sensor Satellite Data

[Aman Srivastava](#), Aditya Kumar Thakur, Rahul Dev Garg, Pradeep Kumar Garg

Indian Institute of Technology Roorkee, India

Analysis of the Current Situation and Research on Countermeasures of National Fundamental Surveying and Mapping Achievements Services

Ping Lu, Xiuli Zhu, Wanzeng Liu, Xinli Di, Ran Li, Shangwei Lin

National Geomatics Center of China, 28 Lianhuachi West Road, Haidian District, Beijing, 100830, China

5:30pm - 7:30pm

Exhibition Opening & Reception

Location: **Exhibition Hall "F"**

8:30am - 10:00am	<p>WG II/2B: Point Cloud Generation and Processing Location: 713A</p> <p>8:30am - 8:45am Multi-Source Fusion of Roof Skeletons, LiDAR and Street-View Imagery for Semi-Automated LoD-2 Building Modelling Vaibhav Rajan¹, Sander Münster¹, Jonas Brusckhe¹, Ferdinand Maiwald² ¹Digital Humanities, Friedrich-Schiller-Universität Jena, Germany; ²Chair of Optical 3D-Metrology, TUD Dresden University of Technology, Germany</p> <p>8:45am - 9:00am BIM-to-Labelled Point Cloud : Automated Point Cloud Annotation from BIM Models using Bounding Boxes and Solid Geometry Saad Boudarbala^{1,2}, Tania Landes², H�el�ene Macher², Thibault Bavoux¹ ¹Futurmap Lyon, France; ²INSA-Strasbourg, France</p> <p>9:00am - 9:15am Enhanced SegNet-based Building Extraction Framework via Image Segmentation and Point Cloud Fusion Chi Tien Nguyen, Dinh Minh Bui, Somin Han, Changjae Kim Department of Civil Engineering and Environment, College of Engineering, Myongji University</p> <p>9:15am - 9:30am Application Of Multi-Source Photogrammetric Data For Fast Building Inventory Anna Fryskowska-Skibniewska, Patryk Wr�oblewski, Klaudia Pasternak, Julia Gotowicz Military University of Technology, Poland</p> <p>9:30am - 9:45am Conjugate Feature-Guided Dense Stereo Matching for High-Precision Attribute-Enriched Urban Point Clouds Yung-Ching Yang, Jen-Jer Jaw National Taiwan University, Taiwan</p> <p>9:45am - 10:00am Efficient Extraction and Specification-Compliant Optimization of Railway Alignment Parameters from UAV LiDAR Point Clouds Zhaochen Han, Xuming Ge, Min Chen, Han Hu Faculty of Geosciences and Engineering, Southwest Jiaotong University</p>
8:30am - 10:00am	<p>WG III/1: Remote Sensing Data Processing and Understanding Location: 713B</p> <p>8:30am - 8:45am OG-TPTV: A texture-preserving regularizer for hyperspectral image denoising Zhangping Wu, Mi Wang Wuhan University, China</p> <p>8:45am - 9:00am SpectralNet-X: Transformer-based Lossy Compression for Hyperspectral Satellite Data Jannik Sheikh¹, Wolfgang Gro�1¹, Jannick Kuester¹, Andreas Michel¹, Martin Weinmann² ¹Fraunhofer IOSB, Germany; ²Karlsruhe Institute of Technology (KIT)</p> <p>9:00am - 9:15am Sensitivity of Deep Learning Validation to Spatial Scale-Sample Size Interactions in Hyperspectral Imaging Yanfang Sun^{1,2}, Yuan Jiang^{1,2}, Yongze Song³, Rui Qu⁴ ¹College of Civil Engineering, Taiyuan University of Technology, Taiyuan, China; ²Shanxi Key Laboratory of Civil Engineering Disaster Prevention and Control, Taiyuan, China; ³School of Design and the Built Environment, Curtin University, Perth, Australia; ⁴School of Computer Science and Technology, Aba Teachers College, Aba Zhou</p> <p>9:15am - 9:30am Assessment of RTM-induced Surface Reflectance Differences between 6SV and VLIDORT under a Single Atmospheric-correction Framework Seungwon Kim¹, Suyoung Sim¹, Jongho Woo¹, Sungwoo Park¹, Seungkyoo Lee¹, Chaeyun Kim¹, Huiji Yu¹, Kyung-Soo Han² ¹Division of Earth Environmental Science (Major of Spatial Information Engineering), Pukyong National University, Republic of Korea; ²Professor, Division of Earth Environmental Science (Major of Spatial Information Engineering), Pukyong National University, Republic of Korea</p> <p>9:30am - 9:45am Attention-driven Cross-modal Self-supervised Learning for Label-efficient Hyperspectral-LiDAR DSM Classification Jonathan Gonzalez Santiago¹, Wolfgang Gross¹, Karsten Schulz¹, Wolfgang Middelman¹, Uwe Soergel² ¹Fraunhofer IOSB, Germany; ²Institute for Photogrammetry and Geoinformatics (ifp), University of Stuttgart, Germany</p> <p>9:45am - 10:00am GAN-based pan-to-rgb Image Translation for remote sensing Data</p>

Xiaowei He¹, Yingzi Xiong¹, Xiao Ling¹, Qinghong Sheng¹, Xiao Xu²

¹Nanjing University of Aeronautics and Astronautics, China, People's Republic of; ²Yangtze Delta Region Institute of Intelligent Sensing (Nantong)

8:30am - 10:00am

WG I/6B: Orientation, Calibration and Validation of Sensors

Location: 714A

8:30am - 8:45am

Evaluation and performance assessment of a novel UAV-borne laser scanner system

Gottfried Mandlbauer¹, Elisabeth Ötsch¹, Philipp Knopf²

¹TU Wien, Department of Geodesy and Geoinformation, Austria; ²Knopfhoch GmbH, Austria

8:45am - 9:00am

Geometric and radiometric Calibration of a rotating multi-beam Lidar using a rotating tilted Platform

Heikki Hyyti, Matias Mäki-Leppilampi, Harri Kaartinen

Finnish Geospatial Research Institute FGI, Finland

9:00am - 9:15am

Tightly-coupled joint Adjustment of static and kinematic Laser Scanning Data

Florian Pöppl, Philipp Amon, Nikolaus Studnicka, Martin Pfennigbauer, Andreas Ullrich

RIEGL Laser Measurement Systems GmbH, Austria

9:15am - 9:30am

Position and Orientation from Asynchronous Lidar in GNSS Denied Environments

Craig Glennie, Francisco Haces-Garcia

University of Houston, United States of America

9:30am - 9:45am

Extraction of Image-to-Lidar Correspondences and their Impact on Optimal Sensor Fusion

Kyriaki Mouzakidou, Aurélien Arnaud Brun, Jan Skaloud

Earth Sensing & Observation Laboratory (ESO), Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

9:45am - 10:00am

GNSS-Constrained Motion Estimation for Robust Visual-Inertial-Odometry Initialization

Chunqi Dai, Sagi Filin

Technion - Israel Institute of Technology, Haifa, Israel

8:30am - 10:00am

WG IV/9B: Spatially Enabled Urban and Regional Digital Twins

Location: 714B

8:30am - 8:45am

A BIM and LLM Framework for Automated Construction and Demolition Waste Management

Nolan Porthier, Amirhossein Nourbakhshrezaei, Mojgan Jadidi

Lassonde School of Engineering, York University, Canada

8:45am - 9:00am

Open Data for large-scale geospecific 3D Simulation for Security Applications - A Case Study

Dirk Frommholz

German Aerospace Center (DLR), Germany

9:00am - 9:15am

An Adaptive Digital Twin Framework Based on Online Learning for Smart Water Management in Campus Buildings

Gopika Rajan, Songnian Li

Toronto Metropolitan University, Canada

9:15am - 9:30am

An OGC standards-based Urban Digital Twin platform supporting co-creation of Positive Energy Districts: Case study of the Nordbahnhof district in Stuttgart, Germany

Rushikesh Padsala^{1,3}, Amando Reber², Christina Simon-Philipp², Volker Coors¹

¹Centre for Geodesy and Geoinformatics, Stuttgart Technical University of Applied Sciences (HFT

Stuttgart), Stuttgart, Germany; ²Centre for Sustainable Urban Development, Stuttgart Technical

University of Applied Sciences (HFT Stuttgart), Stuttgart, Germany; ³Department of Building, Civil, and

Environmental Engineering, Concordia University 1515 St. Catherine St. West Montreal, QC, H3G 2W1

Canada

9:30am - 9:45am

Developing BIM-Based Data Analytics Dashboards for Sustainable Construction and Demolition Waste Management and Environmental Evaluation

Sara Abbasian, Mojgan Jadidi

Department of Civil Engineering, Lassonde School of Engineering, York University, Canada

9:45am - 10:00am

Urban Intervention Effects on Land Surface Temperature: A Prototype EO-Based Simulation Framework for Urban Digital Twin Applications

Daniele Oxoli, Alberto Vavassori, Maria Antonia Brovelli

Dept. of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy

8:30am - 10:00am	WG III/8H: Remote Sensing for Agricultural and Natural Ecosystems Location: 715A
	<p>8:30am - 8:45am Integrating multi-source remote sensing and soil attributes through ensemble learning for large-scale soil organic carbon estimation <u>Jayantrao Diliprao Mohite</u>¹, <u>Suryakant Ashok Sawant</u>¹, <u>Danielle Berard</u>², <u>Sonali Kulkarni</u>¹, <u>Ankur Pandit</u>¹, <u>Dineshkumar Singh</u>¹ ¹Tata Consultancy Services, India; ²EMILI, Manitoba, Canada</p> <p>8:45am - 9:00am Leveraging Post-Rainfall Spectral Proxies and Multi-Sensor Imagery to Refine Soil Salinity Maps in Dryland Environments <u>Jamal-Eddine OUZEMOU</u>^{1,2}, <u>Ahmed LAAMRANI</u>^{1,2,3,4}, <u>Ali EL BATTAY</u>^{2,5,6}, <u>Joann Whalen</u>^{1,2}, <u>Abdelghani Chehbouni</u>^{1,2} ¹Center for Remote Sensing Applications (CRSA), Mohammed VI Polytechnic University (UM6P), Ben Guerir 43150, Morocco; ²College of Agriculture and Environmental Sciences (CAES), UM6P, Ben Guerir 43150, Morocco; ³Department of Geography, Environment & Geomatics, University of Guelph, Guelph, ON N1G 2W1, Canada; ⁴Institut de Recherche sur les Forêts (IRF), Université du Québec (UQAT), Rouyn-Noranda, Québec, Canada; ⁵Center for Sustainable Soil Sciences (C3S), UM6P, Ben Guerir 43150, Morocco; ⁶Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada</p> <p>9:00am - 9:15am Enhancing Soil Nitrogen Mapping Using Reconstructed Water Vapor Bands in PRISMA Hyperspectral Imagery <u>Nadir El Bouanani</u>^{1,2}, <u>Ahmed Laamrani</u>^{1,3}, <u>Jamal-Eddine Ouzemou</u>¹, <u>Adam Bouhmidira</u>², <u>Hamd Ait Abdelali</u>², <u>Mohamed Bourriz</u>^{1,2,4}, <u>Francois Bourzeix</u>², <u>Abdelghani Chehbouni</u>¹ ¹CRSA, Mohammed VI Polytechnic University (UM6P), Campus Ben Guerir 43150, Morocco; ²Analytic Laboratory (Alab), UM6P, Campus Rabat 11103, Morocco; ³Department of Geography, Environment & Geomatics, University of Guelph, Guelph, ON N1G 2W1, Canada; ⁴Friedrich Schiller University Jena, Department of Geography, Jena 07743, Germany</p> <p>9:15am - 9:30am Evaluation of a High-Resolution L-Band RPAS-Mounted Sensor for Soil Moisture Estimation <u>Hunter Rusk</u>¹, <u>Aaron Berg</u>¹, <u>Jaison Thomas Ambadan</u>¹, <u>Alexander McLaren</u>¹, <u>Laxhman Ramsahoi</u>¹, <u>Maik Wolleben</u>² ¹University of Guelph, Canada; ²Skaha Labs, Canada</p> <p>9:30am - 9:45am Unmasking drought dynamics: a physically interpretable GMM-MST framework for high-resolution diagnostic monitoring <u>Jinhui Hu</u>¹, <u>Qiuwen Zhang</u>², <u>Changtao Deng</u>³ ¹Huazhong University of Science and Technology - Main Campus; ²Huazhong University of Science and Technology - Main Campus; ³Pearl River Water Resources Research Institute</p> <p>9:45am - 10:00am Applications of Coherent Fine Resolution Synthetic Aperture Radar Imagery for Mid-Season Corn Yield Prediction <u>Abbey Papadimitriou</u>¹, <u>John Lindsay</u>¹, <u>Aaron Berg</u>¹, <u>Qiaoping Zhang</u>² ¹University of Guelph, Canada; ²ICEYE Oy, Finland</p>
8:30am - 10:00am	WG IV/1C: Spatial Data Representation and Interoperability Location: 715B
	<p>8:30am - 8:45am Hierarchical Polygon-to-Point Collapsing for Multi-Scale Representation Based on the Straight Skeleton and Dual Half-Edge Data Structure <u>Amin Gholami</u>¹, <u>Pawel Boguslawski</u>¹, <u>Martijn Meijers</u>² ¹Wroclaw University of Environmental and Life Sciences, Institute of Geodesy and Geoinformatics, Grunwaldzka 53, 50-357 Wroclaw, Poland; ²GIS Technology, Faculty of Architecture and the Built Environment, Delft University of Technology, Julianalaan 134, 2628 BL Delft, The Netherlands</p> <p>8:45am - 9:00am The Research on Renewal Theory and Method for the CGCS2000 Reference Framework <u>Zhihao Jiang</u>, <u>Ju Bai</u>, <u>Hao Yu</u>, <u>Yunlu Peng</u>, <u>Linlin Che</u>, <u>He Zhang</u> National Geomatics Center of China</p> <p>9:00am - 9:15am Open Source 3D Cadastre Visualisation Pipeline <u>Pavan Sai Goud Goddu</u>, <u>Sisi Zlatanova</u>, <u>Mohsen Kalantari</u> University of New South Wales, Australia</p> <p>9:15am - 9:30am Shadow Geometric Analysis Utilising CityGML Models and FME <u>Pawel Boguslawski</u>¹, <u>Malgorzata Jarzabek-Rychard</u>¹, <u>Stanislaw Biernat</u>² ¹Wroclaw University of Environmental and Life Sciences, Poland; ²infoSolutions Sp. z o.o.</p> <p>9:30am - 9:45am</p>

	<p>Software Development for Building Texture Images on a Building Surface of a 3D City Model Using Aerial Images Ryuji Matsuoka, Masato Ishikawa, Tomoaki Inazawa, Yoshihiko Nakanishi, Futa Kawamata, Masahito Takada, Takuya Danjo Kokusai Kogyo Co., Ltd., Japan</p> <p>9:45am - 10:00am Automatic detection and condition assessment of agricultural plastic greenhouses using deep learning and aerial rgb images Davoud Omarzadeh¹, Mehran Alizadeh Pirbasti², Hamed Bahrevar³, Hoda Khalaghi⁴, Gavin McArdle², Bahram Salehi⁵ ¹Institut d'Estudis Espacials de Catalunya (IEEC), Barcelona, Spain.; ²School of Computer Science, University College Dublin, Dublin, Ireland.; ³University of Tabriz, East Azerbaijan, Iran.; ⁴Universitat Autònoma de Barcelona, Barcelona, Spain.; ⁵State University of New York College of Environmental Science and Forestry (SUNY ESF), Department of Environmental Resources Engineering, Syracuse, USA.</p>
8:30am - 10:00am	<p>ivS1: Recent Advances in Iceberg Monitoring and Tracking Location: 716A</p> <p>8:30am - 8:45am Ocean Target Discrimination in SAR Imagery through Machine Learning: Towards a Fully Automated Approach Maria Yulmetova, Murilo Silva, Pradeep Bobby, Kelley Dodge C-CORE, Canada</p> <p>8:45am - 9:00am Is Pre-Training Enough? Towards Multi-Task Foundation Models for Sea Ice Classification Javier Noa Turnes¹, Muhammed Patel¹, Fernando J. Pena Cantu¹, Linlin Xu², David A. Clausi¹ ¹University of Waterloo, Canada; ²University of Calgary, Canada</p> <p>9:00am - 9:15am Automated Iceberg Detection in RADARSAT Constellation Mission (RCM) Imagery Abigail Dalton, Lynn Pogson, Mélanie Lacelle, Benjamin Deschamps Environment and Climate Change Canada (Canadian Ice Service), Canada</p> <p>9:15am - 9:30am Automatic Segmentation of SAR imagery Using Mixture Models Zahra Jafari^{1,2}, Pradeep Bobby^{1,2}, Rocky Taylor¹, Ebrahim Karami¹ ¹Memorial University of Newfoundland; ²C-Core, Canada</p> <p>9:30am - 9:45am Cross - Sectional Morphology of Sea Ice features from IPS observations across the Newfoundland and Labrador shelf Alka Dash¹, Rocky Taylor¹, Ian D. Turnbull² ¹Memorial University of Newfoundland, Canada; ²C-Core, St. John's, Canada</p>
8:30am - 10:00am	<p>Forum2A: The Future of Space- based Earth Observation Location: 716B</p>
8:30am - 10:00am	<p>ICWG III/IVb: Remote Sensing Data Quality Location: 717A</p> <p>8:30am - 8:45am MAPSRNet: Task-Oriented Super-Resolution Network for Building Detection in Urban Area Yuwei Cai, Zhimeng He, Meiliu Wu, Brian Barrett University of Glasgow, United Kingdom</p> <p>8:45am - 9:00am Automated Monitoring of Geolocation Consistency in Micro-satellite SAR Imagery Angel Caroline Johnsy¹, Eyrin Kim², Qiaoping Zhang¹, Valentyn Tolpekin¹, Michael Wollersheim¹ ¹ICEYE, Finland; ²Stanford University, USA</p> <p>9:00am - 9:15am Calibrated U-Net with HELIX-Based Label Enrichment for Ageing-Aware Spatio-Temporal Urban Change Detection Sarah Hauser^{1,2,3}, Stephanie Dachsberger², Andreas Schmitt^{2,3}, Stefan Hinz¹ ¹Karlsruher Institut für Technologie (KIT), Germany; ²Geoinformatics Department, Munich University of Applied Sciences (HM); ³Institute for Applications of Machine Learning and Intelligent Systems (IAMLIS)</p> <p>9:15am - 9:30am The survivorship bias in remote sensing Laurent Polidori¹, Saeid Pirasteh² ¹UFPA, Brazil; ²Shaoxing University, China</p> <p>9:30am - 9:45am A dynamically weighted framework for adaptive reference-based super-resolution Chae-Eun Kim¹, Junhwa Chi² ¹Department of Data Engineering, Pukyong National University, Busan, Republic of Korea; ²Major of Big Data Convergence, Division of Data Information Sciences, Pukyong National University, Busan, Republic of Korea</p>

	<p>9:45am - 10:00am</p> <p>Ground Based Observation for Validation (GBOV): Extension Of The Analysis Ready Validation Data Service</p> <p>Christophe Lerebourg¹, Rémi Grousset¹, Jean-Sébastien Carrière¹, Jadu Dash², Somnath Paramanik², Finn James², Zaib Un Nisa², Ana Pérez-Hoyos³, Darren Ghent⁴, Jasdeep Anand⁴, Ritika Shukla⁴, Jan-Peter Muller⁵, Rui Song⁶, Marco Clerici⁷, Nadine Gobron⁷</p> <p>¹ACRI-ST, France; ²University of Southampton; ³Albavalor; ⁴University of Leicester; ⁵Blue Sky Imaging; ⁶EarthRayView; ⁷EC-JRC</p>
10:00am - 10:30am	<p>Morning Coffee Break</p> <p>Location: Exhibition Hall "E"</p>
10:00am - 5:30pm	<p>Exhibition</p> <p>Location: Exhibition Hall "F"</p> <p>Showcase Theatre</p> <ul style="list-style-type: none"> • ISPRS Summer School Design Competition Winners • IEEE GRSS IDEA Three-Minute Thesis (3MT®) Competition
10:30am - 12:00pm	<p>Plenary Session 2</p> <p>Location: Exhibition Hall "G"</p> <p>Keynote 1: Jean-Claude Piedboeuf (CSA)</p> <p>Awards Ceremony:</p> <ul style="list-style-type: none"> • The Jack Dangermond Award • The Gottfried Konecny Award <p>Keynote 2: Dr. Eleni Paliouras (ESA)</p>
12:00pm - 1:30pm	<p>Lunch</p> <p>Location: Exhibition Hall "E"</p>
1:30pm - 3:00pm	<p>WG III/1B: Remote Sensing Data Processing and Understanding</p> <p>Location: 713A</p>
	<p>1:30pm - 1:45pm</p> <p>Multi-modal semantic segmentation for open vocabulary interactions with remote sensing images</p> <p>Jinkun Dai, Tao Peng, Yuhang Xue, Xianping Ma, Yuanxin Ye</p> <p>Southwest Jiaotong University, Chengdu 611756, China</p>
	<p>1:45pm - 2:00pm</p> <p>Meta-Prompting with Open-Source Language Models for Zero-Shot Scene Classification in Remote Sensing</p> <p>Antonis Promponas¹, Eirini Baltzi¹, Valsamis Ntouskos², Konstantinos Karantzas¹</p> <p>¹Remote Sensing Lab, National Technical University of Athens, Greece; ²Department of Engineering and Sciences, Universitas Mercatorum, Rome, Italy</p>
	<p>2:00pm - 2:15pm</p> <p>Knowledge graph enhanced for zero-shot semantic segmentation in remote sensing imagery</p> <p>Wubiao Huang¹, Huchen Li¹, Shuai Zhang¹, Haibing Liu¹, Zizhen Chen¹, Shihan Chen¹, Fei Deng^{1,2}</p> <p>¹School of Geodesy and Geomatics, Wuhan University, Wuhan 430079, China; ²Hubei Luoja Laboratory, Wuhan 430079, China</p>
	<p>2:15pm - 2:30pm</p> <p>Segmentation-driven statistics-aware workflow for detailed scene description of UAV images using Mistral and LORA fused model</p> <p>Bhargav Parulekar, Anandakumar M Ramiya</p> <p>Indian Institute of Space Science and Technology, Thiruvananthapuram, Kerala, India</p>
	<p>2:30pm - 2:45pm</p> <p>Evaluating the Adaptation Potential of SAM2 for Glacier Segmentation in Severe Weather</p> <p>Bindusara Nagathihalli Lokesh, Laura Camila Duran Vergara, Hans-Gerd Maas, Anette Eitner</p> <p>Dresden University of Technology, Germany</p>
	<p>2:45pm - 3:00pm</p> <p>Reasoning-guided ego-path segmentation for autonomous trains using vision-language models</p> <p>Mohammadjavad Ghorbanalivakili, Ashley Varghese, Gunho Sohn</p> <p>York University, Canada</p>
1:30pm - 3:00pm	<p>WG II/9B: Vision Metrology</p> <p>Location: 713B</p>
	<p>1:30pm - 1:45pm</p> <p>Quantization-Aware Training for Efficient Object Detection on FPGAs: Case Studies</p> <p>Xuanshu Luo, Gabor Fogarasi, Alan Syrgak, Paul Walther, Martin Werner</p> <p>Technical University of Munich, Germany</p>
	<p>1:45pm - 2:00pm</p> <p>Evaluation of Visual Place Recognition Methods for Image Pair Retrieval in 3D Vision and Robotics</p> <p>Dennis Haitz¹, Athradi Shritish Shetty¹, Michael Weinmann², Markus Ulrich¹</p> <p>¹Karlsruhe Institute of Technology, Germany; ²Delft University of Technology, Netherlands</p>
	<p>2:00pm - 2:15pm</p> <p>MVM-IOD: An Industrial Object-Centric Benchmark Dataset for the Evaluation of 3D Reconstruction Methods</p>

Robert Langendörfer, Markus Hillemann, Markus Ulrich
KIT, Germany

2:15pm - 2:30pm

A Critical Synthesis of Uncertainty Quantification and Foundation Models for Semantic Segmentation

Steven Landgraf, Joceline Hinz, Markus Ulrich
Karlsruhe Institute of Technology, Germany

2:30pm - 2:45pm

The Impact of CutMix on Reliability and Robustness in Semantic Segmentation

Steven Landgraf, Markus Ulrich
Karlsruhe Institute of Technology, Germany

2:45pm - 3:00pm

Uncertainty Quality of VGGT: An Analysis on the DTU Benchmark Dataset

Markus Hillemann, Robert Langendörfer, Steven Landgraf, Markus Ulrich
Karlsruhe Institute of Technology, Germany

1:30pm - 3:00pm

WG I/3: Multispectral, Hyperspectral and Thermal Sensors

Location: 714A

1:30pm - 1:45pm

First Field Validation of a New VNIR/SWIR-Based Six-Band Multi-Camera System for UAVs over Winter Wheat

Alexander Jenal¹, Fabian Reddig², Andreas Bolten², Leon Vehlken², Hubert Hüging³, Thuy Huu Nguyen³, Jens Bongartz¹, Georg Bareth²

¹Application Center for Machine Learning and Sensor Technology (AMLS), University of Applied Sciences Koblenz, Germany; ²Institute of Geography, GIS & Remote Sensing Group, University of Cologne, Germany; ³Institute of Crop Science and Resource Conservation (INRES), University of Bonn, Germany


 [ID1186_Jenal_TC1_Full Paper for ISPRS Annals.pdf](#)

1:45pm - 2:00pm

PanX.4: A Gyrocopter-Borne Six-Band VNIR Multicamera System for Sentinel-2-Aligned Multitemporal Vegetation Monitoring

Alexander Jenal¹, Felix Kröber^{2,5}, Christopher Frank³, Lina Krisztian⁴, Markus Metz⁴, Ribana Roscher⁵, Jens Bongartz¹

¹Application Center for Machine Learning and Sensor Technology (AMLS), University of Applied Sciences Koblenz, Germany; ²Institute of Bio- and Geosciences, Forschungszentrum Jülich, Germany; ³CJSS TDI GmbH, Germany; ⁴mundialis GmbH & Co. KG, Germany; ⁵Institute of Geodesy and Geoinformation, University of Bonn, Germany

 [ID1276_Jenal_TC1_Abstract for ISPRS Archives.pdf](#)

2:00pm - 2:15pm

Atmospheric correction of aerial imagery using satellite-derived reflectance data

Alexane Nghien, Manchun Lei, Mathieu Brédif
Univ Gustave Eiffel, Géodata Paris, IGN, LASTIG

 [ID639_Nghien_TC1_Full Paper for ISPRS Annals.pdf](#)

2:15pm - 2:30pm

Abundance Estimation Methods in Spectral Unmixing for Real Data

Daniele Cerra, Miguel Pato, Emiliano Carmona
German Aerospace Center (DLR), Germany

 [ID1284_Cerra_TC1_Full Paper for ISPRS Annals.pdf](#)

2:30pm - 2:45pm

Operational Band-to-Band Correction and Attitude Refinement of Pelican-2: dual-panchromatic Attitude Restitution and selective Bundle Adjustment with preliminary Application to Earthquake Displacement and DEM Generation

Saif Aati, Antonio Martos, Eric L. Peters, Frank Warmerdam, Graham Mills, Adam Weber, Luna Gray, Minh Radel
Planet Labs PBC

 [ID1704_Aati_TC1_Full Paper for ISPRS Annals.pdf](#)

1:30pm - 3:00pm

WG III/8B: Remote Sensing for Agricultural and Natural Ecosystems

Location: 714B

1:30pm - 1:45pm

Estimating the leaf area index of urban trees using terrestrial LIDAR and the PATH method: sensitivity analysis and comparison with optical and direct methods

Camille Taufflieb¹, Nathalie Breda², Ronghai Hu³, **Tania Landes**¹, Vincent Lecomte¹, Françoise Nerry⁴, Georges Najjar⁴

¹ Université de Strasbourg, CNRS, INSA Strasbourg, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, 67000, Strasbourg, France; ² Université de Lorraine, AgroParisTech, INRAE, UMR Silva, Nancy, France; ³ College of Resources and Environment, University of Chinese Academy of Sciences, Beijing, 100049, China; ⁴ ICube Laboratory (UMR 7357), University of Strasbourg, Strasbourg, France

1:45pm - 2:00pm

Evaluation of Machine Learning Methods for Estimation of Leaf Chlorophyll Content (LCC) Across 15 Soybean Cultivars During Early Reproductive Stage

Carli Kriek¹, Philemon Tsele¹, George Chirima², Adolph Nyamugama²

¹Department of Geography, Geoinformatics and Meteorology, University of Pretoria, Pretoria 0002, South Africa; ²Agriculture Research Council Natural Resource & Engineering (NRE), Pretoria, 0001, South Africa

2:00pm - 2:15pm

Potential of very high Resolution Pléiades Neo Satellite Data to monitor Crop Traits

Georg Bareth¹, Christoph Hütt¹, Alexander Jenal², Andreas Bolten¹, Fabian Reddig¹, Leon Vehlken¹, Annika Klee¹, Jan Wolf¹, Hannah Firl¹, Hubert Hüging³

¹Institute of Geography, GIS & Remote Sensing Group, University of Cologne, Germany; ²AMLS, University of Applied Sciences Koblenz, Remagen, Germany; ³INRES - Crop Sciences, University of Bonn, Germany

2:15pm - 2:30pm

Development of a transferrable hybrid retrieval model for mapping sweet potato chlorophyll at matured growth stage using ultra high-resolution UAV data

Philemon Tsele¹, Abel Ramoelo^{2,1}, Lucy Moleleki¹, Sunette Laurie³, Whelma Mphela¹, Natasha Tshuma¹

¹University of Pretoria, South Africa; ²South African National Space Agency, South Africa; ³Agricultural Research Council, South Africa

2:30pm - 2:45pm

Principal component analysis of UAV-derived vegetation indices and laboratory tissue nutrients for crop health assessment

Oluibukun Gbenga Ajayi^{1,2}, Fatima Abiola Ogunlesi³

¹Namibia University of Science and Technology, Namibia; ²University of Pretoria, South Africa; ³Federal University of Technology, Minna

2:45pm - 3:00pm

Multiscale Multispectral–Hyperspectral Data for Estimating Coffee Yield Using Machine Learning Algorithms

George Deroco Martins, Lucas Carvalho, Filipe Silva, Rayssa Barbosa, Maria Cecília Santos

Federal University of Uberlândia, Brazil

1:30pm - 3:00pm

ICWG III/IVa-B: Disaster Management

Location: 715A

1:30pm - 1:45pm

Mapping flood footprints: a review of remote sensing approaches for quantifying physical asset information extraction

Wei Jiang¹, Quan Liu¹, Xiaohui Ding², Zhiguo Pang¹, Denghua Yan¹, Yizi Shang¹, Rong Li¹, Akiyuki Kawasaki³

¹China Institute of Water Resources and Hydropower Research, Beijing, 100038, China; ²School of Software and Internet of Things Engineering, Jiangxi University of Finance and Economics, Nanchang, 330032, China; ³Institute for Future Initiatives, The University of Tokyo, Tokyo, Japan

1:45pm - 2:00pm

Rapid flood damage assessment in detention basins using multi-source remote sensing: a case study of the 2023 dongdian flood event in china

Wei Jiang¹, Quan Liu¹, Denghua Yan¹, Wenlong Song¹, Zhiguo Pang¹, Xiaohui Ding²

¹China Institute of Water Resources and Hydropower Research, China, People's Republic of; ²School of Software and Internet of Things Engineering, Jiangxi University of Finance and Economics, Nanchang, 330032, China

2:00pm - 2:15pm

Shoreline extraction and coastal change detection from satellite SAR using thresholding-based methods

Corienne Erasmus^{1,3}, Shelley Haupt², Bolelang Sibolla^{1,2}

¹Department of Geography, Geoinformatics and Meteorology, University of Pretoria, Pretoria, South Africa; ²Next Generation Enterprises and Institutions, Council for Scientific and Industrial Research, Pretoria, South Africa; ³AOS-SAMOS, Department of Oceanography, University of Cape Town, Rondebosch 7700, South Africa

2:15pm - 2:30pm

Enhancing Oil Spill Interpretation Through Multisensor Fusion and Temporal Reconstruction: A Case Study Near the Strait of Gibraltar

Tom Avikasis Cohen, Dror Angel, Anna Brook

University of haifa, Israel

2:30pm - 2:45pm

Windstorm hazard index development for malaysia

Nur Hidayah Zakaria¹, Nur Atiqah Hazali², Siti Aekbal Salleh^{3,4}, Nurul Amirah Isa¹, Nini Nurdiana Johari¹, Mohd Badrul Hafiz Che Omar¹, Arnis Asmat⁴, Andy Chan⁵

¹Faculty of Asia Built Environment and Surveying, Universiti Geomatika Malaysia (UGM), Malaysia; ²Geospatial Science & Technology College (GSTC), Malaysia; ³Institute for Biodiversity and Sustainable Development (IBSD),Universiti Teknologi MARA; ⁴Center of Studies Surveying Science and Geomatics, Faculty of Built Environment, Universiti Teknologi MARA (UiTM) , Malaysia; ⁵Southampton Solent University, England

2:45pm - 3:00pm

FRI-R: A Data Driven Flood Risk Index for Resilience Decision-Making

Bandana Kar¹, Margaret Glasscoe²

¹ResIntSoft LLS, United States of America; ²University of Colorado, Boulder, United States of America

1:30pm - 3:00pm	WG II/3C: 3D Scene Reconstruction for Modeling & Mapping Location: 715B
	<p>1:30pm - 1:45pm CityLangSplat: Integrating CityGML Semantics into 3D Language Gaussian Splatting for Urban Scene Understanding Qilin Zhang^{1,2,3}, Jinyu Zhu¹, Olaf Wysocki⁴, Boris Jutzi^{1,3} ¹Technical University of Munich; ²Munich Center for Machine Learning; ³Karlsruhe Institute of Technology; ⁴University of Cambridge</p> <hr/> <p>1:45pm - 2:00pm RoofVIP benchmark dataset: 2D roof planar polygons and very high-resolution digital orthophoto pairs Chaikal Amrullah, Daniel Panangian, Guneet Mutreja, Youssef Abdelhedi, Ksenia Bittner German Aerospace Center (DLR), Germany</p> <hr/> <p>2:00pm - 2:15pm Evaluating 3D Scene Representations for Aerial Photogrammetry across Diverse Cityscapes Shihan Chen¹, Zhaojin Li², Qingsong Yan¹, Haibing Liu¹, Huchen Li¹, Wubiao Huang¹, Fei Deng^{1,3} ¹School of Geodesy and Geomatics, Wuhan University, Wuhan, China; ²Technology and Engineering Center for Space Utilization, University of Chinese Academy of Sciences, Beijing, China; ³Hubei Luoja Laboratory, Wuhan, China</p> <hr/> <p>2:15pm - 2:30pm Development of a 3D City Model-Based System for Pre-Flight Evaluation and Optimization of Aerial Image Acquisition Plans Lixian Zhao, Saki Kato, Kenta Imai, Maki Itazu, Aya Matsui Kokusai Kogyo Co., Ltd., Japan</p> <hr/> <p>2:30pm - 2:45pm Image LiDAR based change detection and updating for urban 3D reconstruction Teng Wu, Bruno Vallet Univ Gustave Eiffel, Géodata Paris, IGN, LASTIG, F-77454 Marne-la-Vallée, France</p> <hr/> <p>2:45pm - 3:00pm SF-Recon: Simplification-Free Lightweight Building Reconstruction via 3D Gaussian Splatting Zihan Li, Tengfei Wang, Wentian Gan, Hao Zhan, Xin Wang, Zongqian Zhan School of Geodesy and Geomatics, Wuhan University, China PR.</p>
1:30pm - 3:00pm	IvS2: Canadian Advances in Geospatial AI for Intelligent and Resilient Mobility Location: 716A
	<p>1:30pm - 1:45pm Toward a Unified Geospatial Intelligence Framework Utilizing Edge Computing, IoT, and Multimodal Generative AI for Climate Risk Mitigation and Adaptive Evacuation Planning Truong Thanh Hung Nguyen, Hung Cao Analytics Everywhere Lab - University of New Brunswick, Canada</p> <hr/> <p>1:45pm - 2:00pm A Theoretical Framework for Environmental Similarity and Vessel Mobility as Coupled Predictors of Marine Invasive Species Pathways Gabriel Spadon¹, Vaishnav Vaidheeswaran¹, Claudio DiBacco² ¹Faculty of Computer Science, Dalhousie University, Halifax - NS, Canada; ²Fisheries and Oceans Canada, Bedford Institute of Oceanography, Dartmouth - NS, Canada</p> <hr/> <p>2:00pm - 2:15pm Congestion-aware multi-agent reinforcement learning for wildfire evacuation routing Bahareh Raei, Reza Safarzadeh, Xin Wang University of Calgary, Canada</p> <hr/> <p>2:15pm - 2:30pm Exploring Bus Stop Passenger Ridership Using explainable Machine Learning Ge Cui University of New Brunswick, Canada</p> <hr/> <p>2:30pm - 2:45pm Advancing Geospatial Analysis with Foundation Models and LLMs in ArcGIS Mohamed Ahmed Esri Canada, Canada</p>
1:30pm - 3:00pm	Forum2B: The Future of Space-based Earth Observation Location: 716B
1:30pm - 3:00pm	Forum7A: Entrepreneurship in the Industry 4.0 Geospatial Landscape Location: 717A
1:30pm - 3:00pm	InS3: Industry Tech Session Location: 717B
1:30pm - 5:00pm	General Assembly (tentative session) Location: 701A
3:00pm - 3:30pm	Afternoon Coffee Break Location: Exhibition Hall "E"

<p>3:30pm - 5:15pm</p>	<p>ThS12: TLS-based Deformation Analysis Location: 713A</p> <p>3:30pm - 3:45pm Complementing and validating uncertainty of terrestrial laser scanning via interval analysis Reza Naeimaei, Steffen Schön Institut für Erdmessung (IfE), Leibniz University Hannover, Hannover, Germany</p> <p>3:45pm - 4:00pm Point-based, profile-based and 3D point cloud-based vibration monitoring of structures: comparisons based on a lab experiment Oliver Geißendörfer¹, Victoria Rosa², Hans-Berndt Neuner², Christoph Holst¹ ¹Technical University of Munich, Germany; ²Technical University of Vienna, Austria</p> <p>4:00pm - 4:15pm From tensor-product to truncated hierarchical B-splines: Enhancing spatial Resolution in space-continuous Deformation Analysis based on 3D point clouds Elisabeth Ötsch, Hans Neuner TU Wien, Department of Geodesy and Geoinformation, Austria</p> <p>4:15pm - 4:30pm Towards a Framework for Benchmarking Dense 3D Displacement Estimation Approaches for Geomonitoring Using Long-Range TLS Data Nicholas Meyer, Tomislav Medic, Andreas Wieser Institute of Geodesy and Photogrammetry, ETH Zurich, Switzerland</p> <p>4:30pm - 4:45pm Joint Stone Segmentation and Feature Driven Deformation Analysis at Water Dams Annika Tobies, Judith Foth, André Cornelißen, Eike Koller, Lasse Klingbeil, Heiner Kuhlmann Institute of Geodesy and Geoinformation, University of Bonn, Germany</p> <p>4:45pm - 5:00pm Reducing Non-rigidity in TLS Point Clouds Induced by Inhomogeneous Systematic Errors Using Free-form Surface Modeling Yihui Yang¹, Corinna Harmening², Daniel Czerwonka-Schröder³, Christoph Holst¹ ¹Chair of Engineering Geodesy, TUM School of Engineering and Design, Technical University of Munich, Germany; ²Geodetic Institute, Karlsruhe Institute of Technology, Germany; ³Department of Geodesy, Bochum University of Applied Sciences, Germany</p> <p>5:00pm - 5:15pm Calibration of Panoramic Terrestrial Laser Scanners using Planar Patches Eike Koller¹, Lasse Klingbeil², Heiner Kuhlmann³ ¹University of Bonn, Germany; ²University of Bonn, Germany; ³University of Bonn, Germany</p> <p>5:15pm - 5:30pm Methodological framework for determining vertical angular variances of terrestrial laser scanners Jakob Hummelsberger¹, Omar AbdelGafar¹, Derek Lichti², Christoph Holst¹ ¹Chair of Engineering Geodesy, TUM School of Engineering and Design, Technical University of Munich, Munich, Germany; ²Department of Geomatics Engineering, Schulich School of Engineering, University of Calgary, Calgary, Canada</p>
<p>3:30pm - 5:15pm</p>	<p>WG IV/2B: Artificial Intelligence and Uncertainty Modeling in Spatial Analysis Location: 713B</p> <p>3:30pm - 3:45pm Chat2Map: A ReAct-based Agent Framework for Automated Web Map Generation from Natural Language Instructions Hongping Zhang¹, Peilong Ma², Cong Wang¹, Lei Ding¹, Zhen Wang¹, Heng Li¹ ¹National Geomatics Center of China, China, People's Republic of; ²Nanjing Normal University, School of Geography, Nanjing, Jiangsu, China</p> <p>3:45pm - 4:00pm Bridging Human Intent and Geospatial Services: A Conceptual Framework and Feasibility Study for Text2GeoAPI Lei Ding, Heng Li National Geomatics Center of China, 100830 Beijing, China</p> <p>4:00pm - 4:15pm AI for Inclusive Winter Mobility: Multimodal Integration for Detecting Barriers Affecting People with Disabilities SARA SHAHSAVARANI, Mir Abolfazl Mostafavi ¹Center for Research in Geospatial Data and Intelligence (CRDIG), Department of Geomatics Sciences, Université Laval, 1055, Avenue du Séminaire, Quebec City, QC G1V 0A6, Canada; ²Center for Interdisciplinary Research in Rehabilitation and Social Integration (Cirris), Quebec City, QC G1M 2S8, Canada</p> <p>4:15pm - 4:30pm Assessing residential Land Efficiency with spatial-contextual GMM and human Activity big Data: a Case Study of Shenzhen Shihao Liang¹, Yixin Liu¹, Renzhong Guo¹, Weixi Wang¹, Ding Ma¹, Ye Zheng², Shengjun Tang¹, Linfu Xie¹, Xiaoming Li¹</p>

¹Research Institute for Smart Cities & MNR Key Laboratory of Urban Land Resources Monitoring and Simulation, School of Architecture and Urban Planning, Shenzhen University; ²Faculty of Electrical Engineering and Computer Science, Ningbo University, Ningbo, 315211, China

4:30pm - 4:45pm

Reproducing Geospatial Crowdsourcing: How Consistent Is the Crowd?

David Collmar, Volker Walter, Uwe Sörgel, Roland Ullmann
University of Stuttgart, Germany

4:45pm - 5:00pm

Shaping the Colonial Port: Urban Networks and Spatial Form in the Early Modern Era

Chaoqun Wang, Jie He
Harbin Institute of Technology, Shenzhen, China, People's Republic of

5:00pm - 5:15pm

Vector generalization of the drainage network

Thalles Aquino¹, Edilson Bias¹, Mauricio Paulo², Raul Feitosa³, Felipe Ferrari²
¹University of Brasília, Brazil; ²Institute of Engineering, Rio de Janeiro, Brazil; ³Pontifical Catholic University, Rio de Janeiro, Brazil

3:30pm - 5:15pm

WG III/4A: Landuse and Landcover Change Detection

Location: 714A

3:30pm - 3:45pm

ChangeDINO: DINOv3-Driven Building Change Detection in Optical Remote Sensing Imagery

Ching-Heng Cheng¹, Chih-Chung Hsu²
¹National Cheng Kung University, Tainan, Taiwan; ²National Yang Ming Chiao Tung University, Hsinchu, Taiwan

3:45pm - 4:00pm

Hie-DinoMamba: Hierarchical DINOv3 and Mamba Architecture for Multi-Class Building Change Detection

Youngwoong Yoon¹, Jangwoo Cheon¹, Hwiyoung Kim¹, Impyeong Lee²
¹Geospatial Team, Innopam, Seoul, Republic of Korea; ²Department of Geoinformatics, University of Seoul, Seoul, Republic of Korea

4:00pm - 4:15pm

Stepwise Optimization and Ensemble Pipeline for Building Change Detection in High Resolution Satellite Imagery Using Mamba-Based Model

DongHyuk Jin¹, Junhwa Chi²
¹Department of Data Engineering, Pukyong National University, Busan, Republic of Korea; ²Division of Data Information Sciences, Pukyong National University, Busan, Republic of Korea

4:15pm - 4:30pm

Leveraging Geospatial Foundation Models for Bi-Temporal Land-Cover Change Detection

Mozhdeh Shahbazi, Mikhail Sokolov, Charles Authier, Marjan Asgari
Canada Centre for Mapping and Earth Observation, Natural Resources Canada, Canada

4:30pm - 4:45pm

A Transformer-Based Framework for Spatiotemporal Unmixing of Land-Water Mixtures in Multispectral Satellite Data

An Bao Nguyen¹, Andreas Schenk², Stefan Hinz²
¹KU Leuven, Leuven, Belgium; ²Karlsruhe Institute of Technology, Karlsruhe, Germany

4:45pm - 5:00pm

Land Cover Classification of Optical-SAR Imagery via Cross-Modal Interaction and Feature Alignment

Junqi Zhao, Min Chen, Wei Guo, Jinbo Zhang, Zelan Fu, Xuming Ge, Han Hu, Bo Xu, Qing Zhu
Faculty of Geosciences and Engineering, Southwest Jiaotong University, Chengdu, 611756, China

5:00pm - 5:15pm

Seasonal-Aware Scale-Semantic Consistency Alignment Change Detection Network

Bing Shao¹, Hanchao Zhang¹, Mingzhu Li², Yunkun Zou³, Ruiqian Zhang¹, Xiaogang Ning¹, Hao Wang¹
¹Chinese Academy of Surveying and Mapping Beijing, China; ²Liaoning Technical University Geomatics and Geographical Sciences, Fuxin, China; ³Joint Laboratory of Spatial Intelligent Perception and Large Model Application, Nanjing, China

3:30pm - 5:15pm

WG I/2B: Mobile Mapping Technology

Location: 714B

3:30pm - 3:45pm

Mitigating trajectory drift in tunnel mapping: evaluation of conventional and novel approaches applied to SLAM-based mobile mapping solution

Antonio Gualtierio Mainardi¹, Simone Marmaglio², Luca Perfetti¹, Giorgio Paolo Maria Vassena¹
¹Università degli Studi di Brescia, Dept. of Civil Engineering, Architecture, Territory, Environment and Mathematics (DICATAM), Italy; ²Università degli Studi di Brescia, Dept. of Information Engineering (DII), Italy

3:45pm - 4:00pm

Range Error Detection and Evaluation for retroreflective Road Signs in Phase-Shift MMS Point Clouds

Saori Fukushi¹, Yoji Takahashi¹, Hirofumi Chikatsu²

¹Aero Toyota Corporation; ²Tokyo Denki University

4:00pm - 4:15pm

An RTK-SLAM Dataset for Absolute Accuracy Evaluation in GNSS-Degraded Environments

Wei Zhang, Vincent Ress, David Skuddis, Uwe Soergel, Norbert Haala
University of Stuttgart, Germany

4:15pm - 4:30pm

Novel View Synthesis Under Rainy Conditions with Neural Radiance Fields and Gaussian Splatting

Ivana Petrovska, Boris Jutzi
Karlsruhe Institute of Technology, Germany

4:30pm - 4:45pm

Toward Seawall Monitoring via Tracking Model-Derived Feature Points of Tetrapods from 3D Point Clouds

Ting On Chan¹, Derek Lichti²
¹School of Geography and Planning, Sun Yat-sen University, China, People's Republic of; ²Department of Geomatics Engineering, University of Calgary, Canada

4:45pm - 5:00pm

Application of Side-Scan Sonar and Multibeam Echosounder for the Investigation of Underwater Cultural Heritage – A Case Study of a Wreck in the Baltic Sea

Klaudia Pasternak, Paulina Jaczewska, Patryk Wróblewski
Military University of Technology in Warsaw, Poland

3:30pm - 5:15pm

WG II/6: Cultural Heritage Data Acquisition and Processing

Location: 715A

3:30pm - 3:45pm

Open Technologies for the 3D Cultural Heritage Digitisation Pipeline

Fotis Arnaoutoglou¹, Peter Bonsma², Elisa Mariarosaria Farella³, Anestis Koutsoudis¹, Niki Kyriakou⁴, Marco Medici⁵, Vangelis Nomikos⁴, Anthony Pamart⁶, Fabio Remondino³
¹ATHENA Research Centre, Greece; ²RDF Ltd, Bulgaria; ³3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy; ⁴Talent S.A., Greece; ⁵INCEPTION, Spin-off of the University of Ferrara, Italy; ⁶MAP CNRS, Marseille, France

3:45pm - 4:00pm

Metric Reliability and Operational Adaptability in the context of the Integrated 3D Metric Survey of the Genete Leul Palace (Addis Ababa, Ethiopia)

Elisabetta Colucci, Giacomo Patrucco, Mahtab Fallah, Andrea Demartis
Department of Architecture and Design (DAD), Laboratory of Geomatics for Cultural Heritage, Politecnico di Torino, Italy

4:00pm - 4:15pm

Photogrammetry Laser Scanning and Reverse Engineering Conrad's Jewel

Adam Weigert, Mario Santana, Stephen Fai, Sena Kurcenli Koyunlu
Carleton Immersive Media Studio, Canada

4:15pm - 4:30pm

Modelling Transparent Surfaces in Heritage Artifacts with Gaussian Splatting

Marco Medici¹, Andrea Sterpin^{1,2}, Stefano Settimo¹, Matteo Bevilacqua¹, Gianluca Bertolasi³, Simone Rigon³, Elisa Mariarosaria Farella³, Fabio Remondino³
¹INCEPTION s.r.l., Spin-off of the University of Ferrara, Italy; ²Department of Architecture, University of Ferrara, Italy; ³3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy

4:30pm - 4:45pm

Evaluating generative AI for museum artifacts documentation

Elisa Mariarosaria Farella, Simone Rigon, Gianluca Bertolasi, Fabio Remondino
3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK)

4:45pm - 5:00pm

LiDAR-Guided Illumination-Aware 3D Gaussian Splatting for Cultural Heritage

Xiao LIU¹, Xinyi LI¹, Wan LI², Tao LIU¹, Wei SUN¹, Sheng Zhang³
¹Wuhan Geomatics Institute; ²Hubei Surveying and Mapping Quality Supervision and Inspection Station; ³Langfang Natural Resources Comprehensive Survey Center, CGS

5:00pm - 5:15pm

Usability and Potential of Historical Glass Plate Images for 3D Object Reconstruction and Comparison to current Monitoring Data

Heidi Hastedt¹, Ferdinand Maiwald², Silke Wiedmann³, Till Sieberth¹
¹Jade University of Applied Sciences, Institute for Applied Photogrammetry and Geoinformatics, Oldenburg, Germany; ²Chair of Optical 3D-Metrology, Dresden University of Technology, Germany; ³German Maritime Museum – Leibniz Institute for Maritime History, Bremerhaven, Germany

5:15pm - 5:30pm

Full Object Photogrammetry for Architectural Artefacts using the “Mask Model Method”

Adam Weigert¹, Miquel Reina Ortiz², Chloe Dennis³, Lauren Daniels¹, Yesmine Bennani⁴, Mario Santana Quintero¹, Stephen Fai¹

¹Carleton Immersive Media Studio (CIMS), Carleton University, Ottawa, Canada; ²Université de Montréal, Montréal, Canada; ³Bytown Museum, Ottawa, Canada; ⁴University of Hong Kong, Pok Fu Lam, Hong Kong

3:30pm - 5:15pm

WG II/3D: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

3:30pm - 3:45pm

CARS: A Photogrammetric Pipeline for Global 3D Reconstruction using Satellite Imagery

David Youssefi¹, Valentine Bellet¹, Yoann Steux², Mathis Roux², Cédric Traizet², Marian Rassat², Tommy Calendini²

¹CNES, France; ²CS GROUP, France

3:45pm - 4:00pm

SatGeo-NeRF: Geometrically Regularized NeRF for Satellite Imagery

Valentin Wagner¹, Sebastian Bullinger¹, Michael Arens¹, Rainer Stiefelhagen²

¹Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (IOSB); ²Karlsruhe Institute of Technology (KIT)

4:00pm - 4:15pm

HDR Radiance Learning and Shadow Regularization for Satellite NeRF 3D Reconstruction

Yongjun Song, Pablo d'Angelo

German Aerospace Center (DLR), Germany

4:15pm - 4:30pm

EOGS++: Earth Observation Gaussian Splatting with Internal Camera Refinement and Direct Panchromatic Rendering

Pierrick Bournez¹, Luca Savant Aira², Thibaud Ehret³, Gabriele Facciolo¹

¹Universite Paris-Saclay, CNRS, ENS Paris-Saclay, Centre Borelli, 91190, Gif-sur-Yvette, France;

²Politecnico di Torino, Corso Duca degli Abruzzi, 24, 10129 Torino TO, Italia; ³AMIAD, Pôle Recherche, France

4:30pm - 4:45pm

Evaluating multi-view geometry for satellite-based 3D city modeling: towards 1+N constellation configurations

Xu Cheng, Xianfeng Huang, Yingdong Pi, Xinsheng Wang, Mi Wang

State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, 430079, China

4:45pm - 5:00pm

Illumination-prior-based high-resolution DEM reconstruction from single-view lunar image constrained with initial DEM

Siyi Qiu¹, Zhen Ye^{1,2}, Rong Huang^{1,2}, Yusheng Xu^{1,2}, Xiaohua Tong^{1,2}

¹College of Surveying and Geoinformatics, Tongji University, Shanghai, China; ²The Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, Shanghai, China

5:00pm - 5:15pm

Construction of Control Network for Multi-temporal LRO NAC Images Based on Matching of Lunar Impact Craters

Pengying Liu^{1,2}, Jiayao Wang^{1,2}, Xun Geng^{1,2}, Zhen Peng^{1,2}, Jin Wang^{1,2}, Haoyu Zhang^{1,2}

¹State Key Laboratory of Spatial Datum, Faculty of Geographical Science and Engineering, Henan University, Zhengzhou, China; ²College of Geographic Sciences, Henan University, Zhengzhou, China

3:30pm - 5:15pm

ApS: Applied Session

Location: 716A

3:30pm - 3:45pm

A Multi-Stage Framework for Remote Sensing-Based Detection of Mining Disturbances Across British Columbia to Inform Salmon Habitat Conservation

Chen Shang¹, Olivier Tsui¹, Marc Porter², François-Nicolas Robinne³

¹Hatfield Consultants, 200-850 Harbourside Drive, North Vancouver, BC, V7P 0A3, Canada; ²Salmon Watersheds Program, Pacific Salmon Foundation, 300-1682 West 7th Avenue, Vancouver, BC, V6J 4S6, Canada; ³Forest Operations Branch, Alberta Forestry and Parks, J.G. O' Donoghue Building, 7000-113 Street, Edmonton, AB, T6H 5T6, Canada

3:45pm - 4:00pm

Compact Polarimetry Data for Estimation of Relative Oil Thickness

Gordon Staples, Ji Chen

MDA Space, Canada

4:00pm - 4:15pm

Automatic detection of eelgrass (*Zostera marina*) from multispectral satellite data along Canada's Pacific coast to support conservation and restoration efforts

Anne Webster¹, Weigang Tang¹, Maycira Costa², Nic Dedeluk³, Olivier Tsui¹

¹Hatfield Consultants LLP, 200-850 Harbourside Dr, North Vancouver, Canada V7P 0A3; ²Spectral Lab, Geography, University of Victoria, Victoria, Canada; ³Namgis First Nation, 49 Atli St, Alert Bay, Canada

4:15pm - 4:30pm

Autonomous Driving in a GNSS-Denied Environment using Real-Time Sensor Fusion

Elena Liang, Xue-Fen Zhang, Jason Kun, Benjamin Brunson, Vi Huynh, Mohamed Mostafa
Trimble Applanix, Canada

4:30pm - 4:45pm

Integrated Multi-Sensor Data Fusion from Land, Air, and Marine Platforms for Enhanced Geospatial Mapping

Michael Koterba¹, Mohamed Mostafa²

¹MJ Engineering, Architecture, Landscape Architecture, and Land Surveying, P.C, 21 Corporate Drive, Clifton Park, NY, USA 12065; ²Trimble Applanix, 85 Leek Cr., Richmond Hill, Ontario, Canada L4B 3B3

4:45pm - 5:00pm

From Satellites to Grain Elevators: using NDVI-based Indices to reduce Price Discovery Gaps in non-Futures Prairie Crop Markets

Samuel Scott

Independent, Canada

5:00pm - 5:15pm

Simultaneous LiDAR & Trajectory Data Optimization for Mobile Mapping Systems in GNSS-Denied Environments

Mohamed Mostafa, Vi Huynh

Trimble Applanix, Canada

3:30pm - 5:15pm

Forum2C: The Future of Space-based Earth Observation

Location: 716B

3:30pm - 5:15pm

Forum7B: Entrepreneurship in the Industry 4.0 Geospatial Landscape

Location: 717A

3:30pm - 5:30pm

InS4: Industry Tech Session

Location: 717B

3:30pm - 5:30pm

P2: Poster Session 2

Location: Exhibition Hall "E"

Refractive Effects of Planar Protective Layers in Stereo Photogrammetry and Their Correction

Zhaoquan Liu¹, Binbin Xu², Wenxing Xu³, Shigang Liu⁴, Yongfeng Ma⁵, Guanqing Li⁶

¹CCCC First Harbor Engineering Company Ltd., 300461 Tianjin, China – liuzhaoquan@ccccltd.cn; ²No.3 Engineering Company Ltd. of CCCC First Harbor Engineering Company, 116011 Dalian, China; CCCC First Harbor Engineering Company Ltd., 300461 Tianjin, China; Key Laboratory of Geotechnical Engineering, CCCC, 300461 Tianjin, China; Key Laboratory of Port Geotechnical Engineering, Ministry of Transport, PRC, 300461 Tianjin, China; Key Laboratory of Port Geotechnical Engineering of Tianjin, Tianjin 300461, China – 2016046927@ccccltd.cn; ³No.3 Engineering Company Ltd. of CCCC First Harbor Engineering Company, 116011 Dalian, China – xuwenxing1@ccccltd.cn; ⁴No.3 Engineering Company Ltd. of CCCC First Harbor Engineering Company, 116011 Dalian, China – liushigang1@ccccltd.cn; ⁵No.3 Engineering Company Ltd. of CCCC First Harbor Engineering Company, 116011 Dalian, China – mayongfeng1@ccccltd.cn; ⁶School of Environment and Spatial Informatics, China University of Mining and Technology, 221116 Xuzhou, China – guanqing.li@cumt.edu.cn

Augmenting City Models with Handheld LiDAR and 3D Gaussian Splatting for Inclusive Pedestrian Infrastructure Assessment

Deni Suwardhi^{1,2}, Wahyunan Andika², Ratri Widyastuti¹, Widiatmoko Azis Fadilah³, Arnadi Murtiyoso³, Pierre Grusenmeyer³, Fabio Remondino⁴, Farhan Helmy⁵

¹Spatial System and Cadastral Research Group, Institut Teknologi Bandung (ITB), Indonesia; ²PT Inovasi Mandiri Pratama, Spatial Information Company, Indonesia; ³Université de Strasbourg, CNRS, INSA Strasbourg, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, 67000, Strasbourg, France; ⁴3D Optical Metrology (3DOM) Unit, Bruno Kessler Foundation (FBK), Trento, Italy; ⁵Advanced System Computing, Design and Innovation (ASCODI) Laboratory, Indonesia

AI-driven extraction of road geometry and asset inventory from mobile LiDAR point clouds

Divya Priya Balasubramani, Zaffar Sadiq Mohamed-Ghouse, Sanjay Khanna D, Ravichandran N, Muthu Kumara Samy S

Institute of Remote Sensing, Department of Civil Engineering, College of Engineering Guindy, Anna University Chennai, India

Rigorous Projection for Image Stitching: a 3D-Informed Approach for Accurate Panoramic Photogrammetry

Riccardo Roncella¹, Luca Perfetti²

¹University of Parma, Department of Engineering and Architecture, 43124, Parma, Italy; ²University of Brescia, Department of Civil Engineering, Architecture, Territory, Environment and Mathematics, 25123, Brescia, Italy

Extrusion Segmentation Strategy to improve CAD Reconstruction from Point Cloud

Said Harb, Mehdi Maboudi, Markus Gerke

Technische Universität Braunschweig; Institute of Geodesy and Photogrammetry, Germany

Controlled Multi-source Mapping of Lunar South Polar Regions via Combined Bundle Adjustment

Qionghua You¹, Zhen Ye^{1,2}, Yusheng Xu^{1,2}, Rong Huang^{1,2}, Huan Xie^{1,2}, Xiaohua Tong^{1,2}

¹College of Surveying and Geoinformatics, Tongji University, Shanghai, China; ²The Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, Shanghai, China

Automated and Comprehensive Quality Assessment of Nationwide Aerial LiDAR Data: Insights from the LiDAR-ITA Project

Vittorio Casella, Marica Franzini, Davide Lodigiani

University of Pavia, Italy

Synergy of photogrammetric and ULS data for forestry application through the fusion of bundle adjustment and ICP algorithms

Łukasz Wilk¹, Magdalena Pilarska-Mazurek¹, Wojciech Ostrowski^{1,2}

¹Warsaw University of Technology, Faculty of Geodesy and Cartography, Department of Photogrammetry, Remote Sensing and Spatial Information Systems, Warsaw, Poland; ²Jagiellonian University, Institute of Archaeology, Krakow, Poland

Integrating High-Fidelity 3D Documentation into Immersive Learning: A VR Serious Game for the Holy Aedicule

Margarita Skamantzari¹, Ioannis Georgoulas¹, Ioannis Rallis¹, Antonia Moropoulou², Anastasios Doulamis¹, Andreas Georgopoulos¹

¹Lab of Photogrammetry, School of Rural, Surveying & Geoinformatics Engineering, National Technical University of Athens– Athens, Greece; ²School of Chemical Engineering, National Technical University of Athens– Athens, Greece

GNSS–Camera Systems for Heritage Documentation. Accuracy assessment of measurements of inaccessible points and preliminary tests in photogrammetric applications.

Lorenzo Teppati Losè, Filiberto Chiabrando, Fabio Giulio Tonolo

LabG4CH, Department of Architecture and Design (DAD) - Politecnico di Torino, Viale Mattioli 39, 10125 Torino (Italy)

Generating Synthetic Image Data with Blender to Address Data Scarcity in Military Applications: Leveraging the RF-DETR Model

Julian Cornel Berndt, Tobias Frisenborg Christensen, Lars Würtz Jochumsen

Systematic A/S, Denmark

GDC: Geometric diffusion consistency for weather-robust 3D point cloud segmentation

Jing Du¹, John Zelek¹, Michael A. Chapman², Jonathan Li³

¹Department of Systems Design Engineering, University of Waterloo,; ²Department of Civil Engineering, Toronto Metropolitan University; ³Department of Geography and Environmental Management, University of Waterloo

Integrated workflow for 3D documentation and spatial analysis of Jewish sepulchral heritage – Project "Stone Witnesses Digital: Space, Form, Inscription".

Lea Puglisi, Michael Groh, Patrizia Hanika, Mona Hess

Digital Technologies in Heritage Conservation, Institute of Archaeology, Heritage Conservation Studies and Art History/ Centre for Heritage Conservation Studies and Technologies (KDWT), University of Bamberg

3d Reconstruction of reindeer antlers using a low-cost optical camera system and gaussian splatting

Julian Robert Stevenson Cramb¹, Derek Lichti¹, John Matyas¹, Shabnam Jabari²

¹University of Calgary, Canada; ²University of New Brunswick, Canada

A semi-automated pipeline for extracting architectural plans from 3D LiDAR data of ancient heritage sites

Marianna Bartrick-Krana, Roberto de Lima, Aziliz Vandesande, Maarten Bassier

KU Leuven, Belgium

Spherical Vision meets 3D Semantics: towards efficient LOD3 Model Generation for Smart Cities

Mohammad Saadatseresh^{1,2}, Hossein Arefi², Qazaleh Askari¹

¹School of Surveying and Geospatial Engineering, University of Tehran, Tehran, Iran; ²3mainz - Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Mainz, Germany

LiDAR Point Cloud Oversegmentation via SAM-based Knowledge Distillation

Dening Lu¹, Michael Chapman², Jonathan Li^{1,3}

¹Department of Systems Design Engineering, University of Waterloo; ²Department of Civil Engineering, Toronto Metropolitan University; ³Department of Geography and Environmental Management, University of Waterloo

Shape Representation using Gaussian Process mixture models

Panagiotis Sapoutzoglou, George Terzakis, Georgios Floros, Maria Pateraki

National Technical University of Athens, Greece

A Deep Learning Model for Tree Species Classification Using Ground-Level RGB Imagery and Automated Annotations

Hristina Hristova, Clemens Blattert, Sunni K.P. Kushwaha, Janine Schweier

Swiss Federal Research Institute for Forest, Snow and Landscape Research WSL, Switzerland

Pattern recognition approaches for the detection of alteration and degradation phenomena in hyperspectral and UAV multispectral imagery: the case study of a historical masonry water bridge

Alessandra Spadaro, Francesca Matrone, Andrea Maria Lingua, Ramin Rashidi Alavijeh

Geomatics Lab, Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Turin, Italy

A Framework for Individual Tree Segmentation from Multi-Resolution LiDAR Data in Complex Tropical Forests

Hazem Hanafy¹, Sangyoon Park¹, Songlin Fei², Ayman Habib¹

¹Lyles School of Civil and Construction Engineering, Purdue University, West Lafayette, USA;

²Department of Forestry and Natural Resources, Purdue University, West Lafayette, USA

Digital Preservation and Augmented Reality for Historical Surveying Instruments: A Photogrammetric Approach to Cultural Heritage Documentation

Clóvis Andrade, Juyara Bezerra, Simone Sato, Karoline Jamur

Universidade Federal de Pernambuco, Brazil

Synthetic Dataset Generation for Partially Observed Indoor Objects

Jelle Vermandere, Maarten Bassier, Maarten Vergauwen

KU Leuven, Belgium

Automatic Segmentation of 3D Gaussian Splatting for Urban Cultural Heritage Sites

Widiatmoko Azis Fadilah, Virgile Gauthier, Arnadi Murtiyoso, Tania Landes, Pierre Grussenmeyer

Université de Strasbourg, CNRS, INSA Strasbourg, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, 67000, Strasbourg, France

Collaborative Multimodal Drone-Based Remote Sensing for Levee Piping Detection

Tu Hu, Tongqi Wang, Shan Su, Changjun Chen, Haoxiang Liu

Wuhan University, China, People's Republic of

An Open-Source Pipeline for Runtime-Optimized Heritage Photogrammetry in Game Engines

Arkoun Merchant¹, Adam Weigert¹, Chloe Dennis², Stephen Fai¹

¹Carleton Immersive Media Studios, 1125 Colonel By Dr, Ottawa, Canada; ²Bytown Museum, Ottawa, Canada

Location determination of dynamic objects using a single CCTV with monocular depth estimation

JiHeon Jung¹, Junhee Youn², Jieun Kim¹, Junho Gong¹, Phillip Kim¹, Sunwoong Paik¹

¹Dept. of Future & Smart Construction Research, Korea Institute of Civil Engineering and Building Technology, 10223 Goyang-Si, Gyeonggi-Do, Republic of Korea; ²Corresponding Author : Dept. of Future & Smart Construction Research, Korea Institute of Civil Engineering and Building Technology

ML-MIFD: Multi-Level Multimodal Invariant Feature Descriptor

Zening Wang, Haoyu Guo, Yongxiang Yao, Yongjun Zhang, Peihao Wu, Yi Wan

School of Remote Sensing and Information Engineering, 430079, Wuhan, Hubei, China

Geomorphological Monitoring of Erosion on Restored Slopes Through the Integration of Drones, GIS, and LiDAR

Mónica López Moncada^{1,2,3}, Joan-Cristian Padró^{1,4}, Vicenç Carabassa⁵, Paulo Escandón-Panchana^{6,7}, Andrés Velastegui-Montoya^{2,3}

¹Departamento de Geografía, Universitat Autònoma de Barcelona (UAB); ²Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ³Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ⁴Institut Cartogràfic i Geològic de Catalunya (ICGC), Parc de Montjuïc; ⁵CREAF, Universitat Autònoma de Barcelona (UAB);

⁶Departamento de Ingeniería Cartográfica y Topografía, Universidad Politécnica de Madrid (UPM);

⁷Escuela de Ciencias Ambientales, Universidad Espíritu Santo

Application of SfM Methods for the Photogrammetric Processing of Historical Aerial VHS Videos

Grzegorz Józków, Maurycy Hechmann

Wroclaw University of Environmental and Life Sciences, Poland

Global Block Adjustment for Mosaicked Stereoscopic Satellite Imagery

Michaël Erblang¹, Emelyne Saulnier¹, Guillaume Laurent¹, Nicolas Delaygue², Fabrice Buffe², Alice Latourte², Mathilde Jassaud³, Noémie Bricout³

¹Thales Services Numériques (TSN), 290 Allée du Lac, 31670 Labège, France; ²Centre National d'Etudes Spatiales (CNES), 18 avenue E. Belin, 31400 Toulouse cedex 9, France; ³Institut national de l'information géographique et forestière (IGN), 18 avenue E. Belin, 31400 Toulouse cedex 9, France

Learning-Based Semantic Segmentation and Context-based Quality Control of Bike-Pack LiDAR data for Tree Mapping in Semi-Urban Environments

Sungwoong Hyung¹, Hazem Hanafy¹, Chunxi Zhao¹, Sangyoon Park¹, Songlin Fei², Ayman Habib¹

¹Lyles School of Civil and Construction Engineering, Purdue University, West Lafayette, IN, 47907, USA;

²Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN, 47907, USA

Multitemporal Monitoring of Posidonia Oceanica Banquettes using UAV Photogrammetry

Valeria Longhi¹, Andrea Lingua², Francesca Gallitto², Filiberto Chiabrandi³

¹DIST – Interuniversity Department of Regional and Urban Studies and Planning, Politecnico di Torino, Italy; ²DIATI – Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Italy; ³DAD – Department of Architecture and Design, Politecnico di Torino, Italy

Photogrammetry and 3D Gaussian Splatting for Cultural Heritage. Pro Cons and Main Differences

Xinchen Li, Alessio Martino, Filiberto Chiabrandi, Xiang Li

Prediction of Understorey Vegetation using Remote Sensing in Fennoscandian Forests

Ritwika Mukhopadhyay, Ruben Valbuena, Inka Bohlin

Dept. of Forest Resource Management, Swedish University of Agriculture (SLU), 90183 Umeå, Sweden

Sequence-based decoupling Encoder for Well Log Interpretation

Ning Qian, Yiming Xu, Monica Sester

Institute of Cartography and Geoinformatics, Leibniz University Hannover, Germany

Exploring the Potential of the Mandeye Handheld LiDAR System for Ecosystem Characterization

Cosme Hernanz-Gilbert¹, Carlos Cabo³, Álvaro Moreno-Martínez², Mónica Herrero-Huerta¹

¹Desertification Research Centre (CIDE) - CSIC, Spain; ²Image Processing Laboratory (IPL), Universitat de Valencia, Paterna, Valencia, Spain; ³Department of Mining Exploitation, University of Oviedo, Spain

VISTA-GS: MVS-Guided virtual view augmentation for sparse-view 3d gaussian splatting

Hongsheng Huang¹, Yaxin Li^{1,4}, Shengjun Tang², Siqi Du³, Mahmoud Mostafa¹, Mahmoud Adham¹, Wu Chen¹

¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hong Kong, P.R. China; ²Research Institute for Smart Cities, School of Architecture and Urban Planning, Shenzhen University, Shenzhen, P.R. China; ³College of Urban and Environmental Sciences, Peking University, Beijing, P.R. China; ⁴Micro Dimension Technology Limited, Hong Kong, P.R. China

An Approach to 3D Digitisation and Segmentation of the Interior and Exterior of a complex Museum Object

Simon Albers, Thomas Luhmann, Till Sieberth

Institute for Applied Photogrammetry and Geoinformatics, Jade University of Applied Sciences, Oldenburg, Germany

Three-dimensional Reconstruction and Crack Measurement of Cultural Monuments using UAV-based Photogrammetry

Wei-Che Huang¹, Wen-Cheng Liu¹, Yi-Shan Luo¹, Po-Yu Chen², Kuei-Luo Lin³

¹National United University, Taiwan; ²Shin-Mag Industrial Co., Ltd., Taiwan; ³Fullai Construction Co., Ltd., Taiwan

Towards transparent geohazard model: XAI for ground deformation susceptibility in Rhenish Coalfields, Germany

Dibakar Kamalini Ritushree^{1,2}, Marzieh Baes¹, Mahdi Motagh^{1,2}

¹GFZ Helmholtz Center for Geosciences, Germany; ²LUH Leibniz Universität Hannover, Germany

Comparative Accuracy Assessment of two Low-Cost Devices for Underwater Structure-from-Motion 3D Reconstruction

Lukas Quirin, Gunnar Lelle-Neumann, Ferdinand Maiwald

Chair of Optical 3D-Metrology, TUD Dresden University of Technology, Germany

UAV Photogrammetry and Laser Pointer Targeting for High-Precision Mapping of Inaccessible Surfaces

Dobromir Filipov¹, Stefan Vlaykov²

¹UACG, Faculty of Geodesy, Sofia; ²ESO PROEKT EOOD, Sofia

A mixed reality generator for real-world environments in real-time

Devrim Akca¹, Çağın Torkut², **Gerhard Kemper**³, Armin Grün⁴

¹Faculty of Engineering and Natural Sciences, Işık Üniversitesi; ²RedHorizon Technology, Inc.; ³GGs GmbH; ⁴4DiXplorer AG

CityZen: LOD2 building reconstruction with point cloud-free model-driven approach

Mehmet Büyükdemircioğlu¹, Ibrahim Sall^{1,2}, Simone Rigon¹, **Fabio Remondino**¹

¹3D Optical Metrology (3DOM) Unit, Bruno Kessler Foundation (FBK), Trento, Italy; ²Ecole Nationale des Sciences Géographiques (ENSG), Institut National de l'Information Géographique et Forestière (IGN), France

Fast acquisition for modelling heritage-related complex scenes based on TLS and spherical photogrammetry

Antonio Tomás Mozas-Calvache, José Luis Pérez-García, José Miguel Gómez-López, Diego Vico-García

University of Jaén, Spain

Large-Field Binocular Vision Attitude Determination Method for Rocket Recovery

Yuqi Zhang, Xianglei Liu, Runjie Wang, Haibo Shi, Zhao Lu, Haiqian Wu

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

Low-cost stereo vision and deep learning for river water level measurement

Pedro Zamboni¹, Robert Krüger¹, László Bertalan², Xabier Blanch³, Paul Hindorf¹, Anette Eltner¹

¹Dresden University of Technology, Germany; ²University of Debrecen, Hungary; ³Universitat Politècnica de Catalunya, Spain

Research on Cloud photogrammetry based on Time-series Archived Aerial Photos and Its Application in Urban Governance in Beijing

Xiaokun Zhu¹, Yingchun Tao¹, Huimin Tian¹, Mingce Xu², Yutao Guo¹

¹Beijing Institute of Surveying and Mapping, China, People's Republic of; ²Beijing SmartSpatio Technology, China, People's Republic of

UrbanVGGT: Scalable Sidewalk Width Estimation from Street View Images

Kaizhen Tan¹, Fan Zhang²

¹Heinz College of Information Systems and Public Policy, Carnegie Mellon University, United States of America; ²Institute of Remote Sensing and Geographical Information System, Peking University, China

Pompeii. From the measurement of small indentations to the calculation of the terminal ballista.

Monil Mihirbhai Thakkar¹, Amir Ardeshiri Lordejani¹, Mario Guagliano¹, Silvia Bertacchi², Sara Gonizzi Barsanti², Adriana Rossi²

¹Department of Mechanical Engineering, Politecnico di Milano, via la Masa 1, 20156, Milan, Italy;

²Department of Engineering, Università degli Studi della Campania Luigi Vanvitelli, Via Roma 29, 81031, Aversa (CE), Italy

BEV-LOC: Real-Time and Lightweight Cross-View Localization via Online BEV Mapping

Jiyong Kwag, Charles Toth, Alper Yilmaz

Ohio State University, United States of America

Remote Pipe Diameter Measurement from a single Image using Laser Scale Projection with a Depth Compensation Model

Alice Bilbáio¹, Leonardo Galvão¹, João Andrade¹, Daniel Regner¹, Moacir Wendhausen¹, Gierri Waltrich¹, Carla Marinho², Tiago Pinto¹

¹Federal University of Santa Catarina, Brazil; ²CENPES/Petrobras, Brazil

Evaluating the synergy of hand-crafted and AI-driven feature matching in structure-from-motion 3D reconstruction

Min-Lung Cheng, Yasutaka Kuramoto

SkymatiX Inc., Japan

The Emerging Role of Vision-Language Models in the Automation of Railway Asset Management: A Review and Future Perspective

Ashley Varghese, Mohammadjavad Ghorbanalivakili, Gunho Sohn

York University, Canada

Multi-Modal LoD2 Building Reconstruction Benchmark for Urban Modeling

Mohammad Moein Sheikholeslami¹, Youssef Kornay¹, Andreas Wichmann², Ksenia Bittner³, Gunho Sohn¹

¹York University, Canada; ²Jade University of Applied Sciences, Germany; ³German Aerospace Center (DLR), Weßling, Germany

GeoRGMAE: Geospatially Guided Masked Autoencoders for Building Segmentation

Tugba Eraslanoglu¹, Guneet Mutreja², Martin Kada¹, Ksenia Bittner²

¹Technical University of Berlin, Germany; ²German Aerospace Center (DLR)

Deep Learning-based Roof Detection from UAV Dense Point Cloud for Solar Panels Mapping

Aleksandra Sekrecka, Damian Wierzbicki, Kinga Karwowska, Agnieszka Myrcik

Military University of Technology in Warsaw, Poland, Poland

Comparison of Different Object Detection Methods for Automatic Facade Enrichment of Existing Building Modells from Arial Images

Johannes Otepka¹, Günter Sükar², Martin Kerschner², Gerald Forkert², Norbert Pfeifer¹

¹TU Wien, Austria; ²UVM Systems GmbH, Wien, Austria

Quality Restoration of Point-Cloud-Derived 2D Projections: A Comparative Study of Void-Filling Techniques

Md Rakibul Islam Chowdhury¹, Sang Hyeok Han^{1,2}, Jong Won Ma³

¹Dept of Building, Civil and Environmental Engineering, Concordia University, Montréal, QC, Canada;

²Centre for Innovation in Construction and Infrastructure Engineering and Management (CICIEM), Gina Cody School of Engineering and Computer Science, Concordia University, Montréal, QC, Canada;

³School of Civil and Environmental Engineering, Yonsei University, Seoul, South Korea

Bridging the Gap: Improving handheld Laser Scanning Point Cloud Quality in Forests via RTK-GNSS integrated SLAM

Carolin Rüniger, Stefan Binapfl, Sophia Böhme, Ferdinand Maiwald, Anette Eltner

Technical University Dresden, Germany

Semantically-Driven Adaptive Registration for Correcting Non-Constant Drift in Multi-Temporal MLS Data

Aimad El Issaoui^{1,2}, Veikka Taka¹, Harri Kaartinen¹, Antero Kukko^{1,2}, Juha Hyypää^{1,2}

¹Finnish Geospatial Research Institute (FGI), the National Land Survey of Finland; ²Aalto University, School of Engineering, Department of Built Environment

3D Meshing of Challenging Surfaces using Gaussian Splatting

Dario Billi^{1,2}, Chaimaa Delasse^{2,3}, Arnadi Murtiyoso², Hélène Macher², Pierre Gussemeyer², Gabriella Caroti¹, Andrea Piemonte¹

¹Department of Civil and Industrial Engineering, ASTRO Laboratory, University of Pisa, Largo Lucio Lazzarino, 56122 Pisa, Italy; ²Université de Strasbourg, INSA Strasbourg, CNRS, Laboratoire ICube UMR 7357, 67000 Strasbourg, France; ³Ecole des Sciences Géomatiques et de l'Ingénierie Topographique, Institut Agronomique et Vétérinaire Hassan II, Madinat Al Irfane, 6202 Rabat, Morocco

Render-to-Real Image-Based Change Detection of Outdoor Infrastructure Using 3D Gaussian Splatting

Satoko Hattori-Nagao, Kazuo Oda, Tomoaki Eguchi, Takanobu Nagao, Satomi Kakuta
Asia Air Survey Co., Ltd., Japan

Empirical assessment of geometric accuracy of underwater lidar in tropical shallow waters

Mentari Khoerunnisa Azzahra¹, Fickrie Muhammad², Arnadi Murtiyoso³, Annette Scheider⁴, Harald Sternberg⁴, Gabriella Alodia²

¹Institut Teknologi Bandung, Faculty of Earth Sciences and Technology, Geodesy and Geomatics Engineering Postgraduate Programme, Bandung, Indonesia; ²Institut Teknologi Bandung, Faculty of Earth Sciences and Technology, Hydrography Research Group, Bandung, Indonesia; ³Université de Strasbourg, CNRS, INSA Strasbourg, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, Strasbourg, France; ⁴HafenCity University Hamburg, Department of Hydrography and Geodesy, Hamburg, Germany

Experimental Validation of Human-Readable Coded Targets for Cross-Platform Photogrammetry and 3D Laser Scanning

Miglena Raykovska^{1,5}, Milen Borisov², Stanislav Harizanov¹, Lyubka Pashova³, Nikolay Petkov¹, Kristen Jones⁴, Pavel Georgiev¹, Georgi Vasilev¹, Ivan Lirkov¹

¹Institute of Information and Communication Technologies, Bulgarian Academy of Sciences; ²Institute of Mathematics and Informatics, Bulgarian Academy of Sciences; ³National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Sciences; ⁴Queens University, Canada; ⁵Centre of Excellence in Informatics and Information and Communication Technologies

Integrating Multi-View Stereo and Depth Foundation Models for Precise 3D Reconstruction of Thin Urban Structures

Hwiyoung Kim¹, Impyeong Lee², Kyoungah Choi³

¹Geospatial Team, InnoPAM, Korea, Republic of (South Korea); ²Dept. of Geoinformatics, University of Seoul, Korea, Republic of (South Korea); ³Geospatially Enabled Society Research Division, Korea Research Institute for Human Settlements, Korea, Republic of (South Korea)

Estimation of refraction in photogrammetry from airborne data in an alpine environment

Myrta Maria Macelloni, Nives Grasso, Alberto Cina
Politecnico di Torino, Italy

Learning-based Estimation of Surface Normals in Unstructured Airborne LiDAR Point Clouds

Max Hermann^{1,2}, Martin Weinmann²

¹Fraunhofer IOSB, Karlsruhe, Germany; ²Institute of Photogrammetry and Remote Sensing, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Railway parameter extraction with high-precision UAV-photogrammetry: a feasibility study

Lucas De Burggrave¹, Pierre Prévost¹, Erkki Bartczak¹, Suzanna Cuypers¹, Jens Derdaele², Maarten Bassier¹

¹KU Leuven, Belgium; ²TUC RAIL, Brussels

Sand Engine Beach State Assessment by applying Machine Learning on massive ARGUS Imagery

Alex De Jong, Roderik Lindenbergh, Sander Vos, Daan Hulskemper
Delft University of Technology, Netherlands, The

Pixel-based vegetation mapping at class-level from UAV multispectral imagery: application in an alpine lake ecosystem

Mohammad Elahi¹, Alessandra Spadaro², Francesca Matrone², Andrea Maria Lingua², Chiara Graziani², Vittorio Fra¹

¹Interuniversity Department of Regional and Urban Studies and Planning (DIST), Politecnico di Torino, Corso Duca degli Abruzzi 24, Torino; ²Department of Environment, Land and Infrastructure Engineering (DIATI), Politecnico di Torino, Corso Duca degli Abruzzi 24, Torino

A Lightweight CNN–Mamba Hybrid Architecture for Efficient Crack Segmentation

Masaya Shimasaki, Mitsuteru Sakamoto, Toshiaki Satoh
PASCO Corporation, Japan

A Multi-Sensor and Multi-Temporal Approach to 3D Documentation of Historic Gardens: A Case Study of Villa Burba, Italy

Fangming Li¹, Cristiana Achille¹, Raffaella Laviscio², Luca Perfetti³, Francesco Fassi¹

¹3D Survey Group, ABC Lab, Department of Architecture, Built Environment and Construction Engineering (DABC), Politecnico di Milano, Via Ponzio 31, 20133 Milano, Italy; ²PaRID, ABC Lab, Department of Architecture, Built Environment and Construction Engineering (DABC), Politecnico di Milano, Via Ponzio 31, 20133 Milano, Italy; ³DICATAM, Civil Engineering, Architecture, Territory, Environmental and Mathematics, Università degli Studi di Brescia, Italy

Affine Invariant OpenCV Descriptors and the Effects on Aerial Photogrammetry

Evan Okeeffe², Debra Laefer¹, Eleni Mangina²

¹New York University, United States of America; ²University College Dublin

Evaluating ORB-SLAM 3 Performance using a Photogrammetry-based Reference Trajectory

Leonardo Galvão, Daniel Regner, Moacir Wendhausen, Tiago Pinto, Armando Albertazzi
Federal University of Santa Catarina, Brazil

Deriving Tree Stem Profile and Volume Using a Close-Range Remote Sensing and Machine Learning Approach

Basam Dabiy¹, Dag Björnberg^{1,2}, Shafiullah Soomro¹, Johan E. S. Fransson¹

¹Linnaeus University, Sweden; ²Softwerk AB, Sweden

Towards Open-Vocabulary ALS Point Clouds Semantic Segmentation: An Empirical Study

Yanghong Lin^{1,2}, Tianyu Li^{1,3}, Shudong Zhou¹, Jingru Zhang¹, Li Fang¹, Wei Yao¹

¹Institute of Urban Environment, Chinese Academy of Sciences, China, People's Republic of; ²University of Chinese Academy of Sciences, China, People's Republic of; ³School of Resource and Environmental Sciences, Wuhan University, China, People's Republic of

A Workflow for the automatic Extraction of Glacier Contours from 4D Point Clouds

Steffen Isfort¹, Melanie Elias², Hans-Gerd Maas¹

¹TUD - Dresden University of Technology, Germany; ²HTWD - University of Applied Sciences Dresden, Germany

Automated detection of box-girder bridge deterioration using cylindrical projection from multi-camera 3D reconstruction and deep learning

OU Ming-Yun¹, Jhan Jyun-Ping¹, Lin Chen-Kuang³, Lin Shih-Syun¹, Tsai Hsin-Chu², Chou Tzu-Liang², Chang Chang-yu²

¹National Taiwan University of Science and Technology, Chinese Taipei; ²China Engineering Consultants, Inc., Chinese Taipei; ³Department of Mechanical and Materials Engineering, Tatung University, Taiwan

Methodology and Practice of Hong Kong 3D Digital Map Construction Based on Multi-Source Data Fusion

Li Chen, Jun Li, Yaping Wang, Jing Wang, Weichen Yao

Shaanxi TIRAIN Science & Technology Co., Ltd., People's Republic of China

Automatic Reconstruction of High-Accuracy 3D Roof Models from Orthophotos and Digital Surface Models

Yonghe Li¹, Masaya Shimasaki², Mitsuteru Sakamoto², Toshiaki Satoh², Tatsunori Sada¹

¹NIHON University, Chiba, Japan; ²PASCO Corporation, Tokyo, Japan

LIDAR-aided neural Scene Representation using low-cost Sensors

Mohamed Negm, Ahmed Elamin, Ahmed El-Rabbany

Toronto Metropolitan University, Canada

Research on Adaptive Feature Band Extraction Technology Based on Fractional Order Differentiation and Machine Learning

Fang Liu, Fei Liu, Xian Guo, Yikang Ren

Beijing university of civil engineering and architecture, China, People's Republic of

Assessing the sensibility of intervisibility on the quality of 3D geometry

Darshan Venkatarayappa, Bruno Vallet, Teng Wu

Univ Gustave Eiffel, G'eodata Paris, IGN, LASTIG, F-77454 Marne-la-Vall'ee, France

Neural Radiance Fields with Physically Based Reflectance for Satellite Images

Lulin Zhang¹, Ewelina Rupnik², Tri Dung Nguyen¹, Stephane Jacquemoud¹, Yann Klinger¹

¹Universite de Paris, Institut de Physique du Globe de Paris, CNRS; ²Univ. Gustave Eiffel, IGN-ENSG, LaSTIG

Mobile multi-camera system performance for photogrammetric road surface 3D measurements - assessment the effect of driving speed

Matti Tapio Vaaja¹, Markus Sarlin¹, Eino Waldén¹, Petri Rönholm¹, Hannu Hyypä¹, Juha Hyypä², Mikko Vastaranta³, Matti Kurkela¹

¹Department of Built Environment, Aalto University, Finland; ²Department of Photogrammetry and Remote Sensing, Finnish Geospatial Research Institute, National Land Survey of Finland, FI-02150 Espoo, Finland; ³School of Forest Sciences, University of Eastern Finland, Joensuu, 80101, Finland

Digital Analysis of Rock Art in Santa Olaya Canyon: Integrating Cultural Landscape and UAV Technologies for Conservation

Fabiola D. Yépez-Rincón^{1,3}, Glenda N. Requena Lara², Carlos C. Aguilar Treviño³, Jacinto Treviño-Carreón², Ma. Eugenia Calvillo-Villacaña⁴, Pablo A. Cerda-Luque⁴, Juan F. Morales-Pacheco⁵

¹Faculty of Civil Engineering, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Nuevo León, México; ²Faculty of Engineering and Sciences, Universidad Autónoma de Tamaulipas, Ciudad Victoria, Tamaulipas, México; ³Teebcon Servicios, Ingenierías y Proyectos, SA de CV, Monterrey, Nuevo León, México; ⁴Faculty of Architecture, Design and Urbanism, Universidad Autónoma de Tamaulipas,

LIDAR Point Cloud Classification by 3D Sparse CNN for large-scale Mobile Laser Scanning

Nan Li¹, Florian Pöppel², Andreas Ullrich², Harald Teufelsbauer²

¹RIEGL Research & Defense GmbH; ²RIEGL Laser Measurement Systems GmbH

MUSF-SSA: Multi-scale Umbrella Feature with Spatial Self-Attention Model for Semantic Segmentation of Point Clouds

Linfu Xie, Rutao Zhang, Tianyi Xu, Weixi Wang, Xiaoming Li, Shengjun Tang, Renzhong Guo
Shenzhen University, People's Republic of China

Evaluating the Efficiency of Machine Learning Algorithms in Identifying Geothermal Energy Potential Areas in Akita and Iwate Provinces, Japan

Majid Kiavarz, Mohammadreza Jelokhani Niaraki, Avin Meysami, Yasaman Ghorbani, Najmeh Neysani Samany
University of Tehran

Theoretical Comparison of Façade Texture Resolution for 3D Building Models Generated from Nadir and Oblique Aerial Imagery

Masato Ishikawa, Tomoaki Inazawa, Yoshihiko Nakanishi, Futa Kawamata, Masahito Takada, Takuya Danjo
Kokusai Kogyo Co., Ltd., Japan

Calibrating large-FOV stereo videogrammetric system using drone and epipolar geometry

Haibo Shi, Xianglei Liu, Runjie Wang
Beijing University of Civil Engineering and Architecture, China

A Hybrid Approach using Gaussian Splatting and Parametric Models based on 3D Renders for Real-Time Visualisation

Etienne Sommer, Arnadi Murtiyoso, Mathieu Koehl, Pierre Grussenmeyer
INSA Strasbourg, France

Improving Head Pose Estimation in Radiation Therapy through photogrammetric Techniques for Machine Learning Applications

Cyrril Milkau¹, Sebastian Preußel², Sarah Guy³, Danilo Schneider¹

¹Faculty of Spatial Information, HTW Dresden – University of Applied Sciences, Germany; ²Institute of Photogrammetry and Remote Sensing, Dresden University of Technology, Germany; ³Department of Radiotherapy and Radiation Oncology, Dresden University of Technology, Germany

A Comparative Study of Deep Learning and Unsupervised Segmentation Methods for Individual Tree Delineation from LiDAR point clouds

Jinhong Wang¹, Wei Yao^{2,3}, Tiangang Yin¹

¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University; ²Institute of Urban Environment, Chinese Academy of Sciences, China, People's Republic of; ³School of Engineering and Design, Technical University of Munich, Munich, 80333, Germany

On solving exterior orientation of an image with particle swarm optimization

Petri Rönholm, Matti Kurkela, Matti T. Vaaja, Hannu Hyypä
Department of Built Environment, Aalto University, Finland

Incremental Semantics-Aided Meshing from LiDAR-Inertial Odometry and RGB Direct Label Transfer

Muhammad Affan, Ville Lehtola, George Vosselman
University of Twente

Evaluation of systematic and random errors in occupancy grid maps

Yuguang Liu¹, Marko Radanovic¹, Krista A. Ehinger², Kouros Khoshelham¹

¹Department of Infrastructure Engineering, The University of Melbourne, Australia; ²School of Computing and Information Systems, The University of Melbourne, Australia

Deep learning-based building detection using high-resolution RGBI orthophotos and DSMs

Mohamed Fawzy^{1,2}, Attila Juhasz¹, Arpad Barsi¹

¹Department of Photogrammetry and Geoinformatics, Faculty of Civil Engineering, Budapest University of Technology and Economics, Műegyetem rkp. 3, H-1111 Budapest, Hungary, {mohamed.fawzy, juhasz.attila, barsi.arpad}@emk.bme.hu; ²Civil Engineering Department, Faculty of Engineering, Qena University, 83523 Qena, Egypt, mohamedfawzy@eng.svu.edu.eg

Simulation of Stationary and Mobile Laser Scanning with VRscan3D

Denys Gorkovchuk¹, Julia Horkovchuk¹, Maria Chizhova², Darius Popovas³, Thomas Luhmann³

¹Kyiv National University of Construction and Architecture; ²Otto-Friedrich Universität Bamberg;

³Institute for Applied Photogrammetry and Geoinformatics

Symmetry-aware Texture Refinement for 3D Building Models via Massing Decomposition and Generative AI

Fan Xue¹, Yijie Wu², Maosu Li³

AI-Driven 3D reconstruction and quality assessment for Cultural Heritage: first results from the HERITALISE project

Filiberto Chiabrando¹, Andrea Maria Lingua², Alessio Martino¹, Francesca Matrone², Alessandra Spadaro²

¹Laboratory of Geomatics for Cultural Heritage (LabG4CH), Department of Architecture and Design (DAD), Politecnico di Torino, Viale Pier Andrea Mattioli, 39, Torino (TO), Italy; ²Geomatics Lab, Department of Environment, Land and Infrastructure Engineering (DIATI), Politecnico di Torino, Corso Duca degli Abruzzi, 24, Torino (TO), Italy

Haul Road Extraction in Open-Pit Mines via Dual-Encoder RGB–DSM Transformer Fusion

Loghman Moradi, Kamran Esmaeili

University of Toronto, Canada

Benchmarking Local Registration Algorithms on Multi Temporal and Multi Spatial Point Clouds

Tommaso Mainiero, Jad Ghantous, Nives Grasso, Vincenzo Di Pietra

Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Italy

Human Trajectory Prediction on UAV Images: A Comparative Study

Rafael D. M. da Hora¹, Daniel R. Santos¹, Mauricio C. M. Paulo¹, Felipe Ferrari¹, Raul Q. Feitosa², Paulo F. F. Rosa¹

¹Military Institute of Engineering, Brazil; ²Pontifical Catholic University, Brazil

Multi-technique approach for 3D documentation of rock walls in narrow gorges

Antonio Tomás Mozas-Calvache, José Luis Pérez-García, José Miguel Gómez-López, Diego Vico-García, Jorge Delgado-García

University of Jaén, Spain

Augmented and Mixed Reality Scene Alignment Through 3D-to-3D Learning-Based Cross-Source Point Cloud Registration

Juan Sebastian Sardi Barzallo¹, Volker Coors²

¹Stuttgart, Technical University of Applied Sciences; ²Stuttgart, Technical University of Applied Sciences

Semantic-Guided High-Fidelity Indoor Scene Reconstruction Based on 3D Gaussian Splatting

Mingyue Dong¹, Xianwei Zheng¹, Jiansi Yang¹, Linwei Yue², Jianya Gong¹

¹Wuhan University; ²China University of Geosciences

Enhanced DUST3R for Underwater 3D Reconstruction in Shallow Water Environments

Tsuyoshi Shimano, Takashi Fuse

The University of Tokyo, Japan

Evaluating SfM Techniques for DEM Production from VHR Satellite Imagery in Urban Contexts

Gabriele Lo Grasso, Valentina A. Girelli, Emanuele Mandanici

Alma Mater Studiorum - University of Bologna, Italy

Canopy Entropy Sensitivity Analysis for Scalable Canopy Structural Complexity Estimation

Bin Wang, Yuqi Lei, Zheng Xu, Wen Xiao

China University of Geosciences (Wuhan), China, People's Republic of

High-Precision Point Cloud Registration Method Based on Planar and Linear Features

Chenxin Yang, Kazuha Kumazawa, Saki Komoriya, Hiroshi Masuda

The University of Electro-Communications, Japan

RTK-Guided Gaussian Splatting Pipeline for Georeferenced Urban 3D Reconstruction

Cheolhwan Kim¹, Wonjun Choi¹, Youngmok Kwon¹, JungHo Lee², Minhyeok Lee², Hong-Gyoo Sohn¹

¹Dept. of Civil and Environmental Engineering, Yonsei University, Seoul, Republic of Korea; ²Dept. of Electrical and Electronic Engineering, Yonsei University, Seoul, Republic of Korea

Shape Reconstruction from Large Scale Point Clouds Using Planar Adjacency Relations

Yusuke Nagasawa, Hiroshi Masuda

The university of Electro Communication, Japan

In-situ LiDAR-assisted backpack camera system calibration for forest mapping

Raja Manish, Songlin Fei, Ayman Habib

Purdue University, United States of America

Bundle Adjustment for Satellite Attitude Jitter

Shun Zhou, Hongbo Pan

Central South University, China, People's Republic of

A Comparative Study of MVS and NeRF Approaches for Dense 3D Reconstruction of Mediterranean Coral

Paolo Rossi¹, [Riccardo Roncella](#)¹, Cristina Castagnetti²

¹University of Parma, Department of Engineering and Architecture, 43124, Parma, Italy; ²University of Modena and Reggio Emilia, Department of Engineering, 41125, Modena, Italy

A progressive framework for 3D scene understanding from multi-view satellite imagery

Xuejun Huang¹, Yi Wan^{1,2}, Xinyi Liu^{1,2}, Yongxiang Yao¹, Dong Wei¹, [Yongjun Zhang](#)^{1,2}

¹School of Remote Sensing and Information Engineering, Wuhan University, Wuhan, 430079, Hubei, China; ²Technology Innovation Center for Collaborative Applications of Natural Resources Data in GBA, Ministry of Natural Resources, Guangzhou, 510075, Guangdong, China

Beyond geometry: Reflectance-calibrated 3d Gaussians using LiDAR and imagery for photometrically robust Reconstruction

[Yaoyu Li](#)¹, [Dedong Zhang](#)^{2,3}

¹Hinton STAI Institute, East China Normal University, Minhang, Shanghai 200241, China; ²Department of Geography and Environmental Management, University of Waterloo, 200 University Avenue West, Waterloo, Ontario N2L 3G1, Canada; ³TianfuJiangxi Laboratory, Chengdu, Sichuan, 641419, China

Non-destructive extraction of vertical leaf base and inclination angles distribution in field maize

[Lei Lei](#)^{1,2}, [Zhenhong Li](#)^{1,2}, [Guijun Yang](#)^{1,2,3}, [Hao Yang](#)³

¹Key Laboratory of Loess, Xi'an 710054, China; ²College of Geological Engineering and Geomatics, Chang'an University, Xi'an 710054, China; ³Information Technology Research Centre, Beijing Academy of Agriculture and Forestry Sciences, Beijing 100097, China

Extraction of CCTV Surveillance Coverage Based on UAV Mesh and CCTV Image

[Wonjun Choi](#)¹, Youngmok Kwon², Cheolhwan Kim³, Hong-Gyoo Sohn⁴

¹Dept. of Civil and Environmental Engineering, Yonsei University, Seoul, Republic of Korea; ²Dept. of Civil and Environmental Engineering, Yonsei University, Seoul, Republic of Korea; ³Dept. of Civil and Environmental Engineering, Yonsei University, Seoul, Republic of Korea; ⁴Dept. of Civil and Environmental Engineering, Yonsei University, Seoul, Republic of Korea

Volume estimation and accuracy assessment of unauthorised material deposits using airborne photogrammetry and laser scanning for environmental inspection

Markéta Potůčková¹, [Alex Šroller](#)¹, Martin Marko², Eva Štefanová¹

¹Charles University, Faculty of Science, Department of Applied Geoinformatics and Cartography, Albertov 6, Prague 2, Czechia; ²Czech Environmental Inspectorate, Na Břehu 267/1a, Prague 9, Czechia

Improved ICP Algorithm Constrained by Intensity Gradient for Urban Airborne Array InSAR Point Cloud Registration

Lijun Lu¹, Fangfang Ji², Shucheng Yang¹, Chunquan Cheng¹, [Hanchao Zhang](#)¹

¹State Key Laboratory of Spatial Datum, Chinese Academy of Surveying and Mapping; ²Capital Normal University, China, People's Republic of

AiDroneTree: A Novel AI Deep Learning Based Network for Individual Tree Detection Using UAV-Derived Point Cloud in Dense Urban and Forest Landscapes

Sina Jarahizadeh, [Bahram Salehi](#)

State University of New York College of Environmental Science and Forestry, Department of Environmental Resources Engineering, 1 Forestry Dr., Syracuse, NY 13210 USA

Integrated MBES-based Assessment of Dam Tailrace Structure and Geomorphology

[Sehoon Oh](#), Jiwan Hong, Geonu Park, Daegeon Woo, Joon Heo

Yonsei University, Korea, Republic of (South Korea)

High-detail 3D surveying and digital restoration of historical xylographic stamps: The Ulisse Aldrovandi case

Anna Forte, Maria Alessandra Tini, Valentina Girelli, [Gabriele Bitelli](#), Luca Vittuari

University of Bologna, Dept. of Civil, Chemical, Environmental and Materials Engineering DICAM, Bologna, Italy

Multi-class deterioration detection using data-centric approach from UAV-based bridge inspection applications

[Ya-Li Lin](#)¹, Jiann-Yeou Rau¹, Chao-Hung Lin¹, Wei-Shen Lai², Chih-Chao Hu²

¹National Cheng Kung University, Chinese Taipei; ²Institute of Transportation, Ministry of Transportation and Communications, Chinese Taipei

DamViT: Vision Transformer-Based Robust Segmentation and 3D Mapping of Concrete Dam Damage from UAV Imagery

[Jiwan Hong](#), [Sehoon Oh](#), [Joon Heo](#)

Yonsei University, Korea, Republic of (South Korea)

An end-to-end pipeline for 3D building modeling, texturing, and semantic integration from uav data

[HyunSoo Kim](#)¹, DinhMinh Bui¹, Ji Sang Park², Jun Su Kim³, Changjae Kim¹

¹Dept. of Civil and Environmental Engineering, college of Engineering, Myongji University, Republic of Korea; ²Principal Researcher, Mobility and Navigation Research Section, Electronics and Telecommunication Research Institute, Daejeon, Republic of Korea; ³AI Technology Team, Geostory Co., Republic of Korea

Comparison of Crack Detection Performance According to Caustic Noise Removal Methods in Shallow-Water ROV Imagery

Daegwon Woo, Jiwan Hong, Changjoon Oh, Geonu Park, Sehoon Oh, Joon Heo
Yonsei University, Korea, Republic of (South Korea)

Efficient Boundary Refinement for Classification of MMS Point Clouds

Makoto Nakano¹, Keita Hiraoka¹, Genki Takahashi², Hiroshi Masuda¹

¹The University of Electro-Communications, Japan; ²Kokusai Kogyo Co., Ltd., Japan

Reconstruction and Evolution Simulation of Ancient Road Networks in the Yuncheng Region Based on Multi-Modal Data Fusion

Jingjue Jia¹, Mingyi Du¹, Qiang Chen¹, Zhenhua Gao²

¹Beijing University of Civil Engineering and Architecture, China, People's Republic of; ²Shanxi Provincial Research Institute of Archaeology, China, People's Republic of

Assessing Stream Morphology Using High Resolution and Thermal UAV Imagery

Anastasia Umstott, **Yanli Zhang**, Carmen Montana Schalk

Stephen F Austin State University, United States of America

Road marking condition assessment from drone imagery via detector-guided segmentation and gaussian mixture damage modeling

Dinh Minh Bui, JuBin Lee, HyunSoo Kim, SoMin Han, ChangJae Kim

Department of Civil and Environmental Engineering, College of Engineering, Myongji University.

Quantitative Analysis of LiDAR Accuracy for Mapping Applications

Ahmed Elaksher¹, Tarig Ali², Abdullatif Alharthy³

¹NMSU, United States of America; ²American University of Sharjah, UAE; ³Ministry of National Guard, KSA

Image-assisted aerial LiDAR completion with morphology-guided gaussian splatting

Siyuan Zou¹, Yongjun Zhang², Zhiwei Li¹, Hongbo Pan¹, Xinyi Liu², Haojun Tang¹, Hai Kan³

¹School of Geoscience and Info-Physics, Central South University; ²School of Remote Sensing and Information Engineering, Wuhan University; ³School of Resource and Environmental Sciences, Wuhan University

8:30am - 10:00am	WG II/2C: Point Cloud Generation and Processing Location: 713A
	<p>8:30am - 8:45am Differentiable deep consistency for point cloud registration <u>Tian Zhang</u>, Sagi Filin Technion - Israel Institute of Technology, Israel</p> <p>8:45am - 9:00am Cross-source Point Cloud Registration in the Bird's-eye Domain: Aligning Street-level LiDAR with High-resolution Aerial Orthoimagery <u>Seunghwan Hong</u>¹, Junghun Suh¹, Seokhyun Moon², Mohammad Gholami Farkoushi³, Honggyoo Sohn³ ¹Kakao Mobility, Republic of Korea; ²University of Seoul, Republic of Korea; ³Yonsei University, Republic of Korea</p> <p>9:00am - 9:15am Automated Alignment Enhancement of Backpack Image-LiDAR Data in a Forest Environment <u>Jidong Liu</u>, Sangyoon Park, Songling Fei, <u>Ayman Habib</u> Purdue University, United States of America</p> <p>9:15am - 9:30am A Marker-based Method for precise 3D Registration between CT-Data and photogrammetric Datasets <u>Sebastian Preussel</u>¹, Cyrill Milkau², Hans-Gerd Maas¹ ¹TU Dresden, Germany; ²HTW Dresden, Germany</p> <p>9:30am - 9:45am Advances in Historical Aerial Image Analysis: Boosting SfM Pipelines with Learned Models <u>Lucas Kugler</u>¹, Jan Dirk Wegner¹, Camilo Rada^{2,3}, Livia Piermattei¹ ¹University of Zurich, Switzerland; ²University of Magallanes; ³University of British Columbia</p> <p>9:45am - 10:00am Trinocular Multi-Object 3D Reconstruction in Camera-Simulating virtual Environments for Knee Arthroplasty <u>Arne Schierbaum</u>¹, Tobias Neiss-Theuerkauff², Thomas Luhmann¹, Frank Wallhoff², Till Sieberth¹ ¹Jade University of Applied Sciences, Institute for Applied Photogrammetry and Geoinformatics, Oldenburg, Germany; ²Jade University of Applied Sciences, Institute for Technical Assistive Systems, Oldenburg, Germany</p>
8:30am - 10:00am	WG III/1J: Remote Sensing Data Processing and Understanding Location: 713B
	<p>8:30am - 8:45am Regional Fire Dynamics in the Atlantic Forest Biome: Differences from the National Scenario <u>Felippe Lima</u>, Carlos Eduardo Biasi, Rafael Wagenmacher, Elisama Oliveira, Antonio da Silva, Renan Reis, Jullyene Lemes, Reinaldo Ribeiro, Luiz Neto, Laurizio Alves, Bianca Pansonato Censipam, Brazil</p> <p>8:45am - 9:00am A Spatiotemporal Evaluation Framework for MODIS-Derived Fire Events Bahareh Kalantar¹, <u>Husam Al-Najjar</u>², Naonori Uedae¹ ¹RIKEN Center for Advanced Intelligence Project, Japan; ²Faculty of Engineering and IT, University of Technology Sydney (UTS)</p> <p>9:00am - 9:15am CFMap: A Deep Convolutional Neural Network for Predicting Wildfire Risk Maps <u>Lucas Lopes</u>, Rafik Ghali, <u>Moulay Akhloufi</u> Perception, Robotics and Intelligent Machines (PRIME), Université de Moncton, Canada</p> <p>9:15am - 9:30am Graph-Attention Network for Spatially-Aware Post-Hurricane Building Damage Assessment from UAV Imagery <u>Fuad Hasan</u>¹, Ali Lesani¹, Chul Min Yeum¹, Rodrigo Costa² ¹Computer Vision for Smart Structures (CVISS) Lab, Waterloo, Canada; ²University of Waterloo, Canada</p> <p>9:30am - 9:45am Imaging wind field from videos: an innovative tool for urban scale measurements. <u>Annia Benchadi</u>, Jairo Acuña Paz y Miño Université de Lille, France</p> <p>9:45am - 10:00am Predictive Modeling of Urban Heat Islands in Indian Cities: A Case Study of Jaipur city, Rajasthan, India Aryan Yadav, Kakoli Saha, <u>Marguerite Madden</u> Indian Institute of Technology, Hyderabad</p>

8:30am - 10:00am	WG I/5: Microwave and InSAR Technology for Earth Observation Location: 714A
	<p>8:30am - 8:45am Advanced InSAR Technology for Artificial Slope Monitoring: Addressing Vegetation Decorrelation and Atmospheric Delays <u>Yinjie Cao, Lei Zhang, Hongyu Liang</u> College of Surveying and Geo-Informatics, Tongji University, Shanghai, 200092, China</p> <p>8:45am - 9:00am Meteorological Influence on L-Band Forest Backscatter: Evidence from the BorealScat-2 Radar Tower <u>Shivam Rawat¹, Albert R. Monteith², Lars M.H. Ulander², Hjalmar Laudon³, Jose Gutierrez Lopez³, Henrik J. Persson¹</u> ¹Department of Forest Resource Management, Swedish University Of Agricultural Sciences, Umeå, Sweden; ²Department of Space, Earth and Environment, Chalmers University of Technology, Gothenburg, Sweden; ³Department of Forest Ecology and Management, Swedish University Of Agricultural Sciences, Umeå, Sweden</p> <p>9:00am - 9:15am Cross-validation of the DEM obtained using LuTan-1 SAR satellites: A case study in Guyuan County, China <u>Xinming Tang¹, Yao Lu¹, Tao Li¹, Xiaoqing Zhou¹, Jing Lu¹, Xiang Zhang¹, Xuefei Zhang¹, Xiaofeng Qiu², Jiyi Chen¹</u> ¹Land Satellite Remote Sensing Application Center, Ministry of Natural Resources, Beijing 100048, China; ²Beijing SatImage Information Technology Co.,Ltd., Beijing 100048, China</p> <p>9:15am - 9:30am Operational Deformation Monitoring of the Hong Kong–Zhuhai–Macao Bridge with Multi-Orbit LuTan-1 SAR Satellites <u>Jing Lu¹, Xinming Tang¹, Tao Li¹, Xiang Zhang¹, Xuefei Zhang¹, Tan Li², Xiaofeng Qiu², Yao Lu¹</u> ¹Land Satellite Remote Sensing Application Center, MNR, China, China, People's Republic of; ²Beijing SatImage Information Technology Co.,Ltd., Beijing 100040, China</p> <p>9:30am - 9:45am LuTan-1 InSAR Products Assessments for Geohazards and Geoinformation Monitoring <u>Tao Li¹, Xinming Tang², Xiang Zhang¹, Jing Lu¹, Xin Tian², Xuefei Zhang¹</u> ¹Land Satellite Remote Sensing Application Center, MNR, China, People's Republic of; ²Southeast University</p> <p>9:45am - 10:00am Improved deformation monitoring technology considering the penetration variation of L-band SAR signals <u>Xiang Zhang¹, Xinming Tang¹, Hui Zhao², Tao Li¹</u> ¹Land Satellite Remote Sensing Application Center, MNR, China, People's Republic of; ²National Geomatics Center of China, Beijing, China</p>
8:30am - 10:00am	WG III/8C: Remote Sensing for Agricultural and Natural Ecosystems Location: 714B
	<p>8:30am - 8:45am Random Temporal Masking and Neural ODE Optimization for Crop Type Mapping with Inconsistent Remote Sensing Time Series Data <u>Wei Cui¹, Tao He¹, Yu Duan¹, Ziang Wang¹, Kaimin Sun¹, Ya Wen²</u> ¹WUHAN UNIVERSITY,wuhan, China; ²North Automatic Control Technology Institute. Taiyuan,China</p> <p>8:45am - 9:00am Mind the Gap: Bridging Prior Shift in Realistic Few-Shot Crop-Type Classification <u>Joana Reuss¹, Ekaterina Gikalo¹, Marco Körner^{1,2,3}</u> ¹Technical University of Munich (TUM), TUM School of Engineering and Design, Department of Aerospace and Geodesy, Chair of Remote Sensing Technology, Germany; ²Technical University of Munich (TUM), Munich Data Science Institute (MDSI), Germany; ³ELLIS Unit Jena, University of Jena, Germany</p> <p>9:00am - 9:15am Integrating hyperspectral and phenological features for cereals mapping in a mediterranean region, Morocco <u>Mohamed Bourriz^{1,2,3}, Ahmed Laamrani^{1,4,5}, Nadir El Bouanani^{1,2}, Walid Elbarz², Hamd Ait Abdelali², François Bourzeix², Abdelghani Chehbouni¹</u> ¹CRSA, Mohammed VI Polytechnic University (UM6P), Campus Ben Guerir 43150, Morocco; ²A-Lab, UM6P, Campus Rabat 11103, Morocco; ³Friedrich Schiller University Jena, Department of Geography, Jena 07743, Germany; ⁴Department of Geography, Environment & Geomatics, University of Guelph, Guelph, ON N1G 2W1, Canada; ⁵Institut de recherche sur les forêts (IRF), Université du Québec en Abitibi-Temiscamingue (UQAT), 445 boul. de l'Université, Rouyn-Noranda, Québec J9X 5E4, Canada</p> <p>9:15am - 9:30am Applying a U-Net Convolutional Neural Network for Mapping Banana Crops in the Atlantic Forest Region of Brazil Using CBERS-4A High Spatial Resolution Imagery <u>Hugo do Nascimento Bendini¹, Mateus de Souza Miranda², Thales Sehn Körting³</u> ¹Department of Fisheries Resources and Aquaculture (DERPA), Faculty of Agrarian Sciences (FCAVR), State University of Sao Paulo (UNESP), Registro, Brazil; ²Artificial Intelligence Laboratory for Aerospace and Environmental Applications, Applied Computing, National Institute for Space Research, Brazil;</p>

9:30am - 9:45am

Observing the Phenological Characteristics of Winter Food Crops with Spectral Indices

Hsuan-Yi Li¹, James A. Lawrence¹, Philippa J. Mason², Richard C. Ghail³

¹Department of Civil and Environmental Engineering, Skempton Building, Imperial College London, South Kensington, London SW7 2AZ, UK; ²Department of Earth Science & Engineering, Imperial College London, Prince Consort Road, London SW7 2AZ, UK; ³Department of Earth Sciences, Queens Building 245, Royal Holloway, University of London Egham, Surrey TW20 0EX, UK

9:45am - 10:00am

Automated Monitoring of Crop Pests Using Low-cost RGB Sensors and Edge AI

Emma Dubrûle^{1,2}, Mickaël Germain^{1,2}, Marc Bélisle^{1,2}, Yacine Bouroubi^{1,2}

¹Université de Sherbrooke, Canada; ²Réseau québécois de recherche en agriculture

8:30am - 10:00am

ICWG III/IVa-C: Disaster Management

Location: 715A

8:30am - 8:45am

Residual-aware multi-sensor 3-D coseismic displacement decomposition: the 2025 Mw 7.7 Myanmar earthquake

Sen Lyu^{1,2}, Mahdi Motagh^{1,2}

¹GFZ Helmholtz Centre for Geosciences, Potsdam, Germany; ²Leibniz University Hannover, Institute of Photogrammetry and Geoinformation, Hannover, Germany

8:45am - 9:00am

Spatiotemporal Analysis And Forecasting Of Ground Deformation Using PS-InSAR

Aditya Kumar Thakur¹, Avinash Singh², Rahul Dev Garg¹, Kamal Jain¹

¹Department of Civil Engineering, Indian Institute of Technology Roorkee, Haridwar, India; ²Department of Mining Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, India

9:00am - 9:15am

Integrating Unsupervised Change Detection and Deep Learning Segmentation for Automated Landslide Mapping

Gazali Agbooola, Eden Wasehun, Leila Hashemi Beni

College of Science and Technology, North Carolina A&T State University, United States of America

9:15am - 9:30am

A Segmentation-Based Multimodal Framework for Operational Landslide Mapping Using Post-Event SAR

Jeewantini Kapilaratne, Shin-Ichi Kaneta

Asia Air Survey Co. Ltd., Japan

9:30am - 9:45am

Tracking Snow Avalanches: Integrating Field Observations and Satellite-Derived Indicators

Suvrat Kaushik¹, Fatima Karbou¹, Léo Viallon- Galinier¹, Adrien Mauss²

¹Météo-France, CNRM, Centre d'Études de la Neige (CEN), Grenoble, France; ²Météo-France, Centre de Météorologie Spatiale (CMS), Lannion, France

8:30am - 10:00am

WG II/3E: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

8:30am - 8:45am

Technical Scheme for 3D Digital Map Production Based on the SSW Vehicle-mounted LiDAR Mobile Mapping System (VMMS)

You Jia, Eryan Zhang, Junyong Hu, Yang Jia, Weigang Liu

Shaanxi TIRAIN Science & Technology Co., Ltd., People's Republic of China

8:45am - 9:00am

Road Network Vectorization With Geometric Enforcement

Zhenyu Zhu^{1,2}, Elena Di Bernardino², Florent Lafarge¹

¹Inria, France; ²Université Cote d'Azur, France

9:00am - 9:15am

A practical workflow for road slopes monitoring using handled mobile mapping systems

José Miguel Gómez López, José Luis Pérez-Garí, Antonio Tomás Mozas-Calvache, Jorge Delgado-García, Diego Vico-Gacia

Universidad de Jaén, Spain

9:15am - 9:30am

Assessing positional accuracy of photogrammetric multi-camera systems for mapping underground utility pipelines

Luca Perfetti¹, Ahmad Elalaily², Federica Marotta³, Francesco Fassi², Giorgio Paolo Maria Vassena¹

¹Università degli Studi di Brescia, dept. of Civil Eng., Architecture, Territory, Environment and Mathematics (DICATAM), Italy; ²Politecnico di Milano, dept. of Architecture, Built environment and Construction engineering (ABC), Italy; ³Consorzio di Bonifica di Piacenza, Italy

9:30am - 9:45am

	<p>Beyond-Box Caters: Diving-Box Voxel Projection for Multi-View 3D Detection and Tracking Rasho Ali, Max Mehlretter, Christian Heipke Leibniz university hannover, Germany</p> <hr/> <p>9:45am - 10:00am Fine-Grained Urban Low-Altitude Airspace Gridding with Dynamic Event Response and Vertical Air-Route Corridors Leyang Zhao, Hang Mei, Xing Lin, Weixi Wang, Xiaoming Li, Sichang Wang, Lei Han, Yang Zhao, Ding Ma Research Institute for Smart Cities, School of Architecture and Urban Planning, Shenzhen University,</p>
<p>8:30am - 10:00am</p>	<p>IvS6A: Canadian Remote Sensing for Urban Applications Location: 716A</p> <hr/> <p>8:30am - 8:45am Urban Growth, NO₂ Pollution, and Economic Development Across Global Megacities Thilo Erbertseder, Lorenza Gilardi, Thomas Esch, Hannes Taubenböck Earth Observation Center, German Aerospace Center (DLR)</p> <hr/> <p>8:45am - 9:00am Mapping Environmental Equity: Urban Green Spaces and the 3-30-300 Rule in Canada Kaushik Roy¹, Saeid Homayouni¹, Ying Zhang² ¹INRS, Quebec City, Canada; ²Natural Resources Canada</p> <hr/> <p>9:00am - 9:15am Measuring Heat Stress and Mitigation Capacity Around Transit Stops Using Hyperlocal Microclimate Data Naser Ahmed, Jinfei Wang, Jinhyung Lee Department of Geography and Environment, Western University</p> <hr/> <p>9:15am - 9:30am Landfill methane emission detection and quantification using a drone-based path-integrated TDLAS sensor Mohammad Rokhafrouz, Jinfei Wang, James Voogt Dept. of Geography and Environment, Western University, London, Ontario, Canada</p> <hr/> <p>9:30am - 9:45am Coupling dynamic cities and climate: the urbisphere project Nektarios Chrysoulakis¹, Jörn Birkmann², Andreas Christen³, Sue Grimmond⁴ ¹FORTH, Greece; ²University of Stuttgart, Germany; ³University of Freiburg, Germany; ⁴University of Reading, United Kingdom</p>
<p>8:30am - 10:00am</p>	<p>ThS5: Large Language Models for Intelligent LiDAR Point Cloud Processing Location: 716B</p> <hr/> <p>8:30am - 8:45am GeoOpen3D: Geometry-guided training-free open-vocabulary 3D segmentation via visual foundation models Shuai Zhang¹, Zhuoxiao Li¹, Jing Ou¹, Tengxi Wang¹, Zhecheng Shi^{1,2}, Wufan Zhao¹ ¹The Hong Kong University of Science and Technology (Guangzhou), China; ²School of Computer and Communication Engineering, Northeastern University, China</p> <hr/> <p>8:45am - 9:00am SPARC: Scalable 3D Panoptic Segmentation with Reinforcement-driven Clustering Haoling Huang, Ting Han, Jie Ouyang, Yiping Chen Sun Yat-sen University, China, People's Republic of</p> <hr/> <p>9:00am - 9:15am LaSA-Net: A Language-Guided Network for Large-Scale 3D Referring Expression Segmentation on the UrbanRefer Benchmark Bin Liu^{1,2,3}, Lingfei Ma^{1,2,3,4}, Haiyan Guan⁵, Jonathan Li^{1,2,3,4} ¹Key Laboratory of Geographic Information Science (Ministry of Education), East China Normal University, Shanghai 200241, China; ²Key Laboratory of Spatial-temporal Big Data Analysis and Application of Natural Resources in Megacities, Ministry of Natural Resources, East China Normal University, Shanghai 200241, China; ³School of Geospatial Artificial Intelligence, East China Normal University, Shanghai 200241, China; ⁴Hinton STAI Institute, East China Normal University, Shanghai 200241, China; ⁵School of Remote Sensing and Geomatics Engineering, Nanjing University of Information Science and Technology, Nanjing 210044, China</p> <hr/> <p>9:15am - 9:30am Scenereasoner: Decoupled Spatial Tokenization for large-scene understanding with llms Bohang Shi, Shengjun Tang, Xiaoming Li, Weixi Wang, Linfu Xie, Baoding Zhou Shenzhen University, Shenzhen, Guangdong, People's Republic of China</p> <hr/> <p>9:30am - 9:45am Lim-Supervised Point Cloud Processing: from Unsupervised 3D Scene-Graph Generation to Interactive Scene Manipulation Florent Poux^{1,2}, Alex Key³ ¹3D Geodata Academy, France; ²Geocity Lab, University of Liège, Belgium; ³Panorix AI, Germany</p> <hr/> <p>9:45am - 10:00am</p>

	<p>Multimodal Large Language Models to road inventory with non-photorealistic Point Cloud visualization</p> <p>Horia Ameen, Mario Soilán, Henrique Lorenzo Cimadevila, Jesús Balado-Frías CINTECX, Universidade de Vigo, GeoTECH, 36310, Vigo, Spain</p>
8:30am - 10:00am	<p>ThS4B: Toward Smart Forests: Emerging Tools in Remote Sensing, Artificial Intelligence, and Field Robotics Location: 717A</p>
	<p>8:30am - 8:45am</p> <p>A Generative Upsampling Framework for Reconstructing High-Density Tree Structures from Low-Density Airborne Lidar</p> <p>Erfan Hasanpour Zaryabi¹, Liam Bennett¹, Josh Qixuan Sun², Mark Crowley², Laura Chasmer³, Christopher Hopkinson³, Jeff Boisvert¹ ¹University of Alberta, Canada; ²University of Waterloo, Canada; ³Western University, Canada</p> <hr/> <p>8:45am - 9:00am</p> <p>Tree Localization Using Integrated Heading, DBH and Ultra-Wideband for Precision Forestry</p> <p>Zuoya liu¹, Harri Kaartinen¹, Antero Kukko^{1,2}, Juha Hyypä^{1,2}, Ruizhi Chen³ ¹Department of Remote Sensing and Photogrammetry, Finnish Geospatial Research Institute FGI in the National Land Survey of Finland, Vuorimiehentie 5, 02150 Espoo, Finland; ²Department of Built Environment, School of Engineering, Aalto University, P.O. Box 11000, FI-00076, Aalto, Finland; ³School of Data Science/School of Artificial Intelligence, The Chinese University of Hong Kong, Shenzhen, China</p> <hr/> <p>9:00am - 9:15am</p> <p>Automatic phenotyping of the 3D tomato plant based on a clustering algorithm and geometric characteristic</p> <p>Mauricio Oviedo Espinosa², Eija Honkavaara¹, Aluir Dal Poz², Mauricio Galo², Renan de Oliveira², Rodrigo Gallis³, Gabriel Maciel³ ¹Department of Remote Sensing and Photogrammetry, Finnish Geospatial Research Institute, Finland; ²São Paulo State University, Brazil; ³Federal University of Uberlândia, Monte Carmelo, Brazil.</p> <hr/> <p>9:15am - 9:30am</p> <p>Linking TreeQSM with SAR and ALS to Detect Internal Canopy Allocation Shifts Across Scales</p> <p>Hanna Elisabet Sorokina¹, Mariana Campos¹, Taiga Korpelainen², Rami Echriti¹, Eetu Puttonen¹, Juha Hyypä¹, Yunsheng Wang¹ ¹Finnish Geospatial Research Institute, Finland; ²University of Helsinki, Finland</p> <hr/> <p>9:30am - 9:45am</p> <p>Weakly-Supervised Learning for Tree Instances Segmentation in Airborne Lidar Point Clouds</p> <p>Swann Emilien Céleste Destouches, Jesse Ray Murray Lahaye, Laurent Valentin Jospin, Jan Skaloud École polytechnique fédérale de Lausanne, Switzerland</p> <hr/> <p>9:45am - 10:00am</p> <p>Optimisation of PointNet++ for Tree Species Classification from Drone LiDAR Data</p> <p>Nada Hamdani^{1,4}, Imane Abouhat², Kenza Ait El Kadi^{1,2}, Saloua Bensiali^{1,3}, Imane Sebari^{1,2} ¹Research Unit of Geospatial Technologies for a Smart Decision, IAV Hassan II, Rabat 10101, Morocco/Société Topographie Informatique France, Morocco; ²Department of Photogrammetry and Cartography, School of Geomatics and Surveying Engineering, IAV Hassan II, Rabat, Morocco; ³Department of Applied Statistics and Computer Science; ⁴Société Topographie Informatique, 91000 Evry Courcouronnes, France</p>
10:00am - 10:30am	<p>Morning Coffee Break Location: Exhibition Hall "E"</p>
10:00am - 5:30pm	<p>Exhibition Location: Exhibition Hall "F"</p>
10:30am - 12:00pm	<p>Plenary Session 3 Location: Exhibition Hall "G"</p> <p>Keynote 1: Professor Jun Chen</p> <p>Awards Ceremony:</p> <ul style="list-style-type: none"> The ISPRS Fritz Ackermann Award Giuseppe Inghilleri Award <p>Keynote 2: Professor Xiaoxiang Zhu</p>
12:00pm - 1:30pm	<p>CRSS-SCT Member Meeting Location: 709</p> <p>Awards Ceremony</p> <ul style="list-style-type: none"> CRSS-SCT Silver Medal Best Master's Thesis Best PhD Thesis Student Symposium Travel Grants Canadian Journal of Remote Sensing Best Paper Awards
12:00pm - 1:30pm	<p>Lunch Location: Exhibition Hall "E"</p>
1:30pm - 3:00pm	<p>WG III/1C: Remote Sensing Data Processing and Understanding Location: 713A</p>
	<p>1:30pm - 1:45pm</p> <p>Remote sensing image semantic segmentation sample generation using a decoupled latent diffusion framework</p> <p>Yue XU¹, Honghao Liu², Ruixia Yang³, Zhengchao Chen¹</p>

1:45pm - 2:00pm

Bright-CC: A Novel Change Captioning Benchmark for Cross-Modal Remote Sensing Images

Jing Yao¹, Dongwei Sun², Yun Lin³, Zhangqi Zhou³, Haizhen Chen³, Xiangyong Cao², Zhengchao Chen¹

¹State Key Laboratory of Remote Sensing and Digital Earth, Aerospace Information Research Institute, Chinese Academy of Sciences; ²School of Computer Science and Technology, Xi'an Jiaotong University; ³Ningbo Institute of Surveying, Mapping and Remote Sensing

2:00pm - 2:15pm

Remote Sensing Change/Damage Image Generator Based on Prior Foundation Model and Multimodal Reference Information

Peng Chen, Guorui Ma, Haiming Zhang, Di Wang, Lunjun Fan
Wuhan University, China, People's Republic of

2:15pm - 2:30pm

Edge Knowledge Distillation Guided Lightweight Change Detection Network

Tingyu Ji^{1,2}, Yixin Chen^{5,6}, Ruiqian Zhang¹, Xiaogang Ning¹, Xiao Huang³, Hanchao Zhang^{1,7}, Weibin Ma¹, Chunquan Cheng¹, Jiaming Wang⁴

¹State Key Laboratory of Spatial Datum, Chinese Academy of Surveying and Mapping, Beijing 100036, China; ²the College of Geodesy and Geomatics, Shandong University of Science and Technology, Qingdao 266590, China; ³the Department of Environmental Sciences, Emory University, Atlanta, GA 30322, USA; ⁴the Hubei Key Laboratory of Intelligent Robot, Wuhan Institute of Technology, Wuhan 430205, China; ⁵Sichuan Institute of Land Science and Technology (Sichuan Center of Satellite Application Technology), Chengdu 610045, China; ⁶Key Laboratory of Investigation, Monitoring, Protection and Utilization for Cultivated Land Resources, MNR, Chengdu 610045, China; ⁷Joint Laboratory of Spatial Intelligent Perception and Large Model Application

2:30pm - 2:45pm

Leveraging Pretrained Priors for Weakly Supervised Semantic Segmentation of Remote Sensing Images

Xin Li, Nicola Genzano, Marco Gianinetta, Marco Scaioni
politecnico di milano, Italy

2:45pm - 3:00pm

DeSEO: Physics-Aware Dataset Creation for High-Resolution Satellite Image Shadow Removal

Lorenzo Beltrame^{1,2}, Jules Salzinger², Filip Svoboda³, Phillipp Fanta-Jende², Jasmin Lampert², Radu Timofte⁴, Marco Körner^{1,5,6}

¹Technical University of Munich; ²Austrian Institute of Technology; ³University of Cambridge; ⁴University of Würzburg; ⁵Munich Data Science Institute; ⁶ELLIS Unit Jena

1:30pm - 3:00pm

WG III/3A: Active Microwave Remote Sensing

Location: 713B

1:30pm - 1:45pm

Advanced Persistent Scatterer Interferometry products

Michele Crosetto, Maria Carmelia Ramlie, Anna Barra, María Cuevas-González, Riccardo Palamà, Qi Gao, Oriol Monserrat, Saeedeh Shahbazi
CTTC, Spain

1:45pm - 2:00pm

Back-to-back Approach to SAR Interferometry

Qi Gao¹, Michele Crosetto¹, Oriol Monserrat¹, Marta Monfort², Pavel Pavlovsky²

¹CTTC, Spain; ²GeoKinesia, Spain

2:00pm - 2:15pm

Identification and Analysis of Recurringly Occluded Persistent Scatterers, with Application to Displacement Monitoring in the Oetzal Alps

Nils Dörr, Andreas Schenk

Institute of Photogrammetry and Remote Sensing, Karlsruhe Institute of Technology, Germany

2:15pm - 2:30pm

Semi-Automated Post-Processing Workflow for EGMS InSAR Data in Open-Pit and Dam Deformation Monitoring in the Presence of Sentinel-1 Winter Data Gaps

Pius Kipng'etich Kirui, Anna Reichstein, Andre Cahyadi Kalia
Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Germany

2:30pm - 2:45pm

Assessment of Hydrocarbon Production induced Surface Deformation over Inglewood oilfield, Los Angeles

Imeime Innocent Uyo¹, Mahdi Motagh², Mahmud H. Haghighi¹, Vamshi Karanam³

¹Institute of Photogrammetry and Geoinformation, Leibniz University Hannover, Germany; ²GFZ Helmholtz Center for Geosciences, Potsdam, Germany; ³Southern Methodist University, Texas, United States of America

2:45pm - 3:00pm

Evaluating Ground Deformation in Low-Coherence Agricultural Areas Using Multi-Temporal InSAR Analysis

Mingyue Ma¹, Mahmud Haghshenas Haghghi¹, Mahdi Motagh^{1,2}

¹Leibniz University Hannover, Germany; ²GFZ Helmholtz Centre for Geosciences, Germany

1:30pm - 3:00pm

ICWG III/IIB: Planetary Remote Sensing and Mapping

Location: 714A

1:30pm - 1:45pm

Refinement of Asteroid Rotation Parameters through Stereo Intersection Angle Optimization and Masked Feature Matching

Zhen Peng^{1,2}, Xun Geng^{1,2}, Pengying Liu^{1,2}, Wenhao Liu^{1,2}, Haoyu Zhang^{1,2}

¹State Key Laboratory of Spatial Datum, Faculty of Geographical Science and Engineering, Henan University, Zhengzhou, China, 450046; ²College of Geographic Sciences, Henan University, Zhengzhou, China, 450046

1:45pm - 2:00pm

Scene recognition-based adaptive SLAM for lunar rover in polar regions

Wenhui Wan¹, Zhanjie Hu^{1,2}, Yingxiang Xu³, Kaichang Di¹, Man Peng¹, Bin Liu¹, Zhaoqin Liu¹

¹Aerospace Information Research Institute, Chinese Academy of Sciences; ²University of Chinese Academy of Sciences; ³Beijing Institute of Technology XUTELI School

2:00pm - 2:15pm

YOLOLens2.0: A Unified Super-Resolution and Detection Framework for High-Fidelity Crater Mapping in Lunar Permanently Shadowed Regions

Riccardo La Grassa¹, Cristina Re¹, Adriano Tullo¹, Natalia Amanda Vergara Sassarini¹, Gabriele Cremonese¹, Junichi Haruyama²

¹Italian National Institute for Astrophysics, Italy; ²Institute of Space and Astronautical Science, JAXA, Japan

2:15pm - 2:30pm

Semantic-Gaussian Approach for Cross-View Image Matching and Pose Optimization on Planetary Surfaces

Rongling Zhang, Zhaojin Li, Bo Wu

Research Centre for Deep Space Explorations | Department of Land Surveying & Geo-Informatics, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong

2:30pm - 2:45pm

Crater Graph-Assisted Bundle Adjustment for Precision Topographic Mapping of Mars

Haonan Zhong, Zhaojin Li, Bo Wu

The Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

2:45pm - 3:00pm

Image Contrast Response to Surface Roughness Under Direct and Secondary Illumination: Implications for Lunar Polar Regions

Prasun Mahanti

Intuitive Machines, 101 E Jackson St, Phoenix, AZ, USA

1:30pm - 3:00pm

WG II/5: Temporal Geospatial Data Understanding

Location: 714B

1:30pm - 1:45pm

Improved Land Cover Classification of Aerial Imagery and Satellite Image Time Series using Diffusion-based Super-Resolution

Hubert Kanyamahanga, Mareike Dorozynski, Franz Rottensteiner

Institute of Photogrammetry and GeoInformation, Leibniz University Of Hannover, Germany

1:45pm - 2:00pm

Sky-NeRF: Learning 4D Cloud Topography in a Dynamic Neural Radiance Field

Theïlo Terrisse¹, Dawa Derksen², David Youssefi², Hugo Meric²

¹CS Group, 6 rue Brindejonc des Moulinais, Toulouse, France; ²CNES, 18 avenue Edouard Belin, Toulouse, France

2:00pm - 2:15pm

Rigid and Non-Rigid Surface Change Tensors for Topographic Dynamics Monitoring

Shoujun Jia^{1,2,3}, Lotte de Vugt^{2,4}, Andreas Mayr², Chun Liu³, Martin Rutzinger²

¹TUM School of Engineering and Design, Technical University of Munich, Munich, Germany; ²Department of Geography, University of Innsbruck, Innsbruck, Austria; ³College of Surveying and Geo-informatics, Tongji University, Shanghai, China; ⁴Institute for Interdisciplinary Mountain Research, Austrian Academy of Sciences, Innsbruck, Austria

2:15pm - 2:30pm

Spatiotemporal reconstruction of 4D point clouds at different time scales through implicit neural representations for topographic monitoring applications

Mathilde Letard¹, Peter Naylor², Katharina Anders¹

¹TUM School of Engineering and Design; Technical University of Munich, Germany; ²φ-lab, ESRIN, ESA, Frascati, Italy

2:30pm - 2:45pm

Topo4d: Topographic 4D STAC Extension for Curating and Cataloging Multi-Source Geospatial Time Series Datasets

Jiapan Wang¹, Xiaoyu Huang¹, Pim Maydhisudhiwongs¹, Mathilde Letard¹, Balthasar Teuscher², Prabin Gyawali¹, Martin Werner², Katharina Anders¹

¹Remote Sensing Applications, TUM School of Engineering and Design, Technical University of Munich, Germany; ²Big Geospatial Data Management, TUM School of Engineering and Design, Technical University of Munich, Germany

1:30pm - 3:00pm	WG III/5: Remote Sensing for Inclusive Pathways to Equality and Environmental Health Location: 715A
	<p>1:30pm - 1:45pm Remote Sensing of Urban Asbestos Exposure: Deep Learning for Environmental Risk Assessment Małgorzata Krowczyńska, Ewa Wilk University of Warsaw, Poland</p> <p>1:45pm - 2:00pm Remote Sensing of Urban Greenspace: Two Decades of 30-m FVC and Population Exposure Assessment Across Chinese Cities Dan-Xia Song^{1,2}, Ziyi Chen^{1,2}, Sixuan Qi^{1,2}, Tao He³ ¹Hubei Provincial Key Laboratory for Geographical Process Analysis and Simulation, Central China Normal University, Wuhan, 430079, China; ²College of Urban and Environmental Sciences, Central China Normal University, Wuhan, 430079, China; ³School of Remote Sensing and Information Engineering, Wuhan University, Wuhan, 430079, China</p> <p>2:00pm - 2:15pm Analysing the Impacts of Natural-Factor Variability on Lake Water Volume Using the Generalized Method of Moment Yuxuan Yang¹, Yi Lin^{1,2}, Jie Yu^{1,2}, Tinghui Zhang³ ¹College of Surveying and Geo-Informatics, Tongji University, China, People's Republic of China; ²Research Center for Remote Sensing Technology and Application, Tongji University, China, People's Republic of China; ³Guangzhou Institute of Geography Guangzhou, China, People's Republic of China</p> <p>2:15pm - 2:30pm Land cover mapping from orthorectified Neo-Pleiades imagery via Object-Based methods Valerio Baiocchi¹, Francesca Giannone², Chiara Magurano¹, Erica Nocerino³ ¹Sapienza Università di Roma, Italy; ²Niccolò Cusano University, Rome, Italy; ³Università degli Studi di Sassari, Sassari, Italy</p> <p>2:30pm - 2:45pm Using the Soil Brightness Indicator to inform Participatory Community Planning for SDG2 Projects – a case study in Dodoma, Tanzania Hannah Kemper^{1,2}, Dr. Valerie Graw¹, Dr. Felicia O. Akinyemi³, Sarah Muir², Dr. Rogerio Bonifacio², Giancarlo Pini², Theo Renouard², Sayana de Gorostizaga², Ivana Milic², Sirio Modugno², Paolo Lucchino², Serena Ciccarello², Lorenzo Bosi² ¹Ruhr University Bochum, Germany; ²United Nations World Food Programme; ³Karlstad University, Sweden</p>
1:30pm - 3:00pm	WG II/4B: AI/ML for Geospatial Data Location: 715B
	<p>1:30pm - 1:45pm From Pixels to Polylines: Extracting City-scale Vectorized Roof Structures with Line Segment Detection Networks Mehmet Büyükdemircioğlu¹, Fabio Remondino¹, Martin Kada², Sultan Kocaman³ ¹3D Optical Metrology (3DOM) Unit, Bruno Kessler Foundation (FBK), Trento, Italy; ²Technische Universität Berlin, Institute of Geodesy and Geoinformation Science, Berlin, Germany; ³GeoPlato Engineering Inc., Bilkent Cyberpark, Ankara, Türkiye</p> <p>1:45pm - 2:00pm Automatic Large-Scale Topographic Mapping from High-Resolution Aerial Imagery Weiqin Jiao, George Vosselman, Claudio Persello University of Twente, ITC Faculty Geo-Information Science and Earth Observation, Netherlands, The</p> <p>2:00pm - 2:15pm Todo Fir Crown Instance Segmentation in dense Plantation Forest using Polar-FFT and Treetop Queries Yusuke Iuchi¹, Soki Nishiwaki¹, Fumio Takeuchi², Mika Takiya², Takanori Emaru³ ¹Graduate School of Engineering, Hokkaido University; ²Forestry Research Institute, Hokkaido Research Organization; ³Faculty of Engineering, Hokkaido University</p> <p>2:15pm - 2:30pm An integrated yolo-seg and geometric analysis framework for construction zone detection and tubular marker damage assessment Lee Jubin¹, Youn Junhee², Choi Kanghyeok³, Kim Changjae¹ ¹Department of Civil and Environmental Engineering, College of Engineering, Myongji University.; ²Department of Future & Smart Construction Research, Korea Institute of Civil and Building Technology; ³Department of Geoinformatic Engineering, Inha University</p> <p>2:30pm - 2:45pm From Aerial to Satellite: Can Super-Resolution Enable Label-Free Model Transfer? Nina Merkle, Corentin Henry, Sandeep Kumar Jangir, Jens Hellekes, Felix Rauch, Pablo d'Angelo, Franz Kurz German Aerospace Center (DLR), Germany</p>

	<p>2:45pm - 3:00pm</p> <p>Beyond Vision: How Language effects Visual Grounding in UAV Imagery Jue Chen¹, Penghui Huang², Ran Ding², Zhentao Zou², Xue Yang², Xue Jiang², Yue Zhou¹, Hongxin Yang¹, Jonathan Li^{1,3} ¹Hinton STAI Institute and Key Laboratory of Geographic Information Science (Ministry of Education), East China Normal University, Shanghai 200241, China; ²Shanghai Jiao Tong University, Shanghai 200241, China; ³Department of Geography and Environmental Management, University of Waterloo, Waterloo, ON N2L 3G1, Canada</p>
<p>1:30pm - 3:00pm</p>	<p>IvS6B: Canadian Remote Sensing for Urban Applications Location: 716A</p> <p>1:30pm - 1:45pm Advances in 3D urban Reconstruction and Building Mesh Extraction using Gaussian Splatting and Google Earth Kyle Gao¹, Jonathan Li^{1,2}, Linlin Xu³, David Clausi¹ ¹Department of Systems Design Engineering, University of Waterloo, Canada; ²Department of Geography and Environmental Management, University of Waterloo, Canada; ³Department of Geomatics Engineering, University of Calgary</p> <p>1:45pm - 2:00pm Semantic-Aware Harmonization Model (SAHM) for Improving Consistency In Large-area, Fine-resolution Urban Land Cover Mapping Yindan Zhang¹, Yuhong He¹, Gang Chen², Ying Zhang³ ¹University of Toronto Mississauga, Canada; ²University of North Carolina at Charlotte, USA; ³Natural Resources Canada, Canada</p> <p>2:00pm - 2:15pm Individual tree crown delineation and classification in urban landscapes from multi-source remote sensing by integrating SAM and watershed segmentation Jingyi Yuan¹, Chuofan Zhang¹, Lu Liang², Hong Zhang^{1,3,4}, Qin Ma^{5,1,3,4} ¹School of Geography, Nanjing Normal University, Nanjing, China.; ²Department of Landscape Architecture and Environmental Planning, University of California, Berkeley, USA.; ³Key Laboratory of Virtual Geographic Environment (Nanjing Normal University), Ministry of Education, Nanjing, China.; ⁴Jiangsu Center for Collaborative Innovation in Geographical Information Resource Development and Application, Nanjing, China.; ⁵State Key Laboratory of Climate System Prediction and Risk Management, Nanjing, China.</p> <p>2:15pm - 2:30pm Satellite-based Detection of Invasive Shrubs in Urban Woodlands Carolyne Qiang¹, Yuhong He² ¹University of Toronto, Canada; ²University of Toronto, Canada</p> <p>2:30pm - 2:45pm Seasonal analysis of surface temperature and vegetation dynamics using drone-based thermal and multispectral remote sensing Haoxuan Ge, Yuhong He Department of Geography, Geomatics and Environment, University of Toronto Mississauga, Ontario, L5L 1C6, Canada</p>
<p>1:30pm - 3:00pm</p>	<p>Forum3A: Legacy Project: How to Secure Funding to Support Geospatial Activities Location: 716B</p>
<p>1:30pm - 3:00pm</p>	<p>Forum8A: Wildfire Remote Sensing - Bridging Public and Private Solutions Location: 717A</p>
<p>1:30pm - 3:00pm</p>	<p>InS5: Industry Tech Session Location: 717B</p>
<p>1:30pm - 5:00pm</p>	<p>General Assembly 2 Location: 701A</p>
<p>3:00pm - 3:30pm</p>	<p>Afternoon Coffee Break Location: Exhibition Hall "E"</p>
<p>3:30pm - 5:15pm</p>	<p>WG III/1D: Remote Sensing Data Processing and Understanding Location: 713A</p> <p>3:30pm - 3:45pm Spatio-temporal Modeling of Bridge Deformations from Sentinel-1 SAR Images Validated with Multiple In-situ Surveys Roberto Monti, Federica Gaspari, Rohollah Naeijian, Rebecca Fascia, Mirko Reguzzoni, Lorenzo Rossi, Livio Pinto Politecnico di Milano, Department of Civil and Environmental Engineering (DICA), 20133 Milan, Italy</p> <p>3:45pm - 4:00pm Large-Scale InSAR Deformation Monitoring Using Realistic Simulation-Based Training of a Temporal Convolutional Network: Application to the Phlegraean Fields, Italy Kourosh Shahryarinia, Mohammad Omidalizarandi, Ingo Neumann Geodetic Institute Hannover, Leibniz University Hannover, Germany</p> <p>4:00pm - 4:15pm Geometry-conditioned Pix2Pix: leveraging explicit Conditioning on SAR projected local Incidence Angle for SAR-to-EO Translation Quality Improvement Jinmin Lee, Minkyung Chung, Aisha Javed, Youkyung Han Seoul National University of Science and Technology, Korea, Republic of (South Korea)</p> <p>4:15pm - 4:30pm</p>

	<p>Temporal-Spatial Tubelet Embedding for Cloud-Robust MSI Reconstruction using MSI-SAR Fusion: A Multi-Head Self-Attention Video Vision Transformer Approach Yiqun Wang, Lujun Li, Meiru Yue, Radu State SEDAN, SnT, the University of Luxembourg, Luxembourg</p>
	<p>4:30pm - 4:45pm Evaluating Deep Matching Models for SAR-Optical Image Pairs using the SpaceNet9 Dataset Constantin Günzel, Michael Schmitt Department of Aerospace Engineering, University of the Bundeswehr Munich, Germany</p>
	<p>4:45pm - 5:00pm Detecting Marine Pollutants Using Sentinel-1 SAR and Sentinel-2 Optical Imagery Jason Manesis¹, Paraskevi Mikeli¹, Katerina Kikaki², Ioannis Kakogeorgiou³, Athanasios Karmas², Konstantinos Karantzalos¹ ¹National Technical University of Athens; ²Hellenic Space Center; ³IIT, NCSR "Demokritos"</p>
	<p>5:00pm - 5:15pm A coarse-to-fine cross-view localization framework with BEV-guided retrieval and fine-grained pose alignment Qiong Wu¹, Panwang Xia¹, Yi Wan^{1,2}, Xinyi Liu^{1,2}, Yongxiang Yao¹, Dong Wei¹, Yongjun Zhang^{1,2} ¹Wuhan University, China, People's Republic of; ²Technology Innovation Center for Collaborative Applications of Natural Resources Data in GBA, Ministry of Natural Resources, Guangzhou, 510075, Guangdong, China</p>
3:30pm - 5:15pm	<p>WG IV/2C: Artificial Intelligence and Uncertainty Modeling in Spatial Analysis Location: 713B</p>
	<p>3:30pm - 3:45pm Comparison of Solar Radiation Estimates of GIS, Satellite, In-Situ, and SDT-based Solar Modelling for Rooftop Solar Energy Planning Athenee Ballesteros Teofilo, Chayn (Qian) Sun RMIT University, Australia</p>
	<p>3:45pm - 4:00pm Uncertainty Quantification for Regression Tasks in Earth Observation Ritu Yadav, Andrea Nascetti, Yifang Ban KTH Royal Institute of Technology, Sweden</p>
	<p>4:00pm - 4:15pm Evaluation of OpenStreetMap Data of the Built Environment with the Help of Spatio-Temporal Digital Elevation Models Ruiqi Liu, Martin Breunig, Paul Kuper, Mulhim Al-Doori Karlsruhe Institute of Technology, Germany</p>
	<p>4:15pm - 4:30pm Uncertainty quantification of laserscanning point clouds for road asset classification Shirin Malihi¹, Ioannis Brilakis¹, Nima Arij², Abbas Kiani², Stefano Cavazzi³, Qiuchen Lu⁴, Graham Starkey⁵, Matt Peck⁶, George Economides⁷ ¹Civil Engineering Department, University of Cambridge, United Kingdom; ²Babol Noshirvani University of Technology, Iran; ³Innovation and Research Department, Ordnance Survey, United Kingdom; ⁴Bartlett School of Sustainable Management, University College London (UCL), United Kingdom; ⁵BIM Department, Costain, United Kingdom; ⁶AtkinsRéalis, & University of Birmingham, United Kingdom; ⁷Digital Twins Department, UK Government's Department for Transport (DfT), United Kingdom</p>
	<p>4:30pm - 4:45pm S2PT: Spatio-Sequential Point Transformer for Efficient 3D Scene Understanding Yuqing Shen¹, Akram Akbar^{1,2}, Yijun Liu¹, Yanyi Li¹, Chun Liu¹ ¹College of Surveying and Geo-informatics, Tongji University; ²College of Electronic and Information Engineering, Tongji University</p>
	<p>4:45pm - 5:00pm Boundary cues for improved 3D semantic segmentation Waseem Iqbal, Jens-André Paffenholz Institute of Geotechnology and Mineral Resources – Geomatics, Clausthal University of Technology, Germany</p>
	<p>5:00pm - 5:15pm Identification of nonlinearity and spatial non-stationary effects of local drivers on the synergy between air quality management and carbon mitigation in the Yangtze River Delta urban agglomeration Man Guo, Nicholas Hamm University of Nottingham, China, People's Republic of</p>
3:30pm - 5:15pm	<p>WG III/4B: Landuse and Landcover Change Detection Location: 714A</p>
	<p>3:30pm - 3:45pm DAL-UNet: A Dual Attention-Coupled ConvLSTM Network for Multi-Temporal Urban Building Change Detection Qiang Chen, Peng Yue Beijing University of Civil Engineering and Architecture, China, People's Republic of</p>
	<p>3:45pm - 4:00pm</p>

Efficient Fine-Tuning for Building Damage Assessment with High-Resolution Optical Satellite Imagery: A Case Study for War Damage in Ukraine

Sebastian Gapp¹, Corentin Henry¹, Pablo d'Angelo¹, Friedrich Fraundorfer^{1,2}, Nina Merkle¹

¹Deutsches Zentrum für Luft- und Raumfahrt, Germany; ²Graz University of Technology

4:00pm - 4:15pm

Urban Expansion, Entropy Dynamics, and Ecological Quality: A District-Based Assessment

Anali Azabdaftari¹, Filiz Sunar²

¹Western Sydney University, Australia; ²Istanbul Technical University

4:15pm - 4:30pm

Urban sprawl analysis using multi-dimensional Urban Sprawl Index (USI) in Bulacan, Philippines

Benedick Agamao¹, Cale Andriane Herrera¹, Bienvenido III Carcellar^{1,2}, Carlyn Ann Ibañez¹

¹Department of Geodetic Engineering, University of the Philippines Diliman, Philippines; ²Yamaguchi University

4:30pm - 4:45pm

A Two-Stage Pipeline of Segmentation and Classification Using Optical Satellite Imagery for Monitoring Inappropriate Embankments

Yasunobu Shimazaki, Yasunari Morita

PASCO Corporation, Tokyo, Japan

4:45pm - 5:00pm

A High-Precision Land-Sea Segmentation Model Based on the Deep Otsu Method

Tengteng Dong, Mi Wang, Tiyu Zhou, Qianyu Wu

State Key Laboratory of information Engineering in Surveying, Mapping and Remote Sensing(LIESMARS), Wuhan University

5:00pm - 5:15pm

From Super-Resolution to Superior Land-Cover Detection: Cross-Channel Attention Network for Aerial Images

Yuwei Cai, Zhimeng He, Meiliu Wu, Brian Barrett

University of Glasgow, United Kingdom

3:30pm - 5:15pm

WG IV/9C: Spatially Enabled Urban and Regional Digital Twins

Location: 714B

3:30pm - 3:45pm

A Conversational Multi-Agent Platform for BIM Data Intelligence

Amirhossein Nourbakhshrezaei, Nolan Porther, Mojgan Jadidi

Department of Civil Engineering, Lassonde School of Engineering, York University, Canada

3:45pm - 4:00pm

Bridging geometric Gaps between digital Survey and BIM through open-source IFC-3D Tiles Integration

Raphaël Vouilloz^{1,2}, Ken Percy², Nicolas Arellano Risopatron², Sabrina Liu², Philippe Marin¹, Stephen Fai²

¹Université Grenoble-Alpes, ENSAG, MHA (Méthodes et Histoire de l'Architecture) - Grenoble, France; ²Carleton University, CIMS (Carleton Immersive Media Studio) - Ottawa, Canada

4:00pm - 4:15pm

A comprehensive framework for multi-LoD 3D building model generation using multi-source LiDAR point clouds for Digital Twin development

Mohamed Ismail, Ahmed Shaker, Songnian Li

Department of Civil Engineering, Toronto Metropolitan University, 350 Victoria Street, Toronto, Ontario, M5B2K3 Canada

4:15pm - 4:30pm

3D Modelling of vegetation from optical and LiDAR point clouds for inclusion in basic nationwide built environment model

Alex Šroller^{1,2}, Jindřich Horák², Petr Dušánek², Markéta Potůčková¹

¹Charles University, Faculty of Science, Department of Applied Geoinformatics and Cartography, Albertov 6, Prague 2, Czech Republic; ²Land Survey Office, Pod Sídlištěm 1800/9, Kobyličky, 182 11 Prague 8, Czech Republic

4:30pm - 4:45pm

Developing Construction Supply Chain Management Digital Twins: An Integrated BIM-GIS and Logistics Information Framework

Raafat Khankan, Mojgan Jadidi

Department of Civil Engineering, Lassonde School of Engineering, York University, Canada

3:30pm - 5:15pm

WG III/8I: Remote Sensing for Agricultural and Natural Ecosystems

Location: 715A

3:30pm - 3:45pm

Automated Coastline Mapping Using Sentinel-2 NDVI on Google Earth Engine: A Decision Support Tool for Diachronic Coastal Monitoring

Abdelaziz Ouzaka¹, Vincent Lecours¹, Maxime Boivin¹, Yannick Duguay²

¹Laboratoire d'Expertise et de Recherche en Géographie Appliquée (LERGA), Université du Québec à Chicoutimi, Chicoutimi, Québec, Canada; ²Centre de géomatique du Québec (CGQ), Cégep de Chicoutimi, Chicoutimi, Québec, Canada

3:45pm - 4:00pm

Dynamic Shoreline Analysis (1984-2024) in the Municipality of Bragança, Amazon, Brazil

Rafael Alexandre Alves Menezes¹, Kayque da Silva Dias¹, Henrique Gabriel Marques Moura¹, Milena Marília Nogueira de Andrade^{1,2}, Eder MS de Paula¹

¹Graduate Program in Geography of Federal University of Para, Brazil; ²Federal Rural University of the Amazon, Brazil

4:00pm - 4:15pm

Cross-Sensor Harmonization and temporal Estimation of Mangrove Leaf Reflectance using Multi-Platform hyperspectral data

-- Zohaib¹, Majid Nazeer¹, Man Sing Wong^{1,2,3,4}

¹Department of Land Surveying and Geo-informatics, The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); ²Research Institute for Sustainable Urban Development, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ³Research Institute for Land and Space, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ⁴Otto Poon Research Institute for Climate-Resilient Infrastructure, The Hong Kong Polytechnic University, Hong Kong, China

4:15pm - 4:30pm

UAS-Based Spectral Imaging for Coastal Vegetation Monitoring and Management – A Case Study

Nithish Manikkavasagam¹, Sudhagar Nagarajan¹, Pandiyan Kesavan¹, Tucker Hindle¹, Peter DeWitt²

¹Florida Atlantic University, United States of America; ²U.S. Department of Interior Bureau of Land Management

4:30pm - 4:45pm

Monitoring Tropical Moist Forest Loss in Sierra Leone's Protected Areas: Remote Sensing Insights from the Western Area Peninsula National Park

Sayana de Gorostizaga¹, Sarah Muir¹, William Hopkins², Hannah Kemper^{1,3}, Ivana Milic¹, Paola Di Francesco¹, Giancarlo Pini¹

¹United Nations World Food Programme (WFP) Headquarters, Rome, Italy; ²United Nations World Food Programme (WFP) Sierra Leone Country Office, Freetown, Sierra Leone; ³Ruhr-Universität Bochum, Germany

4:45pm - 5:00pm

Model ensemble to constrain uncertainties in the estimation of water needs in woody crops by Remote Sensing

Juan Manuel Sánchez¹, Alejandro Moya², Héctor Nieto³, Álvaro Sánchez-Virosta¹, Joan Miquel Galve¹, José González-Piqueras¹

¹Remote Sensing and GIS Group, Universidad de Castilla-La Mancha, Spain; ²Departamento de Ingeniería Informática, Universidad Autónoma de Madrid, Spain; ³Instituto de Ciencias Agrarias (ICA-CSIC), Madrid, Spain

5:00pm - 5:15pm

GNSS-R Vegetation Water Content Retrieval Considering Surface Types

Chuanchi Hao, Kegen Yu, Yu Cao

China University Of Mining And Technology, China, People's Republic of

3:30pm - 5:15pm

WG III/6A: Remote Sensing of the Atmosphere

Location: 715B

3:30pm - 3:45pm

Deep Pretraining Unleashes the Potential of Aerosol Size Information Retrieval
Xing Yan

Beijing Normal University, China, People's Republic of

3:45pm - 4:00pm

Retrieval of aerosol optical/microphysical parameters of FY-4A geostationary satellite based on Transformer

Siyu Liu¹, Lina Xu¹, Minghui Tao², Xincai Chang¹, Huang Zhang¹, Jianxin Ling¹, Dandi Liao¹

¹Hubei Subsurface Multi-scale Imaging Key Laboratory, School of Geophysics and Geomatics, China University of Geosciences, Wuhan, 430074, China; ²Hubei Key Laboratory of Regional Ecology and Environmental Change, School of Geography and Information Engineering, China University of Geosciences, Wuhan, 430074, China

4:00pm - 4:15pm

Bioaerosol-driven heavy metal deposition and Biospheric response: A remote sensing-assisted Phytoremediation study in the Pin Valley National Park, North-Western Himalayas

Abhinav Galodha¹, Deepika Sharma²

¹School of Interdisciplinary Research (SIRe), Indian Institute of Technology Delhi, IIT Delhi, India; ²Department of Botany, Himachal Pradesh University (HPU), Shimla, Himachal Pradesh, India

4:15pm - 4:30pm

Assessing cross-season, AOD-PM2.5 Relationships as a Function of Meteorological Parameters in Sherbrooke, Québec, Canada

Alireza Zhaleh Doost, Norman T. O'Neill, Yacine Bouroubi, Mickaël Germain

Université de Sherbrooke, Canada

4:30pm - 4:45pm

First global XCO2 Observations from spaceborne Lidar

Hongyuan Zhang, Ge Han, Yiyang Huang, Wei Gong
Wuhan University, China, People's Republic of

4:45pm - 5:00pm

Cross-city transfer learning for Sentinel-5P-driven NO₂ prediction in data-sparse urban environments

Fjoralba Janku¹, Francesco Mauro¹, Luigi Russo², Babak Memar³, Alessandro Sebastianelli⁴, Paolo Gamba², Silvia Liberata Ullo¹

¹University of Sannio, Benevento, Italy; ²University of Pavia, Pavia, Italy; ³University La Sapienza, Rome, Italy; ⁴CMCC Foundation - Euro-Mediterranean Center on Climate Change, Caserta, Italy

5:00pm - 5:15pm

Enhanced Ozone Downscaling in Megacities Using a SHAP-Optimized U-Net Model

A.A. Kakroodi, Hossein Barekati, Hamid Kiavarz Moghaddam

University of Tehran, Iran, Islamic Republic of

3:30pm - 5:15pm

IvS9: Remote Sensing and Geospatial Technologies for Vegetation Fire Management and Recovery Resilience

Location: 716A

3:30pm - 3:45pm

A new Canadian radar satellite mission to retrieve snow water equivalent

Benoit Montpetit¹, Chris Derksen¹, Vincent Vionnet¹, Marco Carrera¹, Julien Meloche¹, Nicolas Leroux¹, Franck Lespinas¹, Jean Bergeron²

¹Environment and Climate Change Canada, Canada; ²Canadian Space Agency

3:45pm - 4:00pm

Airborne Lidar derived Snow Water Equivalent outputs to improve spatialized Raven hydrologic Snowpack Water simulation

Celeste Barnes¹, Ryan MacDonald², Brandi Newton³, Chris Hopkinson⁴

¹University of Lethbridge, Alberta, Canada; ²MacDonald Hydrology Consultants Ltd., Cranbrook, BC, Canada; ³Alberta Environment and Protected Areas, Alberta, Canada; ⁴Western University, Ontario, Canada

4:00pm - 4:15pm

Assessing SWOT WSE retrievals and monitoring karst-influenced surface water dynamics in Bruce Peninsula National Park

Ethan Parker, Ben DeVries, Aaron Berg

University of Guelph, Canada

4:15pm - 4:30pm

Snowpack Water Resource Forecasting and Public Education using Airborne Lidar Sampling, Imputation, Melt Simulation and Game Engine Visualisation

Chris Hopkinson¹, Celeste Barnes², James Craig³, Ryan MacDonald⁴, Brandi Newton⁵, James Graham⁶

¹Western University, Canada; ²University of Lethbridge; ³University of Waterloo; ⁴MacHydro; ⁵Govt Alberta; ⁶Neospatial Corp

4:30pm - 4:45pm

A Deep Learning-Based Approach for Field-Scale Surface Soil Moisture Estimation Using SAR and Optical Satellite Data

Elahe Jahan Nejadi, Ramata Magagi, Kalifa Goïta

Université de Sherbrooke, Département de géomatique appliquée, Centre d'applications et de recherches en télédétection (CARTEL), QC, Canada

4:45pm - 5:00pm

Issues and potentials of multi-sensor water level monitoring: lesson learned at Recentino Lake, Italy

Alireza Hamoudzadeh¹, Lorenza Ranaldi¹, Veronica Laici¹, Alessandra Maria De Pace¹, Valeria Belloni¹, Roberta Ravanelli², Mattia Crespi^{1,3}

¹Geodesy and Geomatics Division, Sapienza University of Rome, 00184 Rome, Italy; ²Geomatics Unit, University of Liège, 4000 Liège, Belgium; ³Sapienza School for Advanced Studies, Sapienza University of Rome, 00161 Rome, Italy

5:00pm - 5:15pm

Physics-Based and Machine Learning Approaches for Adjacency Effect Correction in Small Inland Water Bodies: A Case Study of Canadian Lakes Using Sentinel-2 Data

Marc-Antoine Lecours-Toutloff, Guy Armel Fotso Kamga, Samuel Foucher, Yacine Bouroubi, Yannick Huot, Norm O'Neill

Department of Applied Geomatics, Université de Sherbrooke, Canada

3:30pm - 5:15pm

Forum3B: Legacy Project: How to Secure Funding to Support Geospatial Activities

Location: 716B

3:30pm - 5:15pm

Forum8B: Wildfire Remote Sensing - Bridging Public and Private Solutions

Location: 717A

3:30pm - 5:30pm

InS6: Industry Tech Session

Location: 717B

3:30pm - 5:30pm

P3: Poster Session 3

Location: Exhibition Hall "E"

Concealed Object Discrimination in Forested Areas using PolTomoSAR with various Baseline Configurations

Youssra El Bennioui¹, Laurent Ferro-famil^{1,2}, Yue Huang³

¹ISAE-SUPAERO, Toulouse, France; ²CESBIO, University of Toulouse, France; ³Meteo-France, Toulouse, France

Crop Classification Using Time-Series Landsat Data: A Comparison of Attention-Based LSTM, GRU, and TCN Models

Yuta Tsuchiya, Rei Sonobe
Shizuoka University, Japan

Evaluating GAN-Based RGB Image Translation Using ALOS-2 Polarimetric SAR Data for Agricultural Monitoring

Hirofumi Shimaoka¹, Rei Sonobe¹, Kan-ichiro Mochizuki²
¹Shizuoka University, Japan; ²Pasco, Japan

Evaluating Mask R-CNN for instance segmentation of ceramic roofs in a Brazilian urban area using UAV imagery

Marcelo Henrique de Oliveira¹, Danilo Marques de Magalhães¹, Antonio Vieira dos Santos Júnior¹, Diandra dos Santos Moura¹, Tomás Lyra Lutterbach¹, Vitória Diniz de Oliveira¹, Luisa da Cunha Vieira²
¹Dept. of Geography and Environmental Planning, São Paulo State University, Rio Claro, Brazil;
²Geotechnical Project Management, BVP Geotecnia e Hidrotecnia, Belo Horizonte, Brazil

Assessing applications of self-supervised learning for tree species classification from LiDAR point clouds

Jake Pott¹, Baoxin Hu¹, F. Wayne Bell²
¹Dept. of Earth and Space Science and Engineering, York University, Canada; ²Forest Ecology and Silviculture, Ontario Forest Research Institute, Canada

The POD-HAR framework: deriving latent space dynamics for land surface evolution

Weidong Tang¹, Zheng Zhang²
¹Beijing University of Posts and Telecommunications, China, People's Republic of; ²Aerospace Information Research Institute, CAS, Beijing, China

Quality Inspection and Intelligent Fusion Method for Automated Production of Large-Scale Remote Sensing Image Tiles

Zhen Wang¹, Cong Wang¹, Chang Gao^{2,3}, Hongping Zhang¹, Dejin Tang¹, Heng Li¹, Xinyan Zheng¹, Lei Ding¹
¹National Geomatics Center of China, China, People's Republic of; ²BGP INC., China National Petroleum Corporation, Hebei, China; ³Kunlun Digital Technology Co., Ltd. Beijing, China

A study on the role of wake patterns in ship type classification using medium resolution SAR imagery

Benyamin Hosseiny, Kamirul Kamirul, Odysseas Pappas, Alin Achim
University of Bristol, United Kingdom

Super Resolution of Sentinel-2 Imagery Using Latent Diffusion Models For Photovoltaic Site Assessment

Ferdaous Chaabane¹, Mohamed Amin Chamtoury¹, Moez Zouari¹, Ghaith Kouki², Florence Tupin³
¹Higher school of Communication of Tunis, Tunisia; ²State University of New York College of Environmental Science and Forestry, Department of Environmental Resources and Engineering, United States; ³Department of Image and Signal Processing, Telecom ParisTech, France

A robust and transferable AI workflow for segmenting ground-mounted Photovoltaic Systems

Kilian Sperber, Jonathan Kraus, Henry Meissner, Ulf Kreuziger
OTH Amberg-Weiden

Super-Resolution and Multi-Resolution Biomass Mapping from Coarse Labels via Weak Supervision and Spatial Priors

Rachel Nubwimana
University of Copenhagen, Denmark

A Multi-Stage Deep Learning Framework for Shadow Detection in Aerial Orthophotos

Yohei Kobayashi, Mitsuteru Sakamoto, Sho Nakamura, Toshiaki Satoh
PASCO, Japan

From Urban 3D Imagery to Low-Altitude Flight Risk Perception: A Construction Method for the Low-Altitude Flight Safety Zones of Surveying and Mapping UAVs and Its Application in Shanghai

Sijian Wang, Wen Zhang
Shanghai Municipal Insititue of Surveying and Mapping, China, People's Republic of

MSCTFormer: A High-Resolution Water Body Extraction Network for Hyperspectral Remote Sensing Images Based on a Hybrid CNN-Transformer Architecture

Zhiyong Zhang¹, Bo Song^{1,2}, Bo Li¹, Qingyang Wang¹, Hong Huang¹
¹College of Geomatics and Geoinformation, Guilin University of Technology, Guilin 541004, China;
²College of Environmental Science and Engineering, Guilin University of Technology, Guilin 541006, China

MCAM: A Multi-scale Cyclic Adaptive Mamba Network for Hyperspectral Image Classification

Yihang Zou¹, Lina XU¹, Yanni Dong²

Modular Fusion for Individual Tree Crown Delineation from Airborne LiDAR Data

Josue Gourde, Baoxin Hu, Qian Li

Department of Earth and Space Science and Engineering, York University, Toronto, Ontario, Canada

Remote Sensing Image Captioning via Dual-Stream Fusion and Spatial Relation-Aware Encoding

Rong Chen, Guorui Ma, Lunjun Fan

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

Evaluating a Weighted Ensemble of Deep Learning Models for Individual Tree Crown Delineation from LiDAR Data

Dylan Gaspar, Baoxin Hu, Qian Li

York University, Canada

Mapping sediment texture variability of carbonate beach sediments of Nogas Island using Sentinel-2, hyperspectral spectroscopy, and granulometry

Og Locaba¹, James Cesar Refran¹, Patrick Fernandez², Sheila Mae Santander - de Leon²

¹Philippine Space Agency, Philippines; ²University of the Philippines Visayas

Land Cover Classification of multi-Source airborne Data using conventional and deep-learning-based unsupervised Domain Adaptation

Edwin Deisling, Raphael Zipperer, Benedikt Kottler, Kevin Qiu, Melanie Böge, Dimitri Bulatov

Fraunhofer IOSB Ettlingen, Germany

Road Segmentation from Satellite Imagery Based on an Improved SAM Model

Bingquan YAO, Haolin Liu, Wenjuan Mao, Jin Zhou

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

Research and Implementation of Key Technologies for High Resolution Satellite Image Instant Service System

Jin Liu, Ye Du

Beijing SatImage Information Technology Co., Ltd., People's Republic of China

Combining UAV SAR Tomography and Photogrammetry to study an Active Volcanic Vent in Iceland

Alina V. Shevchenko¹, Eduardo Freitas², Christian Wimmer², Egill Á. Gudnason³, Magnus T. Gudmundsson⁴, Gro B.M. Pedersen⁵, Luciano P. de Oliveira⁶, Magdalena S. Vassileva¹, Daniel Müller¹, Dibakar K. Ritushree^{1,7}, Mahdi Motagh^{1,7}, Thomas R. Walter¹, João Moreira², Martin Herold¹, Frieder M. Knabe⁸, Gian C. Oré Huacles⁹, Hugo E. Hernandez-Figueroa⁹

¹GFZ Helmholtz Centre for Geosciences, Germany; ²Radaz S.A., Brazil; ³Iceland GeoSurvey ISOR, Iceland; ⁴University of Iceland, Iceland; ⁵Icelandic Meteorological Office, Iceland; ⁶Technology Innovation Institute, United Arab Emirates; ⁷Leibniz University Hannover, Germany; ⁸Wissenschaftsladen Potsdam e.V., Germany; ⁹University of Campinas, Brazil

Space–Time Analysis of Nighttime Light Intensity in Phoenix, Arizona (1992–2024)

Scotty Fogle, Zhiyong Hu

University of West Florida, United States of America

Comparative Study of Edge Losses for Remote Sensing Image Super-Resolution

Minkyung Chung, Youkyung Han

Seoul National University of Science and Technology, Korea, Republic of (South Korea)

A multi-granularity distributed parallel processing method for time-series InSAR and application to mapping ground deformation of whole China

Yonghong Zhang, Yonghui Kang, Hongan Wu, Jujie Wei

中国测绘科学研究院, China, People's Republic of

Comparative Evaluation of Machine Learning Models for Gold Prospectivity Mapping: A Case Study from Labrador, Canada

Yahya Chebab¹, Kongwen Zhang¹, Shuyun Xie², Jiangtao liu³

¹University of the Fraser Valley, Canada; ²University of Geosciences, China; ³China Geological Survey, China

A hybrid framework for indoor UAV-based 3D point cloud segmentation

Mohsen Shahraki, Ahmed Elamin, Ahmed El-Rabbany

Department of Civil Engineering, Toronto Metropolitan University (TMU), Toronto, Ontario, Canada

Prototype Design of a Data Warehouse for Determining, Mapping, Monitoring and Visualizing Urban Heat Islands: the Case of Zagreb and Split, Croatia

Andrija Krtalić, Ana Kuveždić Divjak

University of Zagreb Faculty of Geodesy, Croatia

Development and Application of an Automated Full-Process Framework for Unauthorized Land-Use Parcel Verification Driven by a UAV Hangar System: A Case Study in Shanghai, China

Yang Li, Ming Hu, Wen Zhang

Long-term Analysis of Rainfall Variability and Gridded Precipitation Product Performance in Coastal Southeast China

Yuli Wang¹, Joseph Awange¹, Ting On Chan²

¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, 999077 Hong Kong (SAR), China; ²School of Geography and Planning, Sun Yat -sen University, 510275 Guangzhou, China

An Early Detection Method for Heavy Rainfall Using Satellite Data

Seokhwan Hwang, Heejun Park, Jungsoo Yoon, Narae Kang

Korea Institute of Civil Engineering and Building Technology, Korea, Republic of (South Korea)

Can 2000–2024 Daily Historical Records Alone Project Next-Year Wildfire State Transition? A Case Study in British Columbia, Canada Using a Conditional Categorical Generative Model

Yimin Zhu, Zhengsen Xu, Lincoln Xu

University of Calgary, Canada

Remote Sensing Image Strip Removal Technology Based on the Ultralytics Model

远姚, 莉冯, 景秋罗

Hohai University, China, People's Republic of

GEMAUT (2006–2026): A Brief History of a Robust and Open-Source Tool for the Automatic Generation of High-Resolution Digital Terrain Models from Satellite-Based Surface Models

Nicolas Champion

IGNF, France

Using NGRDI index to assist in forest canopy gaps classification of UAV RGB imagery

Yu-xuan Zhan^{1,2}, Yong-Jun Zhang³, Chun-Hong Wei³, Jan-Chang Chen³

¹R&D Center, National Pingtung University of Science and Technology(NPUST), 1, Shuefu Road, Neipu, Pingtung 912301, Taiwan (R.O.C.); ²Doctoral Program in Bioresources, National Pingtung University of Science and Technology(NPUST), 1, Shuefu Road, Neipu, Pingtung 912301, Taiwan (R.O.C.);

³Department of Forestry, NPUST, 1, Shuefu Road, Neipu, Pingtung 912301, Taiwan (R.O.C.)

Using Deep Learning–Extracted Road Networks for More Accurate Small Satellite Geometric Correction

Aleš Marsetič^{1,2}, Peter Pehani¹, Nina Krašovec^{1,3}

¹ZRC SAZU, Novi trg 2, 1000 Ljubljana, Slovenia; ²SPACE-SI, Aškerčeva 12, 1000 Ljubljana, Slovenia;

³Faculty of Civil and Geodetic Engineering, University of Ljubljana, 1000 Ljubljana, Slovenia

A Dual-Task Optimization Approach for Digital Elevation Model Correction with Spaceborne LiDAR Data

Yibo Ling, Ting On Chan, Wing Sum Yan

School of Geography and Planning, Sun Yat-sen University, China, People's Republic of

A comparative framework for deriving True Tree Crown (TTC) from Pseudo Tree Crown (PTC)

Namya Kamboj¹, Frank Zhang¹, Baoxin Hu²

¹University of the Fraser Valley, Abbotsford, Canada; ²York University, Toronto, Canada

Comparison Between Unmanned Aerial Vehicle (UAV) and RTK-GNSS Surveying Methods for DEM Generation in Wetlands

KEHINDE HASSAN BABALOLA, Kevin Musungu, Desmond Radamba

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY, South Africa

Exploring the Potential of Non-invasive Geospatial Tools for Initial Investigations of Archaeological Sites: A Case Study of Dholavira, Gujarat

Bhanu Priya Chouhan¹, Sourav Kumar¹, Hina Pande¹, Poonam Seth Tiwari², Shashi Kumar¹, Shefali Agrawal³, Suresh Kannaujia⁴

¹Photogrammetry and Remote Sensing Department, Indian Institute of Remote Sensing, India; ²Geoweb Services, IT & Distance Learning Department, Indian Institute of Remote Sensing, India; ³Geospatial Technology & Outreach Program, Indian Institute of Remote Sensing, India; ⁴Geosciences Department, Indian Institute of Remote Sensing, India

Temporal Spectral Dynamics of Runway Surfaces Using Multi-Year Sentinel-2 Imagery for Infrastructure Condition Assessment

Ishtiaq Ahmed, Umesh Kumar Sharma, Pradeep Kumar Garg, Aditya Kumar Thakur

Indian Institute of Technology Roorkee, India

Forest Regeneration Assessment By Integrated Index And Remote Sensing In Semi Arid Land In The North West Of Algeria

Ahmed Zegrar, Nadjla Bentekhici, mohamed Ghabi

Centre of Spatial Techniques, Algeria

Investigating the Relationship Between Urban Heat Island Effect and Its Influencing Factors: A Case Study of Perth

Keizang Dema¹, Petra Helmholtz¹, Philip Burton²

¹Spatial Sciences, School of Earth and Planetary Sciences (EPS), Curtin University, Perth; ²Open Space Design Australia (OSDA), Perth, Western Australia

A Multimodal and Multitemporal Deep Learning Semantic Segmentation Method based on Variational Autoencoder for Multimodal Remote Sensing Image Time Series

Luca Bergamasco¹, Marius Guichard², Mauro Dalla Mura², Francesca Bovolo¹

¹Fondazione Bruno Kessler, Italy; ²Institut polytechnique de Grenoble, France

Mapping Surface Area Changes in Three Major Reservoirs on the Island of Trinidad between 2017 and 2023 using Sentinel-1 SAR Imagery

Deanesh Ramsewak¹, Arvind Jagassar², Shiel Williams³

¹University of Portsmouth, United Kingdom; ²British Columbia Institute of Technology, 3700 Willingdon Ave, Burnaby, BC V5G 3H2, Canada.; ³The Centre for Maritime and Ocean Studies, The University of Trinidad and Tobago, Trinidad and Tobago

Monitoring the Spatial Dynamics of Mikania micrantha During the Flowering Season Using Multi-epoch UAV Imagery: A Case Study North of Liyu Lake, Hualien, Taiwan

Yu-Cheng Huang¹, Yi-Ta Hsieh², Ping-Hung Chiang¹, Bo-Yi Lin¹, Jan-Chang Chen¹

¹National Pingtung University of Science and Technology, Taiwan, R.O.C.; ²National Ilan University, Taiwan, R.O.C.

Noise-Aware Data Augmentation for Robust Road Detection in Small Satellite Imagery

Nina Krašovec^{1,2}, Aleš Marsetič^{1,3}

¹ZRC SAZU, Novi trg 2, 1000 Ljubljana, Slovenia; ²Faculty of Civil and Geodetic Engineering, University of Ljubljana, 1000 Ljubljana, Slovenia; ³SPACE-SI, Aškerčeva 12, 1000 Ljubljana, Slovenia

Machine Learning for Marine Dock Detection Using LiDAR Intensity and Detectron2

Harald Steiner, Olena Pylypenko, Louise Ethier

Provincial Government of BC, Canada, Canada

From Satellite to Simulation: An AI-Driven Pipeline for Rapid, Reality-Based Aeronautical Environments

Sylvain Baradat, Alexis Barot, Thomas Bonfort, Sébastien Bonopera, Sébastien Bosch, Pierre Castets, Benjamin Cepas, Emmanuel Garcia, Alexandre Mayerowitz, Jérémie Noel, David Souveton, Michael Tonon, Jeremy Yviquel

Airbus Defence & Space, France

Finding DEM0: A Zero-Shot Depth Maps Calibration Framework for Generating Digital Elevation Models

Riccardo Contu^{1,2}, Andrea Nascetti³, Roberta Ravanelli⁴, Valerio Marsocci², Mattia Giovanni Crespi^{1,5}

¹Department of Civil, Building and Environmental Engineering, Sapienza University of Rome, Rome (RM), Italy; ²ESA, Φ-lab, Largo Galileo Galilei 1, Frascati (RM), 00044, Italy; ³Division of Geoinformatics, KTH Royal Institute of Technology, 10044, Stockholm, Sweden; ⁴Geomatics Unit, Department of Geography, University of Liège, Liège, Belgium; ⁵Sapienza School for Advanced Studies, Sapienza University of Rome, Rome, Italy

A Dual-Branch Deep Learning Framework for Social-Media-Driven Wildfire Verification and Precise Location Correction

Xuewen Yang^{1,2}, Yonghua Qu^{1,2}, Dongyi Liu^{1,2}

¹Beijing Normal University, Beijing, People's Republic of China; ²State Key Laboratory of Earth Surface Processes and Disaster Risk Reduction, Faculty of Geographical Science, Beijing Normal University, Beijing, People's Republic of China

A Global Wind Turbine Detection Framework Using Optical-Imagery under Installation Suitability Constraints

Yongjiu Feng, Rong Wang, Zhenkun Lei

Tongji University, China, People's Republic of

Global 30-m annual urban fractional green Vegetation Cover Dataset from 1984 for over 60,000 urban Areas

Haoran Cheng, Yuhong He

University of Toronto, Canada

Cloud Masking in Polar Regions with Foundation Models for Multispectral Satellite Imagery

Tianyi You^{1,2}, Alexander Baumann^{3,4,5}, Michael Greza^{1,2}, Benjamin Busam^{1,2}

¹Photogrammetry and Remote Sensing, Technical University of Munich, Munich, Germany; ²Munich Center for Machine Learning (MCML); ³Siemens AG, Munich, Germany; ⁴Heidelberg University, Heidelberg, Germany; ⁵Division of Intelligent Medical Systems, German Cancer Research Center (DKFZ), Heidelberg, Germany

AI4EO: Accelerating Earth Intelligence for All with AI-Driven Earth Observation

Yifang Ban

KTH Royal Institute of Technology, Sweden & Lead, GEO AI4EO Enabler

High-Resolution Mapping of Rock Outcrop Surface Conditions for Trace Metal Pollution Assessment near the Rouyn-Noranda Copper Smelter (Quebec, Canada)

Joël Masimo Kabuanga, Nicole Fenton, Osvaldo Valeria

Université du Québec en Abitibi-Témiscamingue

Fitness Reconstruction with Gradient Synergy: Enhancing SVM Optimization for Remote Sensing Classification

Li Sun, yonggang Wu

Huazhong University of Science and Technology, China, People's Republic of

Toward Wavelength-Independent Urban Scattering Characterization in Polarimetric SAR Data

Yong Wang, Dingfeng Duan

University of Electronic Science and Technology of China, China, People's Republic of

UAV LiDAR remote sensing for potentially large-scale rock fall detection

Sina Fatolahzadeh, Sergio A. Sepúlveda

Department of Earth Sciences, Simon Fraser University, Burnaby, BC, Canada

Standardized SAR Processing Platform with Cross-Sensor Consistency for Operational Monitoring

Chin-Rou Hsu¹, Ya-Lun, S. Tsai¹, Shu-Wei Chang¹, Chun-Chia Huang², Michelle Chang³, Irene Hsu³, Jen-Yu Han¹

¹National Taiwan University, Taiwan; ²National Ilan University, Taiwan; ³National Space Organization, Taiwan

Estimation of feather dune movement and sand flux with multi-source remote sensing data

Mimi Peng, Yifei Li, Yinghui Quan

Xidian university, China, People's Republic of China

An Open-Source Application and a Benchmarking Framework for Sentinel-2 Image Sharpening

Aristides Vaiopoulos¹, Vasileios Tsironis², Konstantinos Karantzas²

¹Raymetrics S.A., Sparti 32, Metamorphosis, Athens, Greece; ²NTUA, Department of Topography, Remote Sensing Laboratory, Athens, Greece

Comparison of Machine Learning and Physics-Based Approaches for Thermal Infrared Simulation

Benedikt Kottler, Raphael Zipperer, Eva Strauss, Dimitri Bulatov

Fraunhofer IOSB, Germany

High-Resolution Downscaling of Urban Land Surface Temperature via Machine Learning

Naeim Mijani¹, James Voogt¹, Mohammad Karimi Firozjaei², Majid Kiavarz³

¹Department of Geography and Environment, Western University, London, ON N6A 5C2, Canada;

²College of Management, University of Tehran, Tehran, Iran; ³Department of Remote Sensing and GIS, University of Tehran, Tehran, 1417964743, Iran

AURORA-Track: Uncertainty-Aware Identity Prediction for Robust Multi-Object Tracking in Satellite Video

Xin Huang, Pei Mi, MaoYu Wang, XuLei Shi, Wei Qin, PengJie Tao

School of Remote Sensing and Information Engineering, Wuhan University

Multi-Sensor Random Forest Downscaling for 10 m LST Mapping and Urban Heat Island Monitoring in a Small-Sized City

Nicola Colaninno

Politecnico di Milano, Department of Architecture and Urban Studies (DASTU), Italy

Seasonal Assessment of Land Use Impacts on Daytime and Nighttime Urban Heat Island Intensity Patterns in a Hot and Arid Region: A Case Study of Ahvaz, Iran

Mohammad Karimi Firozjaei¹, Naeim Mijani², Majid Kiavarz³, Solmaz Fatholouloumi⁴, Mohan Dev Joshi²

¹College of Management, University of Tehran, Tehran, Iran; ²Department of Geography and Environment, Western University, London, ON N6A 5C2, Canada; ³Department of Remote Sensing and GIS, University of Tehran, Tehran, 1417964743, Iran; ⁴School of Environmental Sciences, University of Guelph, Canada

Johannesburg's Urban Heat Island dynamics: Socio-economic and thermal patterns

KEVIN MUSUNGU, SINDANE MPENDULO

Cape Peninsula University of Technology, South Africa

Integrating Multi-Source Temperature Data and Explainable Deep Learning for Urban Microclimate Analysis

Shiqi Tu^{1,2}, Qingming Zhan^{1,2}, Yinghui Xiao^{1,2}, Ruihan Qiu^{1,2}, Zhihua Liu¹

¹School of Urban Design, Wuhan University, Wuhan 430072, China; ²Research Center for Digital City, Wuhan University, Wuhan 430072, China

Machine Learning for recognition and mapping of rare earths in Brazil using reflectance spectroscopy and hyperspectral satellite imagery

Matheus Gomes¹, Ruy Castro², Gustavo Vieira²

¹Aeronautics Institute of Technology, Brazil; ²Institute for Advanced Studies, Brazil

High-resolution LiDAR and thermal UAV data for 3D analysis of urban vegetation structure and its cooling effect in San Nicolás, Mexico

Kevin David Rodríguez González¹, Aylet Vega-Aguilar^{1,2}, Fabiola Doracely Yépez-Rincón¹, Jacinto Treviño Carreón³, Andrés Velastegui-Montoya⁴, David Freire-Granda⁴, Isabel Adriana Chuizaca Espinoza⁴

¹Universidad Autónoma de Nuevo León, Faculty of Civil Engineering, Department of Geomatics, San Nicolás de los Garza, Nuevo León, México; ²Departament of Geography and Regional Planning, Institute for Research in Environmental Sciences of Aragon (IUCA), Universidad de Zaragoza, España; ³Faculty of Engineering and Sciences, Universidad Autónoma de Tamaulipas, Ciudad Victoria, Tamaulipas, México; ⁴Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University, Guayaquil, Ecuador

Trend analysis and temperature prediction using MODIS time series Images in the Metropolitan Regions of Campinas and Piracicaba, Brazil

Matheus França Duarte da Silva, Danilo Marques de Magalhães, Carlos Eduardo Nascimento dos Santos, Aline Rocha Gonçalves, Manuela Saran Rando Barros
Dept. of Geography and Environmental Planning, São Paulo State University, Rio Claro, Brazil

Interpolation methodologies comparison for Heat Index Assessment

Ivone G. Zapata-Wah, Dariela A. Vazquez-Rodriguez, Fabiola D. Yepez-Rincon, Andrea N. Escobedo-Tamez
Autonomous University of Nuevo Leon, Civil Engineering Institute, Geomatics Department, Mexico

Multispectral Anomaly Detection: Comparison of sensor bands in conventional and machine learning approaches

Eva Strauss¹, Dimitri Bulatov¹, Edwin Deisling¹, Arno Schmidt², Peter Solbrig², Daniel Wagner², Alexander Gatter², Martin Kolloch²
¹Fraunhofer IOSB, Germany; ²Rheinmetall Electronics GmbH, Germany

Spaceborne spectral and thermal datasets for REE mapping using machine learning techniques: A case study on Siwana Ring Complex, Rajasthan, India

Ronak Jain
Banasthali Vidyapith, India

A novel wavelet-based destriper with spatial progressive attention for infrared images

Wei You¹, Zhiqiang Bian², Xinbo Zhou², Yi Xu¹, Kaimin Sun¹, Min Zhang³
¹Wuhan University, China, People's Republic of; ²Shanghai Institute of Satellite Engineering, China, People's Republic of; ³North Automatic Control Technology Institute, China, People's Republic of

Spatiotemporal Transformer Networks for Reconstructing Historical Landsat Time Series

Masoud Babadi Ataabadi¹, Darren Pouliot², Dongmei Chen¹, Temitope Seun Oluwadare¹
¹Laboratory of Geographic Information and Spatial Analysis, Department of Geography and Planning, Queen's University, Kingston, ON K7L 3N6, Canada; ²Landscape Science and Technology Division, Environment and Climate Change Canada, Ottawa, ON K1A0H3, Canada

Deep Learning Benchmarks for short-term Arctic Sea Ice Forecasting

Bo-Ram Kim¹, Junhwa Chi^{1,2}
¹Department of Data Engineering, Pukyong National University, Republic of (South Korea); ²Major of Big Data Convergence, Division of Data Information Sciences, Pukyong National University, Republic of (South Korea)

Snow water equivalent trends in North America through the lens of passive microwave remote sensing and deep learning models

Krystin Kys, Isteyak Isteyak, Karim Malik, Yusriyah Rahman, Karanveer Sidhu, Hala Al Daker
University of Windsor, Canada

OPTIG: Open-source Python Tool for Ice Thickness and Glacier volume.

Anurag Sharma¹, Avtar Singh Jasrotia^{1,2}
¹Department of Remote Sensing and GIS, University of Jammu, Jammu 180006, Jammu and Kashmir, India; ²Department of Geology, University of Jammu, Jammu 180006, Jammu and Kashmir, India

AI-assisted physical modeling of sun glint to improve inter-sensor consistency of remote sensing reflectance in coastal waters

Milad Niroumand-Jadidi, Lorenzo Mentaschi, Sonia Silvestri
University of Bologna, Italy

Near Real-Time Flood Mapping from Sentinel Data Using Machine Learning Techniques

Matija Gerčer, Tanja Grabrijan, Krištof Oštir
University of Ljubljana, Slovenia

Automated 3D extraction of hydromorphological metrics from LiDAR data

Alexandre Rétat^{1,2}, Nathalie Thommeret^{1,2}, Frédéric Gob^{2,3}, Jean-Stéphane Bailly⁴, Laurent Lespez^{1,2}, Karl Kreutzenberger⁵, Thomas Depret³
¹Université Paris-Est Créteil, France; ²Laboratoire de Géographie Physique, CNRS UMR 8591, Thiais, France; ³Université Paris 1 Panthéon-Sorbonne, France; ⁴LISAH, Univ. Montpellier, AgroParisTech, INRAE, Institut Agro, IRD, Montpellier, France; ⁵Office français de la biodiversité, Direction générale, Service Eau et Milieux Aquatiques, France

GRACE/GRACE FO: On Accurate estimation of Groundwater Storage Change from Satellite Gravimetry and beyond

Saurabh Choubey¹, Shard Chander², Rina Kumari¹
¹Central University of Gujarat, Vadodara, India; ²Space Applications Centre, ISRO, Ahmedabad, India

Assessment of spatio-temporal rainfall variability over high altitude Himalayan catchment

Omkar Pal¹, Amit Kumar Dubey², Shard Chander², Sudhakar Shukla¹, Saurabh Choubey³, Parth Dave⁴, Praveen Kumar Gupta²

¹Remote Sensing Application Centre, Lucknow, Uttar Pradesh, India; ²Space Application Centre, ISRO, Ahmedabad, Gujarat, India-380015; ³School of Environment and Sustainable Development, Central University of Gujarat, Vadodra, India; ⁴LDRP Institute of Technology and Research, Gandhinagar, India

Study of Physical and Chemical Parameters of Indus River Water

Jitendrabhai Khasiya, Subrat Sharma, M.S Mondal
University of Ladakh, India

Spectral signature analysis of snow contamination in Himachal Pradesh: a multi-analytical approach for cryosphere monitoring

Balla Vivek, Pradeep Kumar Garg
Indian Institute of Technology Roorkee, India

Estimating Long-Term Groundwater Storage Change in the Chad Basin, Nigeria, using GRACE/GRACE-FO and GLDAS Terrestrial Water Storage Anomalies

Ubong Udoka, Karel Pavelka
Czech Technical University, Faculty of Civil Engineering, Thákurova 7, 16629, Prague 6,

Hydromorphological Monitoring and Navigation Assessment on Alluvial River Sections Using Sentinel-2 and Water Gauge Data

Michał Śmiarowski
MILITARY UNIVERSITY OF TECHNOLOGY, Poland

Satellite-based analysis of snow cover trends and transitions in Nepal

Harshita Tiwari, Aditya Kumar Thakur, Rahul Dev Garg
Indian Institute of Technology Roorkee, Haridwar, India

Glacial Lake Outburst Flood Hazard and Risk Assessment of GYA Lake in the Upper Indus Basin of Ladakh Himalaya using Hydrodynamic Modelling

Jigmet Angmo, Subrat Sharma, Md. Surabuddin Mondal
¹ Dept. of Remote Sensing & GIS, Centre for Space Sciences & Allied Subjects (CSS& AS), University of Ladakh, Leh, India

Shallow Water Depth Inversion in Beibu gulf Based on Optical Remote Sensing and Electronic Nautical Charts

Ertao Gao², Zijin Huang¹, Guoqing Zhou², Yanling Lu², Xiang Zhou², Liu Jun², Xia Wang²
¹Guilin university of technology, China.; ²Guangxi Key Laboratory of Spatial Information and Geomatics, China

Global Assessment of Total Water Storage Variability and Trends (2002–2025) Using Multi-Source GRACE Data and Uncertainty Analysis

farzam Fatolazadeh¹, kalifa Goïta¹, Shusen Wang²
¹CARTEL, Département de Géomatique appliquée, Université de Sherbrooke, Sherbrooke, Québec J1K 2R1, Canada; ²Canada Centre for Remote Sensing, Natural Resources Canada, Ottawa K1A 0E4, Canada

Integrating Remote-Sensing driven SWAT Modelling and Community Perceptions to Assess Water Availability Across Elevation Gradients of Mount Kilimanjaro

Ehsan Khalefa, Nicholas Pepin, Richard Teeuw
University of Portsmouth, United Kingdom

Using the SWOT KaRin Sensor to Retrieve Lake Ice and Overlying Snow

Hayley Kavanagh¹, Grant Gunn¹, Claude Duguay²
¹University of Waterloo; ²H2O Geomatics

Applicability of Landsat Products for Estimation of Water Clarity in Finger Lakes, New York

Rabia Munsaf Khan, Bahram Salehi
State University of New York, College of Environmental Science and Forestry, United States of America

Spaceborne bathymetry using SAR and water level data

Francescopaolo Sica, Maria Paula Bustos Moreno, Michael Schmitt
University of the Bundeswehr Munich, Germany

Three-Decadal Sea Level Rise in the East China Sea: the Facts and Causes

Fengwei Wang, Yunzhong Shen
Tongji University, People's Republic of China

Deep Learning-based Feature Importance Evaluation for Pan-Arctic Sea Ice Concentration Mapping

Mabel Grace Heffring, Lincoln Linlin Xu
Department of Geomatics Engineering, University of Calgary, Alberta, Canada

Assessment of deep learning segmentation algorithms for lake ice cover retrieval from dual polarization SAR imagery

Yuhao Wu¹, Claude R. Duguay^{1,2}, K. Andrea Scott³, Justin Murfitt², Bin Li⁴, Samuel Johnston²

¹Department of Geography and Environmental Management, University of Waterloo, Canada; ²H2O Geomatics Inc., Kitchener, Canada; ³Department of Mechanical and Mechatronics Engineering, University of Waterloo, Canada; ⁴School of Environmental and Spatial Informatics, China University of Mining and Technology, Xuzhou, China

Evaluating the Surface Water and Ocean Topography Mission for Inland Water Monitoring: A SWOT Framework Review

Saba Hosseini Tabesh¹, Shusen Wang², Dongmei Chen³

¹Queen's University, Canada; ²Natural Resources Canada; ³Queen's University, Canada

Comparative Analysis of Spatiotemporal Trends in Arctic SST and SIC from Two Reanalysis Datasets

Chaeyun Kim¹, Sungwoo Park¹, Jongho Woo¹, Seungwon Kim¹, Seungkyoo Lee¹, Huiji Yu¹, Kyung-Soo Han²

¹Division of Earth Environmental System Science (Major of Spatial Information Engineering), Pukyong National University, Korea, Republic of (South Korea); ²Professor, Pukyong National University, Korea, Republic of (South Korea)

Using Pre- and Post-fire Airborne Laser Scanning Data to Determine Biomass Loss due to Combustion during the 2022 Chetamon Fire in Jasper National Park, Alberta, Canada

Natalie Krizan¹, Laura Chasmer², Raphaël Chavardès³, Richard Fournier⁴, Christopher Watson⁵, Christopher Hopkinson²

¹University of Lethbridge, Canada; ²Western University; ³Canadian Forest Service - Natural Resources Canada; ⁴Université de Sherbrooke; ⁵Parks Canada

Evaluating fuel structure modeling from high- and low-density airborne lidar in northern boreal forests

Emliy Jones¹, Laura Chasmer², Chris Hopkinson², Richard Fournier³

¹University Of Lethbridge, Canada; ²University of Western Ontario, Canada; ³Université de Sherbrooke, Canada

Improving Geospatial Data Quality Through Errors Propagation in Survey and Mapping Processes

Qassim Abdullah

Woolpert, inc., United States of America

Integrating High Resolution Aerial Imagery and Digital Elevation Models for Vertical Stratification of Rooftop Vegetation

Frances Leung, Yuhong He, Adam Martin, Marney Isaac

University of Toronto, Canada

An Evaluation of Methods for using LiDAR to obtain Depth of Burn Measurements from Wildland Fires in the Boreal Forest

Anna L. Magistrale¹, Mark C. De Jong², Koreen Millard¹

¹Carleton University; ²Natural Resources Canada

On the importance of ground validation and methodology for wetland mapping in Canada

Armand LaRocque¹, Brigitte Leblon¹, Alan Hanson²

¹Lakehead University, Canada; ²Canadian Wildlife Service, ECCC, Canada

Using the Sentinel Missions to Build a Validated Iceberg Database

Joseph Chamberland, Paris W. Vachon, Michael A. Stott

AstroCom Associates Inc, Canada

Monitoring Crop Phenology and Harvest Timing Using High-Resolution X-Band SAR Imagery in Western Canada Agricultural Systems

Keshav Singh

AGR.GC.CA

Multiscale Estimation of Crop Nitrogen Using Integrated UAV and Satellite Multispectral Imaging

Keshav Singh

AGR.GC.CA

Accurate and cost-effective forest terrain mapping by integrated SLAM and CLAS positioning

Soki Nishiwaki¹, Yusuke Iuchi¹, Takeshi Hori², Fumio Takeuchi³, Mika Takiya³, Takanori Emaru⁴

¹Graduate School of Engineering, Hokkaido University; ²Industrial Research Institute, Hokkaido Research Organization; ³Forestry Research Institute, Hokkaido Research Organization; ⁴Faculty of Engineering, Hokkaido University

Comparative Assessment of Low-Cost SLAM-Based Scanners for Indoor Surveying Applications

Luca Viola, **Marica Franzini**, Vittorio Casella

University of Study of Pavia, DICAr, Laboratory of Geomatics, Italy

Geo-Visual Fusion: An Enhanced Strategy for Drone Object Detection Based on High-Definition Map Context

Shenman Zhang, Qingshan Peng, Mengmeng Duan, Sheng He, Wei He, Yongsheng Yu, Xiaojun Fu, Wei Jiang, Jie Song, Ziliang Zhang, Lin Wen, Xiao Liu
Wuhan Geomatics Institute, China, People's Republic of

Evaluating Gaussian Splatting Maps for Absolute Visual Localization of UAVs

Felix Rocco Matzke, Hans-Gerd Maas, Anette Eltner
Institute of Photogrammetry and Remote Sensing, TUD Dresden University of Technology, Germany

Multispectral Drone-in-a-box System – Geometric System Calibration and Validation

Niko Koivumäki, Juha Suomalainen, Teemu Hakala, **Eija Honkavaara**
Finnish Geospatial Research Institute, Finland

Enhancing Vision-Based Perception in Autonomous Driving: YOLO11–DETR Integration with Selection Model

Ahmed M. Reda^{1,2}, Naser El sheimy¹, Adel Moussa^{1,3}
¹Dept. of Geomatics Engineering, University of Calgary, Canada; ²Dept. of Geomatics Engineering, Benha University, Benha, Egypt; ³Dept. of Electrical and Computer Engineering, Port-Said University, Port-Said, Egypt

From Image Space to Geospatial Space: A Camera Calibration Methodology for Video-Based Traffic Monitoring

Danesh Shokri^{1,2}, Christian Larouche^{1,2}, Saeid Homayouni³
¹Laval University, Canada; ²Centre de Recherche en Données et Intelligence Géospatiales (CRDIG), Université Laval, Québec, Canada; ³Centre Eau Terre Environnement, Institut National de la Recherche Scientifique, Québec, Canada

Evaluation of ICP variants for point cloud/BIM alignment enabling Scan-vs-BIM comparison: Application to maritime construction tolerance verification

Florie Becker¹, Hélène Macher¹, Tania Landes¹, Yvon Kila²
¹Université de Strasbourg, CNRS, INSA Strasbourg, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, 67000, France; ²Ferrcad, 450 Rue Baden Powell, 34 000 Montpellier, France

Automatic Generation of LoD3 Building Models for High-Density Cities: A Case Study of Hong Kong using Multi-Source Data and an Adaptive Strategy

Guoxin Si¹, Wei Yao^{2,3}
¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University; ²Institute of Urban Environment, Chinese Academy of Sciences, China, People's Republic of; ³School of Engineering and Design, Technical University of Munich, Munich, 80333, Germany

Towards Automated 3D BIM Reconstruction of Existing Industrial Buildings from Point Cloud Data

Patricia González Cabaleiro, Muataz S.A. Albadri, Antonio Fernández, Lucía Díaz-Vilariño
CINTECX, Universidade de Vigo, GeoTECH Group, 36310, Vigo, Spain

Foundation Model-Based Pipeline for 3D Damage Localization in Built Infrastructure

Zhiya Yang, Roberto de Lima-Hernandez, Maarten Vergauwen
KU Leuven, Belgium

3D Point Cloud from Close-Range Photogrammetry for Defect Characterization of Rubberized Concrete

Jiacheng Liu¹, Mohammed Alnahhal¹, Ailar Hajimohammadi¹, Sara Gonizzi Barsanti², Jinling Wang¹, Mohsen Kalantari¹
¹UNSW Sydney, Australia; ²Università degli Studi della Campania Luigi Vanvitelli, Italy

Distributed Scan vs BIM Processing for Automated Geometric Quality Monitoring

Sungha Ju¹, Jiwan Hong², **Sehoon Oh**², Joon Heo²
¹Conworth, Inc.; ²Yonsei University, Korea, Republic of (South Korea)

6:30pm - 9:30pm

Congress Dinner

Location: **Art Gallery of Ontario**

Awards Ceremony:

- ISPRS Fellow
- The Schermerhorn Award
- The Schwedsky Medal
- The Eduard Doležal Award
- ISPRS Student Consortium Service Award

8:30am - 10:00am	WG III/1E: Remote Sensing Data Processing and Understanding Location: 713A
	<p>8:30am - 8:45am Directional Total Least Square for FullWaveform Aerial LiDAR Smoothing Yining Feng, <u>Debra Laefer</u>, Ivan Selesnick Tandon School of Engineering, New York University, United States of America</p> <p>8:45am - 9:00am Improving Urban Point Cloud Classification Using Dynamic Local Context-Based Point Confidence <u>Jayati Vjjaywargiya</u>, Anandakumar M Ramiya Indian Institute of Space Science and Technology</p> <p>9:00am - 9:15am Refinenet: a confidence-aware deep online learning framework to refine real-world point cloud semantic segmentation <u>Sharath Chandra Madanu</u>¹, Shenglan Du¹, Jantien Stoter¹, Daan van der Heide^{1,2} ¹3D Geoinformation group, Delft University of Technology, Delft, NL; ²Rijkswaterstaat, Delft, NL</p> <p>9:15am - 9:30am A Structured Query Language Approach for processing Smartphone-based LiDAR of Understorey Vegetation <u>Rory Pittman</u>, Baoxin Hu York University, Canada</p> <p>9:30am - 9:45am AI Indexing of Aerial LiDAR Point Cloud for Efficient Query Mohana M, <u>Anandakumar M Ramiya</u> Indian Institute of Space Science and Technology, Trivandrum, India</p> <p>9:45am - 10:00am Intelligent Extraction Method for Geographic Information Feature Based on Human-Machine Collaboration <u>Hongwei Zhang</u>¹, Jiage Chen², Chenchen Wu² ¹Chinese Academy of Surveying and Mapping, China, People's Republic of; ²National Geomatics Center of China, China, People's Republic of</p>
8:30am - 10:00am	ICWG II/a: Autonomous Sensing Systems and their Applications Location: 713B
	<p>8:30am - 8:45am GCP Deployment and Recognition System based on Light-Marker UAV <u>Ruikai Li</u>, Yi Wan, Dong Wei, Yongjun Zhang, Ziqian Huang, Xiaotong Li, Changjun Zhu Wuhan University,China</p> <p>8:45am - 9:00am 6D Strawberry Pose Estimation: Real-time and Edge AI Solutions Using Purely Synthetic Training Data <u>Saptarshi Neil Sinha</u>¹, Paul Julius Kühn¹, Mika Silvan Goschke¹, Michael Weinmann² ¹Fraunhofer IGD, Germany; ²Delft University of Technology, Netherlands</p> <p>9:00am - 9:15am A Comparison of Multi-View Stereo Methods for Photogrammetric 3D Reconstruction: From Traditional to Learning-Based Approaches <u>Yawen Li</u>, George Vosselman, Francesco Nex Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Enschede, The Netherlands</p> <p>9:15am - 9:30am Automatic detection models for building exterior wall cracks in drone imagery based on CNN and Transformer Yaoling Shang¹, <u>Ying Ge</u>², Yuqing Ma³, Yingying Zhang³, Shilin Lv³ ¹National Quality Inspection and Testing Center for Surveying and Mapping Products, China, People's Republic of; ²Hohai University, China, People's Republic of; ³State Grid Zhejiang Electric Power Co.,Ltd. Logistics Service Company, China, People's Republic of</p> <p>9:30am - 9:45am Towards real-time UAV path replanning based on photogrammetry and learning-based approaches Débora Paula Simões^{1,2}, <u>Henrique Candido de Oliveira</u>¹ ¹University of Campinas, Brazil; ²IFSULDEMINAS, Brazil</p> <p>9:45am - 10:00am PC2Model: ISPRS benchmark on 3D point cloud to model registration Mehdi Maboudi¹, <u>Said Harb</u>¹, Jackson Ferrao¹, Kourosh Khoshelham², Yelda Turkan³, Karam Mawas¹ ¹Technische Universität Braunschweig; Institute of Geodesy and Photogrammetry, Germany; ²Department of Infrastructure Engineering, University of Melbourne, Australia; ³Civil & Construction Engineering, Oregon State University, USA</p>

8:30am - 10:00am	WG III/7A: Remote Sensing of the Hydrosphere and Cryosphere Location: 714A
	<p>8:30am - 8:45am Mass Balance Estimation of Gangotri Glacier, India, through Ice Thickness changes using Sentinel-1 SAR data <u>Shubham Bhattacharjee</u>¹, Rahul Dev Garg¹, Arvind Chandra Pandey² ¹Indian Institute of Technology Roorkee, Roorkee, India; ²Central University of Jharkhand, Ranchi, India</p> <p>8:45am - 9:00am Three-Quarters of a Century of Glacier Mass Loss and Lake Emergence in the Beas Basin, Western Himalaya <u>Roja Asharaf</u>, Anil V Kulkarni, Ravi S Nanjundiah, Ramananda Chakrabarti Indian Institute of Science, India</p> <p>9:00am - 9:15am Basal Melting and Potential Warm Water Intrusion Beneath Antarctic Ice Shelves <u>Shuang Wu</u>^{1,2}, Tian Chang^{1,2}, Lu An^{1,2}, Rongxing Li^{1,2} ¹Center for Spatial Information Science and Sustainable Development Applications, Tongji University, 1239 Siping Road, Shanghai 200092, China; ²College of Surveying and Geo-Informatics, Tongji University, 1239 Siping Road, Shanghai, China</p> <p>9:15am - 9:30am Impact of Flux Gate Location on Antarctic Mass Balance via Input-Output Method <u>Yixiang Tian</u>^{1,2}, Shuwei Jia^{1,2} ¹College of Surveying and Geo-Informatics, Tongji University, China, People's Republic of; ²Center for Spatial Information Science and Sustainable Development Applications, Tongji University, China, People's Republic of</p> <p>9:30am - 9:45am Spatiotemporal Accuracy Assessment and Application of ICESat-2 Satellite Observations over the Antarctic Ice Sheet <u>Gang Qiao</u>^{1,2}, Youquan He^{1,2}, Hongwei Li^{1,2} ¹Center for Spatial Information Science and Sustainable Development Applications, Tongji University, China; ²College of Surveying and Geo-Informatics, Tongji University, China</p> <p>9:45am - 10:00am Enhancing existing Remote-Sensing Datasets with weakly supervised Deep Learning: A Case Study on Antarctic Rock Outcrops <u>Felix Dahle</u>, Roderik Lindenbergh, Bert Wouters TU Delft, The Netherlands, Dept. of Geoscience & Remote Sensing</p>
8:30am - 10:00am	WG III/9: Geospatial Environment and Health Analytics Location: 714B
	<p>8:30am - 8:45am Urban Livability Analysis Based on Multi-Source Remote Sensing Data <u>Hailun Dai</u>^{1,2}, Yu Liu¹, Tao Zhang¹, Guanghui Wang¹, Lijuan Zheng¹, Lei Miao¹, Ting Liu¹, Yunjia Zou¹, Wei Zhang^{1,3}, Jin Liu^{1,2} ¹Land Satellite Remote Sensing Application Center, Ministry of Natural Resources, China, People's Republic of; ²Beijing SatImage Information Technology Co. Ltd, China; ³China University of Geosciences, Beijing, 100083, P. R. China</p> <p>8:45am - 9:00am Integrated Remote Sensing and GIS-Based Assessment of Urban Morphology, Waterlogging, and Dengue Hotspots in Chennai (2021–2023) <u>Swetha Sureshkumar</u>, Sulochana Shekhar Central University of Tamil Nadu, India</p> <p>9:00am - 9:15am From Pixels to Pathogens: Multi-Scale Environmental Modeling of Tick-Borne Disease Risk <u>Kirsten Noltie</u>, Dongmei Chen Queen's University, Canada</p> <p>9:15am - 9:30am Detection of Illegal Landfills on Satellite Imagery Using a Multi-agent Framework <u>Yehor Lytvynov</u>¹, <u>Viktoriiia Hnatushenko</u>^{1,2}, Volodymyr Hnatushenko³, Christian Heipke² ¹Ukrainian State University of Science and Technologies; ²Leibniz University Hannover, Germany; ³Dnipro University of Technology</p> <p>9:30am - 9:45am Building Deformation Monitoring and Safety Risk Assessment Based on PSI Technology <u>Naiyi Li</u>^{1,2}, Feng Zhao^{1,2}, Wenqiang Yao^{1,2} ¹Shanghai Surveying And Mapping Institute, China; ²Shanghai Natural Resources Satellite Application Technology Center, China</p>
8:30am - 10:00am	WG III/8J: Remote Sensing for Agricultural and Natural Ecosystems Location: 715A
	<p>8:30am - 8:45am Estimating grassland dry mass in forage mixes using UAV imagery and PCR</p>

Matheson Modesto Silva¹, Rebeca Campos Emiliano da Silva¹, Antonio Maria Garcia Tommaselli², Nilton Nobuhiro Imai²

¹Graduate Program of Cartographic Sciences, Faculty of Sciences and Technology, São Paulo State University (UNESP) at Presidente Prudente; ²Department of Cartography, São Paulo State University (UNESP) at Presidente Prudente

8:45am - 9:00am

Predicting Plant Diversity in Revegetated Grasslands with Sentinel-2: Comparing Performance of Spatio-Temporal Features with Input Time Series

Pinja Lindgrén¹, Matthieu Molinier¹, Alexander Kießling², Astrid Tischler²

¹VTT Technical Research Centre of Finland Ltd, Finland; ²Bonatica

9:00am - 9:15am

Mapping Shrub and Tree Encroachment in Canadian Prairies using Stacking Ensemble and Sentinel-1/2 Imagery

Yihan Pu, Irini Soubry, Xulin Guo

Department of Geography and Planning, University of Saskatchewan, Canada

9:15am - 9:30am

Integrating Earth observations and machine learning for large-scale fractional vegetation cover mapping of wood bison habitat

Michael Merchant, Jennifer Hird, Jenet Dooley, Victor Tran, Cynthia McClain, Mir Mustafizur Rahman

Alberta Biodiversity Monitoring Institute

9:30am - 9:45am

DINOKey: Transformer-Based Keypoint Detection for Wildlife Monitoring in Aerial Imagery

Jayden Hsiao¹, Muhammed Patel¹, David A. Clausi¹, Linlin Xu²

¹University of Waterloo, Canada; ²University of Calgary, Canada

9:45am - 10:00am

Testing a novel UAV SWIR imaging system for estimating absolute water content in Tillandsia landbeckii

Fabian Reddig¹, Christoph Hütt¹, Leon Vehlken¹, Nora Tilly¹, Sebastián Yassir Espinoza Guzmán³, Jan Wolf¹, Annika Klee¹, Marcus Koch^{4,5,6}, Georg Bareth¹, Alexander Jenal²

¹GIS & RS Group, Institute of Geography, University of Cologne, Germany; ²Application Center for Machine Learning and Sensor Technology (AMLS), University of Applied Sciences Koblenz, Germany;

³Departamento de Ciencias Geológicas, Universidad Católica del Norte, Chile; ⁴Center for Organismal Studies, Biodiversity and Plant Systematics, Heidelberg University, Germany; ⁵Cluster of Excellence GreenRobust, Heidelberg University, 69120 Heidelberg, Germany; ⁶Heidelberg Center for the Environment, Heidelberg University, 69120 Heidelberg, Germany

10:00am - 10:15am

Adapting Deep Anomaly Detection for Automated Aerial Caribou Monitoring in Alaska

Ghazaleh Serati^{1,2}, Jérôme Théau^{1,2}, Samuel Foucher¹

¹Université de Sherbrooke, Canada; ²Quebec Centre for Biodiversity Science (QCBS)

8:30am - 10:00am

WG II/3F: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

8:30am - 8:45am

Beyond Photorealism: Gaussian Splatting for the Precise Reconstruction of Complex Geometries In Underwater Photogrammetry

Andrea Cimattoribus¹, Davide Antonio Cucci¹, Fabio Menna², Erica Nocerino³, Christoph Strecha¹

¹PIX4D SA, Route de Renens 24 1008 Prilly, Switzerland; ²Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Sassari, Italy; ³Department of Humanities and Social Sciences, University of Sassari, Sassari, Italy

8:45am - 9:00am

Merchantable Tree Stem Volume Estimation using Mobile Backpack LiDAR

Sangyoon Park¹, Hazem Hanafy¹, Chunxi Zhao¹, Jinyuan Shao², Songlin Fei², Ayman Habib¹

¹Lyles School of Civil and Construction Engineering, Purdue university, United States of America; ²Department of Forestry and Natural Resources, Purdue university, United States of America

9:00am - 9:15am

TRACE: Instance-Level Open-Vocabulary Inventory Generation for 3D Forensic Evidence Reconstruction

Florian Johannes Eichinger^{1,2}, Michael Greza^{1,2}, Benjamin Busam^{1,2}

¹Technical University of Munich, Germany; ²Munich Center for Machine Learning, Germany

9:15am - 9:30am

Surface Water 3-D Mapping With Point Cloud Data of Single Return Airborne LiDAR

Cihan Altuntas

Konya Technical University, Turkiye

9:30am - 9:45am

Enhancing underground environment rendering with lightweight 3D gaussian splatting

Roberto de Lima-Hernandez, Zhiya Yang, Maarten Vergauwen

KU Leuven, Belgium

9:45am - 10:00am

Robust Cross-Modal Matching between LiDAR Point Clouds and Multi-Camera Images in Tunnel Environments via Surface Parameterization

Ying Jiang¹, Feng Liu², Han Hu^{1,3}, Yulin Ding^{1,3}, Chong Wang^{3,4}, Ping Wen^{3,4}, Qing Zhu^{1,3}

¹Faculty of Geosciences and Engineering, Southwest Jiaotong University; ²CRSC Communication & Information Group Co., Ltd.; ³Yunnan Engineering Research Center of 3D Real Scene; ⁴Kunming Engineering Corporation Limited

8:30am - 10:00am

IvS5: Next-Generation Flood Mapping: Integrating AI, Remote Sensing, and Evolving Landscapes

Location: 716A

8:30am - 8:45am

Spatiotemporal Flood Susceptibility Mapping using a Hybrid CNN-ConvLSTM Architecture

Karen Elaine Dunbar^{1,2}, Heather McGrath², Usman Khan¹

¹York University, Canada; ²Natural Resources Canada

8:45am - 9:00am

Risk-guided Flood Segmentation from Optical Satellite Imagery using NDWI Threshold Optimization and Segment Anything Model.

Andrea Reid¹, Shabnam Jabari¹, Heather McGrath²

¹University of New Brunswick, Canada; ²Natural Resources Canada, Government of Canada, Ottawa, ON

9:00am - 9:15am

Integration of Remote Sensing Indices and Ensemble Machine Learning with Independent HEC-RAS 2D Simulations for Improved Flood Hazard Assessment in the Ottawa River Watershed.

Temitope Oluwadare¹, Heather McGrath², Dongmei Chen¹

¹Queen's University, Canada; ²National Resource Canada

9:15am - 9:30am

Multi-Event Machine Learning for Annual Flood Susceptibility Prediction at a National Scale

Heather McGrath

Natural Resources Canada, Canada

9:30am - 9:45am

Geomorphometric analysis of urban fluvial terraces using UAV LiDAR: a case study from the La Silla River, Mexico

Mariana Pérez Martínez, Fabiola Doracely Yépez Rincón, Luis Eduardo Arista Cázares, Yadira Zulema Antonio Durán, **Kevin David Rodríguez González**, Hector de León Gómez, Adrian Leonardo Ferriño Fierro, Victor Hugo Guerra Cobian

Autonomus university of Nuevo León, Mexico

8:30am - 10:00am

Forum4A: Hybrid Intelligent Geospatial Computing

Location: 716B

8:30am - 10:00am

WG I/4: LiDAR, Laser Altimetry and Sensor Integration

Location: 717A

8:30am - 8:45am

Automated Station Planning for Terrestrial Laser Scanning in Complex Forest Environments

Wenbo Zhang¹, **Zhenyang Hui**¹, Yuanping Xia¹, Penggen Cheng¹, Jialin Fu¹, Zhilu Zhang¹, Ting Hui²

¹East China University of Technology, China, People's Republic of; ²College of Management, Guangdong AIB Polytechnic

8:45am - 9:00am

Improved reflectance calculation in full-waveform LiDAR considering the angle of incidence

Jan Rhomberg-Kauerl¹, Florian Pöppl^{1,2}, Helena Laasch³, Martin Pfennigbauer⁴, Gottfried Mandlbürger¹

¹Department of Geodesy and Geoinformation, TU Wien, 1040 Vienna, Austria; ²Laser Measurement Systems GmbH; ³Institute of Geodesy and Photogrammetry, ETH Zurich, 8093 Zurich, Switzerland; ⁴Research and Defense GmbH

9:00am - 9:15am

Multi-branch deep Learning Architecture for bathymetric LiDAR Point Cloud Classification

Lida Asgharian Pournodrati¹, Gottfried Mandlbürger², **Uwe Sörge**¹

¹Institute for Photogrammetry and Geoinformatics, University of Stuttgart, Germany; ²Department of Geodesy and Geoinformation, TU Wien, Vienna, Austria

9:15am - 9:30am

Low-cost Terrestrial Laser Scanners for Permanent Monitoring of Beach-Dune Systems

Daan Cornelis Huls Kemper¹, Hannah Weiser^{2,3}, Ronald Tabernig^{2,3}, Bernhard Höfle^{2,3}, Thomas de Jong¹, Roderik Lindenbergh¹

¹Dept. of Geoscience and Remote Sensing, Delft University of Technology, The Netherlands; ²3DGeo Research Group, Institute of Geography, Heidelberg University, Germany; ³Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University, Germany

	<p>9:30am - 9:45am</p> <p>Assessing Trajectory Accuracy of the CHCNAV RS10 Handheld Laser Scanner Stefan Binapfl, Carolin Runger, Gunnar Lelle-Neumann, Anette Eitner, Ferdinand Maiwald TUD Dresden University of Technology, Germany</p> <hr/> <p>9:45am - 10:00am</p> <p>LiDAR, green-wavelength, 3D point cloud, under water, refractive index. Yu Lan¹, Jiale Wang¹, Ji Yang¹, Mario Kolling¹, Alexander Dorndorf¹, Christoph Werner², Alexander Reiterer^{2,3}, Jens-Andr Paffenholz¹ ¹Institute of Geotechnolgy and Mineral Resources – Geomatics, Clausthal University of Technology; ²Fraunhofer Institute for Physical Measurement Techniques IPM; ³Institute for Sustainable Systems Engineering (INATECH), University Freiburg</p>
8:30am - 10:00am	<p>ByA1: ISPRS Best Young Author Award Papers Location: 717B</p> <hr/> <p>Comparative practices in 3-D geoinformation by national mapping and cadastral agencies Thomas Goldring¹, Jon Mills¹, David Holland², Norbert Haala³, Shidong Wang¹ ¹Newcastle University, United Kingdom; ²Ordnance Survey, United Kingdom; ³University of Stuttgart, Germany</p> <hr/> <p>Feasibility of Indoor Frame-Wise Lidar Semantic Segmentation via Distillation from Visual Foundation Model Haiyang Wu, Juan J. Gonzales Torres, George Vosselman, Ville Lehtola Department of Earth Observation Science, Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Netherlands, The</p> <hr/> <p>Diachronic Stereo Matching for multi-date Satellite Imagery Elias Masquillan^{1,2}, Luca Savant Aira³, Roger Mari⁴, Thibaud Ehret⁵, Pablo Muse^{1,6}, Gabriele Facciolo⁶ ¹IIE, Facultad de Ingenieria, Universidad de la Republica, Uruguay; ²Digital Sense, Uruguay; ³Politecnico di Torino, Corso Duca degli Abruzzi, 24, 10129 Torino TO, Italia; ⁴Eurecat, Centre Tecnologic de Catalunya, Multimedia Technologies, Barcelona, Spain; ⁵AMIAD, Pole Recherche, France; ⁶Universite Paris-Saclay, ENS Paris-Saclay, CNRS, Centre Borelli, 91190, Gif-sur-Yvette, France</p> <hr/> <p>Refraction-Aware Gaussian Splatting for Shallow Water Bathymetry from UAV Imagery Taiki Uno¹, Sohei Kobayashi² ¹Kyoto University, Graduate School of Engineering, Kyoto, Japan; ²Kyoto University, Disaster Prevention Research Institute, Uji, Japan</p>
10:00am - 10:30am	<p>Morning Coffee Break Location: Exhibition Hall "E"</p>
10:00am - 1:30pm	<p>Exhibition Location: Exhibition Hall "F"</p>
10:30am - 12:00pm	<p>Plenary Session 4 Location: Exhibition Hall "G"</p> <p>Keynote 1: Mr. Alex Miller Awards Ceremony:</p> <ul style="list-style-type: none"> The Frederick J. Doyle Award Wang Zhizhuo Award <p>Keynote 2: Professor Margurite Madden</p>
12:00pm - 1:30pm	<p>Lunch Location: Exhibition Hall "E"</p>
1:30pm - 3:00pm	<p>WG II/2D: Point Cloud Generation and Processing Location: 713A</p> <hr/> <p>1:30pm - 1:45pm</p> <p>An Approach for deriving Branch Kinematics of Deciduous Trees from hyper-temporal terrestrial Laser Scanner Data Anne Bienert, Katja Richter, Sophia Bohme, Hans-Gerd Maas Dresden University of Technology, Institute of Photogrammetry and Remote Sensing, Germany</p> <hr/> <p>1:45pm - 2:00pm</p> <p>In-Field 3D Wheat Head Instance Segmentation From TLS Point Clouds Using Deep Learning Without Manual Labels Tomislav Medic¹, Liangliang Nan² ¹ETH Zurich, Switzerland; ²TU Delft, Netherlands</p> <hr/> <p>2:00pm - 2:15pm</p> <p>Optimal Path Planning for Kinematic Laser Scanning Julius Knechtel¹, Mohammad Kordgholiabad², Jan-Henrik Haunert¹ ¹University of Bonn, Germany; ²Politecnico di Milano, Italy</p> <hr/> <p>2:15pm - 2:30pm</p> <p>Non-Contact Modal Analysis of Wind Turbine Blades using Terrestrial Laser Scanner Martina Goring Jade Hochschule, Germany</p> <hr/> <p>2:30pm - 2:45pm</p> <p>Pixel-Accurate Registration of Photogrammetric Images and LiDAR in a Hybrid Airborne Oblique Imaging System Deyan Deng¹, Rongjun Qin^{1,2}, Elisa Mariarosaria Farella³, Fabio Remondino³</p>

Department of Civil, Environmental and Geodetic Engineering, The Ohio State University, Columbus, USA; ²Department of Electrical and Computer Engineering, The Ohio State University, Columbus, USA; ³3D Optical Metrology (3DOM) unit, Bruno Kessler Foundation (FBK), Trento, Italy

2:45pm - 3:00pm

Integrating Airborne LiDAR and OpenStreetMap Features for Automated Hydrological Conditioning of Urban Digital Elevation Models

Tommaso Destefanis^{1,2,3}, **Elena Durando**³, **Matilde Oliveti**³, **Emanuele Artù Cassin**³, **Martina Di Rita**²

¹Sapienza Università di Roma, DICEA, Rome, Italy; ²Politecnico di Torino, SDG11Lab, Interuniversity Department of Regional and Urban Studies and Planning (DIST), Turin, Italy; ³Ithaca S.r.l., Turin, Italy

1:30pm - 3:00pm

WG III/1K: Remote Sensing Data Processing and Understanding

Location: 713B

1:30pm - 1:45pm

Automated kelp mapping from Sentinel-2 satellite imagery

Mohsen Ghanbari¹, **Neil Ernst**², **Taylor Denouden**³, **Luba Reshitnyk**³, **Piper Steffen**¹, **Alena Wachmann**¹, **Eduardo Loos**⁴, **Margot Hessing-Lewis**³, **Maycira Costa**¹

¹Department of Geography, University of Victoria; ²Department of Computer Science, University of Victoria; ³Hakai Institute; ⁴Vertex Resource Group

1:45pm - 2:00pm

Addressing Spatial and Temporal Uncertainty in Predicting Sea Surface Temperature using Extended DualSeq a Novel Ensemble Method

Lalita Chaudhary
IILM University, India

2:00pm - 2:15pm

From global to station-centric models: improved chlorophyll-a prediction in the Gulf of İzmir using Sentinel-2

Coskun Ozkan¹, **Filiz Sunar**², **İbrahim Tan**³

¹Erciyes University, Türkiye; ²Istanbul Technical University, Türkiye; ³TUBITAK MRC Marine and Coastal Research Group, Türkiye

2:15pm - 2:30pm

Evaluating the Impact of Super-Resolution for Coastal Boundary Segmentation Using Deep Learning for High-Resolution Imagery

Marc-André Blais^{1,2}, **Moulay Akhloufi**^{1,2}

¹Université de Moncton, Canada; ²Perception, Robotics and Intelligent Machines (PRIME)

2:30pm - 2:45pm

Region-aware full-waveform figure descriptor and convolutional vision transformer framework for underwater terrain classification

You-Chen Liu, **Tzu-Yi Chuang**
National Yang Ming Chiao Tung University, Taiwan

2:45pm - 3:00pm

Integrated Geoinformatics for Reconstructing the Cultural Dynamics in Coastal and Shallow Submerged Sites

Nikos Papadopoulos, **Nasos Argyriou**

GeoSat ReSeArch Lab, Institute for Mediterranean Studies, Foundation for Research and Technology Hellas -, Greece

1:30pm - 3:00pm

ICWG II/1b: Digital Construction: Reality Capture, Automated Inspection, and Integration to BIM

Location: 714A

1:30pm - 1:45pm

Digital Twin Approach to Accessibility Assessment of Public Transport

Kourosh Khoshelham, **Junjie Zhang**, **Marko Radanovic**, **Zizhao Li**, **Shuyu Zhu**, **Yuan Zhao**, **Martin Tomko**

University of Melbourne, Australia

1:45pm - 2:00pm

Graph-based topology retrieval and constructive solid geometry for structural BIM refinement

Muataz Safaa Abed Albadri, **Patricia González-Cabaleiro**, **Antonio Fernández**, **Lucia Díaz-Vilarinho**
CINTECX, Universidade de Vigo, GeOTECH group, 36310 Vigo, Spain

2:00pm - 2:15pm

Integrating Photogrammetry and Topological Data Analysis within a Digital Twin Framework for Missing Bolt Detection in Bridges

Vahid Mousavi¹, **Maria Rashidi**^{1,2}

¹Centre for Infrastructure Engineering (CIE), Western Sydney University, Penrith, NSW 2751, Australia; ²Urban Transformations Research Centre (UTRC), Western Sydney University, Parramatta, NSW 2150, Australia

2:15pm - 2:30pm

LGFormer: lightweight local-global transformer for indoor point cloud segmentation

Yuwei Zhang¹, **Fashuai Li**², **Yiyi Liu**¹, **Ping Wang**¹, **Yuwei Chen**³, **Biao Xiong**¹

¹Wuhan University of Technology; ²The Advanced Laser Technology Laboratory of Anhui Province; ³Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences

2:30pm - 2:45pm

Dataset review of exposed reinforcement in concrete bridges and challenges for automated damage detection in UAS-assisted bridge inspections

Erkki Tobias Bartczak, Maarten Bassier, Maarten Vergauwen

Department of Civil Engineering, Faculty of Engineering Technology, Geomatics Research Group, KU Leuven, Gent, Belgium

2:45pm - 3:00pm

Domain-Adaptive Object Detection of Electrical Facilities for Enhanced Semantic Indoor Models

Lukas Arzoumanidis¹, Weilian Li^{1,2}, Youness Dehbi¹

¹HafenCity University Hamburg, Computational Methods Lab, Germany; ²Southwest Jiaotong University, Faculty of Geosciences and Engineering, China

1:30pm - 3:00pm

WG III/8D: Remote Sensing for Agricultural and Natural Ecosystems

Location: 714B

1:30pm - 1:45pm

Spatial Aerodynamic Roughness of Forested Landscapes from Airborne LiDAR

Mahmoud Ahmed¹, Joris Timmermans¹, Roderik Lindenbergh¹, Massimo Menenti^{1,2}

¹Department of Geoscience and Remote Sensing, Delft University of Technology, The Netherlands;

²National Key Laboratory of Remote Sensing and Digital Earth, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China

1:45pm - 2:00pm

Forest Canopy Height Mapping in Tanzanian Tropical Rainforests Using Multimodal Remote Sensing Data and Machine Learning

Soheil Zaghain^{1,2}, Seyed Ehsan Khankeshizadeh^{1,2}, Sadegh Jamali¹, Torbern Tagesson³, Ernest William Mauya⁴, Ali Mohammadzadeh², Filbert Francis¹

¹Department of Technology and Society, Faculty of Engineering, Lund University, P.O. Box 118, 221 00 Lund, Sweden.;

²Department of Photogrammetry and Remote Sensing, Faculty of Geodesy and Geomatics Engineering, K. N. Toosi University of Technology, Tehran 19967-15443, Iran.; ³Department of Earth and Environmental Sciences, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden.;

⁴Department of Forest Engineering and Wood Sciences, College of Forestry, Wildlife and Tourism, Sokoine University of Agriculture, Morogoro, Tanzania.

2:00pm - 2:15pm

Comparing DeepLabv3+ and Depth Anything V2 on Canopy Height Model Prediction on a Continental Scale Dataset of Australia

Kevin Yuelin Qiu¹, Rewanth Ravindran², Nicolas Pucino^{3,4,5}, Dimitri Bulatov¹, Shaun R. Levick⁶, Martin Brandt⁷, Dorota Iwaszczuk², Tim McVicar³

¹Scene Analysis Department, Fraunhofer IOSB Ettlingen, Germany; ²Remote Sensing and Image Analysis, Technical University of Darmstadt, Germany; ³CSIRO Environment, Canberra, ACT, Australia;

⁴Fenner School of Environment and Society, Australian National University, Canberra, ACT, Australia;

⁵Climate Friendly Pty Ltd, Sydney, NSW, Australia; ⁶CSIRO Environment, Urrbrae, SA, Australia;

⁷Department of Geosciences and Natural Resource Management, University of Copenhagen, Copenhagen, Denmark

2:15pm - 2:30pm

Data-Driven vs Functional Approaches for Regionally Transferable Biomass Modeling Using Airborne LiDAR

Maxim Okhrimenko^{1,2}, Guillermo Castilla², Craig Coburn¹, Chris Hopkinson¹

¹University of Lethbridge, Canada; ²Canadian Forest Service, Canada

2:30pm - 2:45pm

Optimization of the National Biomass Allometric Equation Using Remote Sensing Data

Shweta Parajuli¹, Tramo K. Remmel², Richard L. Bello³

¹York University, Canada; ²York University, Canada; ³York University, Canada

2:45pm - 3:00pm

Turning rural infrastructure into smart sensors: high-frequency agricultural monitoring for next-generation precision farming

Xingli Qin¹, Bingfang Wu^{1,2}, Miao Zhang^{1,2}, Fangming Wu¹, Mengxiao Li^{1,2}, Hongwei Zeng^{1,2}, Fuyou Tian¹, Kaimin Sun³

¹State Key Laboratory of Remote Sensing and Digital Earth, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100101, China; ²College of Resources and Environment, University of Chinese Academy of Sciences, Beijing 100049, China; ³State Key Laboratory of Information Engineering in Surveying, Mapping, and Remote Sensing, Wuhan University, Wuhan, 430079, China

1:30pm - 3:00pm

ICWG III/IVa-D: Disaster Management

Location: 715A

1:30pm - 1:45pm

A Deep Learning Framework for Rapid Building Damage Detection through Multimodal Data Fusion: Application to the 2025 Myanmar Earthquake

Luigi Russo¹, Deodato Tapete², Silvia Liberata Ullo³, Paolo Gamba¹

¹University of Pavia, Italy; ²Italian Space Agency (ASI), Italy; ³University of Sannio, Italy

1:45pm - 2:00pm

Rapid Building Damage Detection from Remote Sensing Images : a Novel Lightweight Network with Contrastive Learning

Wei Li, Guorui Ma, Lunjun Fan, Haiming Zhang
State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University

2:00pm - 2:15pm

Fusion of AlphaEarth embeddings and Sentinel-1 time-series for conflict-related urban damage mapping

Jakub Ślesiniński, Kinga Karwowska, Magdalena Lewińska
Military University of Technology, Poland

2:15pm - 2:30pm

Street-Level Disaster Location Detection Using Image Matching of Social Media Images

Pai-Hui Hsu¹, Manikandan Sathianarayanan^{1,2}

¹National Taiwan University, Taiwan; ²Research Centre for Humanities and Social Sciences (RCHSS), Academia Sinica, Taiwan

2:30pm - 2:45pm

Multi-Modal Attention for Automated Disaster Damage Assessment Using Remote Sensing Imagery and Deep Learning

Tewodros Gebre¹, Jagrati Talreja¹, Leila Hashemi-Beni^{1,2}

¹North Carolina A&T State University, Greensboro, NC, USA; ²United Nations University Institute for Water, Environment and Health, Richmond Hill, ON, Canada

2:45pm - 3:00pm

AI-based multi-temporal analysis of urban dynamics using Sentinel-2 data. A case study over Osmaniye, Turkey

Antonino Pigna^{1,2}, Pietro Di Stasio^{1,2}, Deodato Tapete², Paolo Gamba³, Silvia Liberata Ullo¹

¹University of Sannio, Italy; ²Italian Space Agency, Italy; ³University of Pavia, Italy

1:30pm - 3:00pm

WG IV/10: Applied Spatial Science for Public Health

Location: 715B

1:30pm - 1:45pm

Benchmarking and assessment of image-based methods for particulate matter estimation: The AQpictures project

Afshin Moazzam¹, Daniele Oxoli¹, Maria Antonia Brovelli¹, Songnian Li², Francesco Pirotti³, Shishuo Xu⁴

¹Politecnico di Milano, Italy; ²Toronto Metropolitan University; ³University of Padova; ⁴Beijing University of Civil Engineering and Architecture

1:45pm - 2:00pm

Interoperable Federated Access to Multi-Vendor Wearables for Postpartum Wellbeing Support: A Standards-Based Architecture for MAMA!

Faraneh Falah, Sepehr Honarparvar, Mahnoush Mohammadi Jahromi, Steve Liang, Sara Saeedi
University of Calgary

2:00pm - 2:15pm

Seeing vertical greenery: Global differences in residents' green exposure and inequality

Xiaozhen Ren¹, Xuefeng Guan¹, Liqun Sun², Yifan Teng¹, Qingyang Xu¹, Chang Liu¹, Zhangyan Xu¹, Xu Li¹

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan 430079, China; ²Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen 518055, China

2:15pm - 2:30pm

Modeling Dynamic Walkability to Support Time-Based Route Planning for Older Adults

Febrian Fitryanik Susanta^{1,2}, Pei Fen Kuo¹, I Gede Brawiswa Putra¹

¹Department of Geomatics, National Cheng Kung University, No. 1 Dasyue Road, East District, Tainan City 701, Taiwan; ²Department of Geodetic Engineering, Universitas Gadjah Mada, Jl. Grafika No. 2, Yogyakarta 55281, Indonesia

2:30pm - 2:45pm

An Environment-Aware Indoor-Outdoor Integrated Digital Twin for Healthy Mobility

Yan Li, Chenming Ye, Wenxuan Shi, Wenqing Zhang, Yuyang Zhang, Teng Hu, Zhizhong Kang
China University of Geosciences (Beijing), China, People's Republic of

2:45pm - 3:00pm

Integrating Multi-Source Remote Sensing and GIS for Urban Air Quality Mapping in Emerging City: Insights from Nashik City, India

Chetankumar Patel, Shishir Dadhich
SVNIT, SURAT

3:00pm - 3:15pm

Long-Term Monitoring of NO₂ Pollution in the Mining and Industrial Region of Korba in Chhattisgarh Using Sentinel-5P and NDPI

Aman Srivastava, Aditya Kumar Thakur, Rahul Dev Garg, Pradeep Kumar Garg
Indian Institute of Technology Roorkee, India

1:30pm - 3:00pm

lvS7A: Innovative Remote Sensing of Wetlands in Canada and Beyond

Location: 716A

1:30pm - 1:45pm

Retrieving Peatland Soil Moisture from Polarimetric L- and C-band SAR to Support Carbon and Wildfire Assessments in Boreal Ecosystems

Laura Bourgeau-Chavez¹, Daniel Leyva², Rebecca Bakker¹, Anthony Chavez¹, Michael Battaglia¹, Jeremy Graham¹, Rachel Gumpfer¹

¹Michigan Technological University, United States of America; ²Purdue University, United States of America

1:45pm - 2:00pm

Using a Landsat multi-index and thermal image composite time series framework to evaluate hydroclimatic forcing and vegetation trajectories in the Peace-Athabasca Delta

Farnoosh Aslami¹, Chris Hopkinson^{1,2}, Laura Chasmer^{1,2}, Daniel L Peters³, Craig Coburn¹, Mina Nasr⁴

¹Department of Geography and Environment, University of Lethbridge, Lethbridge, AB, Canada;

²Department of Geography and Environment, Western University, London, ON, Canada; ³Environment and Climate Change Canada, University of Victoria Queenswood Campus, Victoria, BC, Canada;

⁴Government of Alberta, Ministry of Environment and Protected Areas, Edmonton, AB, Canada

2:00pm - 2:15pm

Aquatic and Riparian Land Cover Trends across Mountainous Headwater Basins in Alberta, Canada

Italo Rodrigues¹, Christopher Hopkinson¹, Laura Chasmer¹, Ryan MacDonald¹, Suzanne Bayley²

¹University of Lethbridge, Canada; ²University of Alberta

2:15pm - 2:30pm

Transfer Learning using Functional Data Analysis of Seasonal SAR Time Series

Amir Behnamian¹, Kenneth Chu², Jason Duffe¹, Jon Pasher¹, Mina Nasr³

¹Environment and Climate Change Canada; ²Statistics Canada; ³Alberta Government

2:30pm - 2:45pm

Multi-scale DSM and Multi-temporal Sentinel-2 Derivatives for Wetland Mapping: A Boreal Case Study

Amir Behnamian¹, Courtney Irvine², Anne Blondin², Morgan Hrynyk¹, Jason Duffe¹, Jon Pasher¹

¹Environment and Climate Change Canada, Canada; ²Parks Canada

1:30pm - 3:00pm

Forum4B: Hybrid Intelligent Geospatial Computing

Location: 716B

1:30pm - 3:00pm

Forum9A: Exploring the Role of DGGS and AI in Addressing Challenges of National Mapping & Remote Sensing Agencies

Location: 717A

3:00pm - 3:30pm

Afternoon Coffee Break

Location: Exhibition Hall "E"

3:30pm - 5:15pm

SpS4A: Remote Sensing of Atmospheric Components for Climate Change and Air Quality: Bridging ISPRS and AERSS

Location: 713A

3:30pm - 3:45pm

Satellite Remote Sensing and Numerical Simulation of the Impact of Biomass Burning on Black Carbon in East Asia

Huimin Chen¹, Jane Liu^{2,3}, Bingliang Zhuang⁴, Tijian Wang⁴

¹Suzhou Meteorological Bureau, China; ²Fujian Normal University, China; ³University of Toronto, Canada; ⁴Nanjing University, China

3:45pm - 4:00pm

Validation of global land-ocean aerosol products retrieved from the DPC-2/GF-5(02) on-orbit measurements

Zihan Zhang¹, Zhengqiang Li^{1,2,3}

¹Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100101, China;

²State Key Laboratory of Spatial Datum, College of Remote Sensing and Geoinformatics Engineering, Faculty of Geographical Science and Engineering, Henan University, Zhengzhou 450046, China;

³University of Chinese Academy of Sciences, Beijing 100049, China

4:00pm - 4:15pm

Intra-urban aerosol heterogeneity in Hong Kong based on Lidar observations

Xinyu YU¹, Man Sing WONG^{1,2,3,4}, Jiaqi Jin¹

¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ²State Key Laboratory of Climate Resilience for Coastal Cities, The Hong Kong Polytechnic University, Hong Kong, China; ³Research Institute for Sustainable Urban Development, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ⁴Research Institute of Land and Space, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China

4:15pm - 4:30pm

Contrasting Meteorological Impacts of Dust Storms from the Gobi Desert versus the Taklimakan Desert over China

Jianhong Li, Nana Luo

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

4:30pm - 4:45pm

The Arctic Observing Mission (AOM): A high priority candidate mission for the Government of Canada

Ray Nassar¹, Joseph Mendonca¹, Chris Sioris¹, Alec Casey², Matt Arkett², Josep Aparicio³, Kyle Ziolkowski⁴, Dan-Tam Nguyen⁵, Shen-En Qian⁵, Mary-Anne Fobert⁶, Alexander Trishchenko⁶

¹Environment and Climate Change Canada, Science and Technology Branch, Toronto, Canada;
²Environment and Climate Change Canada, Meteorological Service of Canada, Gatineau, Canada;
³Environment and Climate Change Canada, Science and Technology Branch, Dorval, Canada;
⁴Environment and Climate Change Canada, Science and Technology Branch, Winnipeg, Canada;
⁵Canadian Space Agency, St.-Hubert, Canada; ⁶Natural Resources Canada, Ottawa, Canada

4:45pm - 5:00pm

Global Point Source CO2 Emissions Monitoring Based on Hyperspectral Remote Sensing Imagery

Huayi Wang^{1,2}, Ge Han^{1,2}, Zhipeng Pei^{1,2}

¹Hubei Key Laboratory of Quantitative Remote Sensing of Land and Atmosphere, School of Remote Sensing and Information Engineering, Wuhan University; ²Perception and Effectiveness Assessment for Carbon-neutrality Efforts, Engineering Research Center of Ministry of Education, Institute for Carbon Neutrality, Wuhan University

5:00pm - 5:15pm

Remote Sensing of CO, ozone and Their Correlation in Tropical Fire Regions

Jane Liu¹, Jufen Lai², Joey Zhou Zang¹

¹University of Toronto, Canada; ²Jiangsu Ocean University

3:30pm - 5:15pm

SpS3: Cooperation on Ground Motion Monitoring for Disaster Risk Reduction and Resilience

Location: 713B

3:30pm - 3:45pm

From InSAR Norway to a Global Ground Motion Service: Operational Monitoring for Disaster Risk Reduction

John Dehls¹, Yngvar Larsen², Marie Bredal¹, Gökhan Aslan¹, Dag Anders Moldestad³

¹Geological Survey of Norway, Norway; ²NORCE Research; ³Norwegian Space Agency

3:45pm - 4:00pm

Seismic Hazard for the Alpine Himalayan Belt from Trans-Continental Sentinel-1 InSAR & GNSS

Andrew Hooper¹, John Elliott¹, Jin Fang¹, Milan Lazecky¹, Yasser Maghsoudi², Qi Ou³, Jessica Payne¹, Chris Rollins⁴, Dehua Wang¹, Timothy Wright¹

¹COMET, School of Earth, Environment and Sustainability, University of Leeds, United Kingdom; ²Centre for Environmental Mathematics, University of Exeter, Penryn Campus, TR10 9FE, United Kingdom;

³School of GeoSciences, University of Edinburgh, Edinburgh, EH8 9XP; ⁴Earthquake Physics and Statistics, Earth Sciences New Zealand, 1 Fairway Drive, Avalon, 5011, Lower Hutt, New Zealand

4:00pm - 4:15pm

Volcano Risk Reduction in Canada – The Government of Canada’s Dedicated Volcano Monitoring System Using InSAR Technology

Drew Rotheram-Clarke¹, Melanie Kelman¹, Mandip Sond², Timothy Beattie², Chloe Lam¹

¹Geological Survey of Canada, Pacific Division, Vancouver, British Columbia, Canada; ²Canadian Hazards Information Service, Ottawa, Ontario, Canada

4:15pm - 4:30pm

Updates on the NASA-ISRO NISAR Mission and the OPERA North America Surface Displacement Product

Cathleen Jones, Alexander Handwerker, Steven Chan

Jet Propulsion Laboratory, United States of America

4:30pm - 4:45pm

Prediction of line-of-sight surface displacement using PSInSAR, and environmental factors powered by XGBoost

Masoud Mohsenifard, Ramata Magagi, Kalifa Goïta

Universite de Sherbrooke, Canada

4:45pm - 5:00pm

Validating social media Geospatial Tags Using Sentinel-1A InSAR on Google Earth Engine: A Hurricane Harvey Case Study

Michael Paul¹, Dodji Kuwonu¹, Eugene Levin¹, Todd Gary¹, Long Nguen², Hieu Minh Duong²

¹Meharry Medical College, United States of America; ²University of Louisville

5:00pm - 5:15pm

European Ground Motion Service: public and open source InSAR in support of Risk Management

Lorenzo Solari¹, Joanna Balasis-Levinsen¹, John Dehls²

¹European Environment Agency, Copernicus Land Monitoring Service; ²Geological Survey of Norway

3:30pm - 5:15pm

WG III/4C: Landuse and Landcover Change Detection

Location: 714A

3:30pm - 3:45pm

Canopy Height Estimation Through the GEDI Era Using Multiple Sensors Combination and Machine Learning

Ghaith Kouki, Bahram Salehi

SUNY ESF, USA

3:45pm - 4:00pm

Near Real-Time Forest Loss Detection in the Brazilian Amazon Using Bayesian Fusion of Sentinel-1 SAR and Sentinel-2 Multispectral Time Series

Marta Bottani¹, Laurent Ferro-Famil^{1,2}

¹CESBIO, Toulouse, France; ²ISAE Supaero, Toulouse, France

4:00pm - 4:15pm

Community Managed vs. Protected Forests: A Remote Sensing Workflow for Assessing Forest Conservation in Liberia (2002–2024)

Amanda Aragon, Marguerite Madden, Matthew Auer

University of Georgia, United States of America

4:15pm - 4:30pm

A benchmark dataset for canopy cover change evaluation in North America

Camile Sothe, Maxwell Joseph, Christopher B. Anderson

Planet Labs PBC, San Francisco, CA, USA

4:30pm - 4:45pm

Spatiotemporal Vegetation Degradation Simulation and Inversion in Inner Mongolia Autonomous Region

He Yang, Yongjun Zhang, Yongxiang Yao, Duanning Chen, Yi Wan, Bin Zhang

School of Remote Sensing and Information Engineering, 430079, Wuhan, Hubei, China

4:45pm - 5:00pm

Particle Swarm Optimization for Woody Vegetation Assessment in a Semi-Arid Savannah Ecosystem

Nesisa Analisa Nyathi, Juliane Krenz, Andrea Meier, Brigitte Kuhn, Nikolaus J. Kuhn

¹Physical Geography and Environmental Change Research Group, Department of Geography and Physical Sciences, Faculty of Philosophy and Natural Sciences, University of Basel, Basel, 4056

5:00pm - 5:15pm

Research on a Method for Identifying Potential Cropland Abandonment Areas Using Bitemporal Remote Sensing Images

Shuangxi Miao¹, Pinzhou Guan¹, Zhongxiang Xie¹, Haoxu Zhao¹, Hao Wu²

¹China Agricultural University, CHINA; ²National Geomatics Center of China, CHINA

3:30pm - 5:15pm

WG II/1A: Image Orientation and Fusion

Location: 714B

3:30pm - 3:45pm

AI-based Camera Pose Estimation on mixed Aerial and Ground Images: A comparative Study

Zichao Zeng, June Moh Goo, Jan Boehm

University College London, United Kingdom

3:45pm - 4:00pm

Epipolar Rectification of a Generic Camera

Marc Pierrot Deseilligny, Ewelina Rupnik

Univ Gustave Eiffel, Géodata Paris, IGN, LASTIG

4:00pm - 4:15pm

ThermalAssist: Towards Efficient Annotation of Thermal Imagery

Jingwei Zhu^{1,2}, Manoj Biswanath^{1,3}, Benjamin Busam^{1,3}

¹Chair of Photogrammetry and Remote Sensing, Technical University of Munich, Germany; ²School of Geospatial and Artificial Intelligence, East China Normal University, China; ³Munich Center for Machine Learning (MCML), Munich, Germany

4:15pm - 4:30pm

Evaluation of recent AI-based point matching algorithms applied on aerial images

Pablo d'Angelo, Franz Kurz, Alaa Eddine Ben Zekri, Reza Bahmanyar

German Aerospace Center, Germany

4:30pm - 4:45pm

Faster than Light: An Embedded-Efficient Matching Model with ReLU Linear Attention

Ziang Wang¹, Tao He¹, Wei Cui¹, Yu Duan¹, Kaimin Sun¹, Haoyun Miao²

¹State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan China; ²North Automatic Control Technology Institute, Taiyuan, China

4:45pm - 5:00pm

SCOP: An Open-Source and Educational JAX-Powered Framework for Generic Photogrammetric Bundle Adjustment

Adrien Gressin

University of Applied Sciences Western Switzerland (HES-SO / HEIG-VD)

5:00pm - 5:15pm

TriCo-Net: Learning Semantically Aware Local Features via Triple Consistency

Longze Zhu^{1,2}, Li Yan^{1,2}, Hong Xie^{1,2}, Hao Wu^{1,2}, Shan Su^{1,2}, Binbing Wang¹, Xiaoteng Yang¹, Junjie Yuan¹, Aoran Li³

¹Wuhan University, The School of Geodesy and Geomatics, Wuhan 430079, Hubei, China; ²Hubei LuoJia Laboratory, Wuhan 430079, Hubei, China; ³Henan Normal University, The College of Software, Xinxiang 453000, Henan, China

3:30pm - 5:15pm

WG III/2A: Spectral and Thermal Data Processing and Analytics

Location: 715A

3:30pm - 3:45pm

Impact of Geometric Heterogeneity on Thermal Anisotropy: Perspective of Geometric Structure and Component Temperature

Jiaying Xun¹, Qiang Chen¹, Yixiao Huang²

¹Beijing University of Civil Engineering and Architecture, China, People's Republic of; ²HUAYUN Shine Tek Co., China Meteorological Administration, China, People's Republic of

3:45pm - 4:00pm

GloSVeT: A Global Monthly Soil-Vegetation Component Temperature Dataset Generated using a Multi-source Fusion Framework

Xiangyang Liu

Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China, People's Republic of

4:00pm - 4:15pm

Design and Field Validation of a MWIR Vicarious Calibration Framework with Controlled-Emissivity Targets

Sun Do Lim¹, DongHwan Cha², Doo Chun Seo², Jae-Keun Yoo¹, Seongchong Park¹

¹Korea Research Institute of Standards and Science (KRISS), Korea, Republic of (South Korea); ²Korea Aerospace Research Institute (KARI), Korea, Republic of (South Korea)

4:15pm - 4:30pm

Research on Identification Methods of Industrial Heat Source Integrating Thermal Anomaly Features

Yu Liu¹, Xinyuan Gao¹, Lijuan Zheng¹, Hailun Dai², Lijing Xu¹

¹LASAC, China, People's Republic of; ²Beijing SatImage Information Technology Co. Ltd.

4:30pm - 4:45pm

A 3D Urban Solar Shortwave Radiation Transfer Model Incorporating Sky View Factor for Remote Sensing Applications

Shisong Cao, Youqiang Dong, Jingyi Chen

Beijing University of Civil Engineering and Architecture, Beijing, China

4:45pm - 5:00pm

Dynamic regime-aware downscaling of MODIS land surface temperature using MODIS-internal predictors.

Marco Ventura, Gabriele Lo Grasso, Emanuele Mandanici, Gabriele Bitelli

University of Bologna, Italy

5:00pm - 5:15pm

A spatial and spectral Analysis of the Sentinel-2 nighttime Image

Merlijn Dingemans¹, Daniele Cerra¹, Ferran Gascon², Tobias Storch¹

¹German Aerospace Center (DLR), Germany; ²European Space Agency (ESA), Italy

3:30pm - 5:15pm

WG II/4C: AI/ML for Geospatial Data

Location: 715B

3:30pm - 3:45pm

DeepChoice: Learning View Weighting for Image-Guided 3D Semantic Segmentation

Antoine Carreaud^{1,2}, Digre Frinde¹, Shanci Li¹, Jan Skaloud², Adrien Gressin¹

¹University of Applied Sciences Western Switzerland (HES-SO / HEIG-VD); ²ESO lab, EPFL, Switzerland

3:45pm - 4:00pm

Semantic Segmentation of Textured Non-manifold 3D Meshes using Transformers

Mohammadreza Heidarianbaei, Max Mehlretter, Franz Rottensteiner

Leibniz University Hannover, Germany

4:00pm - 4:15pm

Pothole Classification using Point Cloud Data: a Comparison between Machine Learning and Deep Learning

Kristin Eggen, Hongchao Fan

Norwegian University of Science and Technology, Norway

4:15pm - 4:30pm

From Canopy to Crown: High-Fidelity Tree Facade Synthesis from Nadir LiDAR data

Raghav Sharma¹, Frank Zhang¹, Jane Liu², Baoxin Hu³

¹University of Fraser Valley; ²University of Toronto; ³York University

4:30pm - 4:45pm

Evaluation of Metric Monocular Depth Estimation Models Under Adverse Weather Conditions in Driving Scenarios

Nour Khalefa, Roberto Souza, Naser Elsheimy

University of Calgary, Canada

4:45pm - 5:00pm

Out-of-Distribution Detection for Real-World Honey Bee Monitoring Using Simulated Permanent Laser Scanning

William Albert^{1,2}, Ronald Tabernig^{1,2}, Jannik S. Meyer¹, Bernhard Höfle^{1,2}

¹3DGeo Research Group, Institute of Geography, Heidelberg University; ²Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University

<p>3:30pm - 5:15pm</p>	<p>WG IV/6: Human Behaviour and Spatial Interactions Location: 716A</p> <p>3:30pm - 3:45pm Semantic-Enhanced Dynamic Spatial-Temporal Graph for Human Mobility Prediction <u>Samira Kamel</u>, Songnian Li Toronto Metropolitan University, Canada</p> <p>3:45pm - 4:00pm Development of a Perception-based Urban Quality of Life Index using Street View Imagery and Deep Learning: the Case of Metro Manila, Philippines <u>Karl Adrian Vergara</u> Department of Geodetic Engineering, University of the Philippines – Diliman, Quezon City, Philippines</p> <p>4:00pm - 4:15pm Detection and Modeling of Pedestrian Groups Based on Laser Sensor Trajectories <u>Toshihiro Osaragi</u>¹, <u>Tomona Takeuchi</u>¹, <u>Hiroyuki Kaneko</u>² ¹Institute of Science Tokyo, Japan; ²Kajima Technical Research Institute, Japan</p> <p>4:15pm - 4:30pm From sensing to understanding: modeling pedestrian crossing behavior from LiDAR-derived trajectories <u>Zihan Liu</u>¹, <u>Jiaying Xue</u>¹, <u>Yu Feng</u>², <u>Liqiu Meng</u>¹ ¹Chair of Cartography and Visual Analytics, Technical University of Munich, 80333 Munich, Germany; ²Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, 55128 Mainz, Germany</p> <p>4:30pm - 4:45pm Ring-based Spatial Transformer: Learning Non-linear Spatial Interactions between Building Distribution and Pedestrian Flow <u>Shun Nakayama</u>^{1,2}, <u>Takahiro Kanamori</u>^{2,3}, <u>Wanglin Yan</u>² ¹Senshu University, Japan; ²Keio University, Japan; ³PASCO Corporation, Japan</p> <p>4:45pm - 5:00pm Who Can Reach What? Travel-Time-Based Accessibility and Urban Inequality in Los Angeles, Chile <u>Richard Weidlin</u>, <u>Guido Staub</u> University of Concepción, Chile</p> <p>5:00pm - 5:15pm Perception-Oriented 3D Blue–Green–Grey Urban Landscapes: A Multi-Source Data and XGBoost–SHAP Analysis in Geo-information Town <u>Dehu Yang</u>^{1,3}, <u>Yin Gao</u>^{2,3}, <u>Jun Chen</u>^{2,3}, <u>Feng Yong</u>^{3,4}, <u>Yuan Yang</u>³ ¹Southwest Jiaotong University, Chengdu, China; ²National Geomatics Center of China, Beijing, China; ³Moganshan Geospatial Information Laboratory, Huzhou, China; ⁴China University of Mining and Technology, Xuzhou, China</p> <p>5:15pm - 5:30pm Active Mobility Accessibility Index - Assessing Local Transport Competitiveness <u>Tom Komar</u>, Philip James Newcastle University, United Kingdom</p> <p>5:30pm - 5:45pm Causal Discovery and Deep Learning-based Interaction-aware Pedestrian Trajectory Prediction <u>Wen-Xin Qiu</u>, Takashi Fuse The University of Tokyo, Japan</p>
<p>3:30pm - 5:15pm</p>	<p>Forum4C: Hybrid Intelligent Geospatial Computing Location: 716B</p>
<p>3:30pm - 5:15pm</p>	<p>Forum9B: Exploring the Role of DGGS and AI in Addressing Challenges of National Mapping & Remote Sensing Agencies Location: 717A</p>
<p>3:30pm - 5:15pm</p>	<p>CATCON Location: 717B</p>
<p>3:30pm - 5:30pm</p>	<p>P4: Poster Session 4 Location: Exhibition Hall "E"</p>
	<p>Flood mapping using multi-temporal Sentinel-1 SAR images: A case study from Lower Tubarão River Sub-basin, Santa Catarina, Brazil <u>Liliana Osako</u> Federal University of Santa Catarina, Brazil</p> <p>Deformation Pattern Modifications Induced by 2021 Brentonico Earthquake: Insights from EGMS Ortho Products <u>Rasoul Eskandari</u>, <u>Nicola Genzano</u>, <u>Marco Scaioni</u> Dept. of Architecture, Built Environment and Construction Engineering, Politecnico di Milano, Via Ponzio 31, 20133 Milano, Italy</p>
	<p>Evaluating Metro Construction Impacts on Urban Ground Stability Using Multi-Temporal Sentinel-1 InSAR <u>Suat Coskun</u>¹, <u>Caglar Bayik</u>², <u>Fusun Balik Sanli</u>³, <u>Tolga Gorum</u>⁴, <u>Saygin Abdikan</u>⁵</p>

Global Coverage of Sentinel-1 and Spaceborne LiDAR: A Data-Driven Foundation for Forest Height Estimation

Hossein Aghababaei¹, Giampaoli Ferraioli², Jaan Praks³, Erkki Tomppo⁴, Gilda Schirinzi²

¹University of Twente, Netherlands, The; ²Universita degli Studi di Napoli "Parthenope"; ³Aalto University; ⁴University of Helsinki

Integrating MTInSAR and Geoscientific Data for Subsurface Deformation Monitoring in The Epe Cavern Field, Germany

Chia-Hsiang Yang¹, Marcin Pawlik², Tobias Rudolph², Sebastian Teuwsen¹, Carsten Stemmler¹, Peter Goerke-Mallet², Andreas Muterthies¹

¹EFTAS Remote Sensing Transfer of Technology, Germany; ²Research Centre of Post-Mining, Technische Hochschule Georg Agricola (THGA), Bochum, Germany

Leveraging PolSAR Features and Machine Learning for Improved Land Cover Discrimination with ALOS-2

Melih Altay¹, Beste Tavus¹, Fatih Fehmi Simsek², Omer Gokberk Narin³, Saygin Abdikan¹

¹Department of Geomatics Engineering, Hacettepe University, Ankara 06800, Türkiye; ²TÜBİTAK Space Technologies Research Institute, Ankara 06800, Türkiye; ³Department of Geomatics Engineering, Afyonkocatepe University, Afyon, 06800, Türkiye

Monitoring and Mapping of Fast and Slow Subsidence in Hard Rock Metal Mining Using SAR Interferometry Techniques on High Resolution TSX/TDX Satellite Data

Avinash Singh, Mohammad Soyeb Alam, Mohammad Khalid Umar

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES) DHANBAD JHARKHAND INDIA, India

Modelling Drought Codes using ALOS-2 L-Band Polarimetric SAR in Mountainous Forests of British Columbia

Marin Loncar¹, Brigitte Leblon¹, Ashlin Richardson², Laura Bourgeau-Chavez³, Dzhamal Amishev¹

¹Lakehead University; ²British Columbia Wildfire Service; ³Michigan Technological University

High-resolution water level changes from SAR amplitude data: a new approach testing Sentinel-1 imagery

Lorenza Ranaldi¹, Valeria Belloni¹, Andrea Nascetti², Mattia Crespi^{1,3}

¹Geodesy and Geomatics Division, Sapienza University of Rome, 00184 Rome, Italy; ²Division of Geoinformatics, KTH Royal Institute of Technology, 11428 Stockholm, Sweden; ³Sapienza School for Advanced Studies, Sapienza University of Rome, 00161 Rome, Italy

Baseline Optimization Strategy for TomoSAR: Comparison Between X- and C- Bands

Xin Zhou^{1,2}, Lingxiao Peng^{1,2}, Bei Lin^{1,2}, Zhe Zhang^{1,2}, Jinfei Wang³

¹Aerospace Information Technology University, China; ²Suzhou Aerospace Information Research Institute, China; ³The University of Western Ontario

Why should you start projecting the Ground Range Data in the Slant Range while working with SAR Data, and how can you do it?

Lauriane Mousset^{1,2}, Laetitia Thirion², Régis Guinvarc'h², Xavier Dupuis¹, Frédéric Brigué¹, Thierry Koleck³

¹DEMR, ONERA, France; ²SONDRRA, CentraleSupélec, Université Paris-Saclay, France; ³CESBIO, CNES, France

An Observational Definition of the Absolute Phase in Radar Interferometry

Simon Zwieback

University of Alaska Fairbanks, United States of America

Object Change Detection by Using Basis Derived from Multi-temporal PolSAR Images

Jiyong Lee, Junichi Susaki, Yoshie Ishii

Graduate School of Engineering, Kyoto University, Japan

Fluvial Dynamics Changes Driven by Illegal Gold Mining: A Land Use/Land Cover Analysis in the Ecuadorian Amazon

Isabel Adriana Chuizaca-Espinoza^{1,2}, Daniela Romero-Bermeo^{2,3}, Luciana das Dores de Jesus da Silva⁴, Andrés Velastegui-Montoya^{2,5}

¹Earth Observation and Geoinformatics Division, National Institute for Space Research (INPE); ²Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ³Faculty of Life Sciences, ESPOL Polytechnic University; ⁴Department of Aquatic Systems, Concepción University; ⁵Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University

Predicting LULC Transformations with Geospatial Intelligence for Sustainable Land Management

Dr. Syed Amer Mahmood, Muhammad Haseeb, Zainab Tahir, Areeba Amer

Institute of space science, university of the punjab, Lahore, Pakistan

From Natural Land to Built-Up Areas: Monitoring Residential Expansion Using Sentinel-2 and Support Vector Machine

Karolayn Gaibor-Yambay¹, David Freire-Granda^{2,3}, Andrés Velastegui-Montoya^{1,3}, Marconi de Arruda Pereira⁴

¹Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ²Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University; ³Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ⁴Departamento de Tecnologías (DTECH), Universidade Federal de São João del Rei (UFSJ)

Assessment of automatic hedgerows detection using Pleiades Neo 30cm images and Foundation model

Léa Moyon, Marie Ballere, Noe Roure, Anne Jacquin, David Souveton, Vincent Varoquaux, Alexandre Mayerowitz, Laurent Gabet

Airbus Defence and Space, France

Analysis of Spatiotemporal Changes in Land Cover of Wind Farms within County Areas

Ting Liu¹, Tao Zhang¹, Guanghui Wang¹, Yunjia Zou¹, Wei Zhang¹, Hailun Dai^{1,2}

¹Land Satellite Remote Sensing Application Center, MNR, Beijing, China; ²Beijing SatImage Information Technology Co. Ltd., Beijing, China

An Automated Approach based on Machine Learning for Tracking Urban Expansion: Case of Study in Gharbia Governorate, Egypt

Wael Ahmed^{1,2}, Islam Atef³, Moustafa Baraka⁴, Adel Elshazly¹, Ahmad M. Senousi^{1,2}, Walid Darwish^{1,2}

¹Geomatics Engineering Lab, Public Works Department, Cairo University, Giza 12613, Egypt; ²NAMAA for Engineering Consultations, Dokki, Giza 12612, Egypt; ³Department of Civil Engineering, King Fahd University of Petroleum Minerals, Dhahran 31261, Saudi Arabia; ⁴Civil Engineering Program, German University in Cairo 11835, Egypt

Detection of Cropland Abandonment through Multi-Temporal Landsat Data and Spatially Independent Machine Learning Validation

Luka Stojanović, Anka Lisec, Krištof Oštir, Bujar Fetaj

Faculty of Civil and Geodetic Engineering, University of Ljubljana, Slovenia

Assessment of different architectures based on 2D-UNet, 3D-UNet and UNet-ConvLSTM for land use land cover classification using multi-modal and multi-temporal satellite images

Fatemeh Saba^{1,2}, Pedro Achanccaray Diaz², Markus Gerke²

¹University of Hamburg (UHH), Institute of Geography, Hamburg, Germany; ²Institute of Geodesy and Photogrammetry, Technische Universität Braunschweig, Braunschweig, Germany

Assessing the Temporal Transferability of Random Forest Models for Land Use and Land Cover Change Detection

Beste Tavus¹, Melih Altay², Fatih Fehmi Simsek³, Omer Gokberk Narin⁴, Saygin Abdikan¹

¹Hacettepe University, Türkiye; ²Hacettepe University, Türkiye; ³TÜBİTAK Space Technologies Research Institute, Türkiye; ⁴Afyonkocatepe University, Türkiye

Exploring land use mapping with multimodal data fusion and convolutional neural network

Juan Gu, Yongguo Wang, Yun Gong, Tingting Jin, Jun Wu

Beijing Institute of surveying and mapping, China, People's Republic of

Automatic Estimation of Building Construction Year and Height from Earth Observation Data for Urban Risk Assessment

Mateo Gašparović¹, Filip Radić², Iva Gašparović³, Mario Uroš⁴

¹Chair of Photogrammetry and Remote Sensing, Faculty of Geodesy, University of Zagreb, Kačićeva 26, Zagreb, Croatia – mateo.gasparovic@geof.unizg.hr; ²Chair of Photogrammetry and Remote Sensing, Faculty of Geodesy, University of Zagreb, Kačićeva 26, Zagreb, Croatia – filip.radic@geof.unizg.hr; ³State Geodetic Administration, Gruška 20, Zagreb, Croatia – iva.gasparovic@dgu.hr; ⁴Department of Engineering Mechanics, Faculty of Civil Engineering, University of Zagreb, Kačićeva 26, Zagreb, Croatia – mario.uros@grad.unizg.hr

Change Detection and Future Land Use Projections in Zhejiang Province, China: A Case Study

Mahdieh Shirmohammadi¹, Jie Shen², Saied Pirasteh³, Yang Li⁴

¹School of Geography, Nanjing Normal University, Nanjing, Jiangsu 210023, China; ²School of Geography, Nanjing Normal University, Nanjing, Jiangsu 210023, China; ³Institute of Artificial Intelligence, Shaoxing University, Shaoxing, 508 West Huancheng Road, Yuecheng District, Zhejiang Province, Postal Code 312000, China; ⁴School of Geography, Nanjing Normal University, Nanjing, Jiangsu 210023, China

Comparison of Supervised Classification Algorithms for Land Use Land Cover in Guayaquil: An Assessment with Landsat and MapBiomass

Divar Castro-Rodas^{1,2}, André Pico Molineros³, Rahisha Thottoli⁴, Dimitri Bulatov⁵, Eder MS de Paula⁶, Andrés Velastegui-Montoya^{2,3}

¹Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University; ²Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ³Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ⁴Department of Urban and Regional Planning, Faculty of Engineering and the Built Environment, University of Johannesburg; ⁵Fraunhofer IOSB Ettlingen; ⁶Faculty of Geography, Federal University of Pará

Analysis of Sentinel-2A orbital imagery for the detection of deforested areas caused by artisanal mining activities in the Tapajós Environmental Protection Area, northern Jacareacanga municipality, Pará State, Brazil

Julia Klock¹, Liliana Osako¹, Solange Costa², Amintas Rossete³

¹Federal University of Santa Catarina, Brazil; ²Federal University of Amazonas, Brazil; ³Mato Grosso State University, Brazil

Modeling Wildfire Burn Severity in Canadian Megafires

Eleanore Krieger-Pottruff, Sophie Wilkinson

Simon Fraser University, Canada

Local Climate Zone Mapping of Bologna: The Key Role of Training and Validation Sites

Gabriele Lo Grasso, Marco Ventura, Emanuele Mandanici, Gabriele Bitelli

Alma Mater Studiorum - University of Bologna, Italy

Prediction of Urban Spatial Feature Change Using Parallel Computing-Simulation Model with Multimodal Remote Sensing Imagery

Rong Wang^{1,2}, Panli Tang¹, Yongjiu Feng^{1,2}

¹College of Surveying and Geo-Informatics, Tongji University, Shanghai 200092, China; ²Shanghai Research Institute for Intelligent Autonomous Systems, Tongji University, Shanghai 201210, China

Detecting Eucalypt Canopy Stress from ECOSTRESS Satellite Imagery and Airborne Remote Sensing in South Australia

Donna Fitzgerald¹, Stefan Peters¹, Gunnar Keppel¹, Andrew McGrath², Kerry Cawse-Nicholson³

¹Adelaide University, SA, Australia; ²Airborne Research Australia, SA, Australia; ³Jet Propulsion Laboratory, CA, USA

Mapping environmental inequality through remote sensing: The afterlives of asbestos mining in Cyprus

Ewa Wilk, Malgorzata Krowczynska

University of Warsaw, Poland

Mapping and Understanding the Synergy Between Land Surface Temperature and PM_{2.5} at 250 m Resolution in Wuhan: Implications for Climate Adaptation and Air Quality Management

Ruihan Qiu^{1,2}, Qingming Zhan^{1,2}, Shiqi Tu¹, Changling Li^{1,2}, Yilei Zhang^{1,2}

¹Wuhan University; ²Research Centre for Digital City

Impact of shoreline ecological restoration on suspended sediment concentration in Shanghai coastal waters

Tian Geng, YiWen Guo

Shanghai Surveying and Mapping Institute, China, People's Republic of

How Land Surface Temperatures Respond to Urban Morphological Block?

Ruirui Dong

Humboldt University Berlin, Germany

Blending gauge, multi-satellite and atmospheric reanalysis precipitation products to facilitate drought monitoring

Shuai Cheng

Hohai University, Nanjing 210098, China

Spatial Projection of PM_{2.5} under Mult-scenarios using the Futureland Model and Landsat Image Series in the Yangtze River Delta, China

Panli Tang¹, Yongjiu Feng¹, Mengrong Xi¹, Rong Wang²

¹College of Surveying and Geo-Informatics, Tongji University; ²Shanghai Research Institute for Intelligent Autonomous Systems, Tongji University

Vertical characterization and transport dynamics of UTLS aerosols over Hubei: a multi-year integrated analysis using CALIOP and MERRA-2

Jun Li, Jinjing Deng, Xin Huang, Chuan Zhan, Zuohua Miao, Qiaozhi Wang

Wuhan University of Science and Technology, People's Republic of China

"Satellite Image Based Spatial Analysis of Urban Air Quality Index"

Darshana Rawal¹, Sindhu Ranganath², Neha Sharma³, Anjana Vyas⁴

¹Hochschule für Technik Stuttgart, Germany; ²George Washington University, DC, USA; ³ESRI, R&D Center, Aerocity, Delhi, India; ⁴CEPT University, Ahmedabad, India

Estimation and Prediction of PM_{2.5} and PM₁₀ in Kathmandu District Using Satellite-Derived AOD, Meteorological Factors and Machine Learning

Salina Gurung¹, Nalina Maharjan¹, Sanjeevan Shrestha², Kundan Lal Shrestha³, Nikita Shrestha¹, Nista Shrestha¹, Namrata Shrestha¹

¹Department of Geomatics Engineering, Kathmandu University, Nepal; ²Ministry of Land Management, Cooperatives and Poverty Alleviation, Government of Nepal, Nepal; ³Department of Chemical Science and Engineering, Kathmandu University, Nepal

Combining Spectral and Texture Features of UAV-RGB, PlanetScope, and Sentinel-2 Images for Soybean Leaf Area Index and Aboveground Biomass Estimation and Model Transferability Across Spatial Extents and Resolutions

Michael Ekwe¹, Angela Kross¹, Heather McNairn², David Lapen², Mark Sunohara², Emilia Craiovan², Mark Edwards²

Crop classification with random forest using fine-resolution synthetic aperture radar

Matthew Pineda¹, Aaron Berg¹, Qiaoping Zhang², Abbey Papadimitriou¹

¹University of Guelph, Canada; ²ICEYE, Finland

Differentiating Eelgrass and Kelps using Hyperspectral Satellite Imagery at the Eastern Shore Islands, Nova Scotia

Neve Foreman, Anders Knudby

University of Ottawa, Canada

Detection of Phyllosphere Diseases and Damage Patterns in Norway spruce from UAV Multispectral High-resolution Images

Sara López Fernández¹, Louisa Eurich², Malin Elfstrand¹, Rosario García Gil³, Eva Lindberg²

¹Forest mycology and plant pathology dept., Swedish University of Agricultural Sciences, Sweden;

²Forest Resources Management dept., Swedish University of Agricultural Sciences, Sweden; ³Forest Genetics and Plant Physiology dept., Umeå Plant Science Centre, Sweden

Customized crop feature construction using genetic programming for early and in-season crop mapping

Miao Lu, Caiyun Wen, Yan Zha, Qian Song

Institute of Agricultural Resources and Regional Planning, Chinese academy of agricultural science, China, People's Republic of

In-Season Potato Nitrogen Prediction from Multispectral UAV Imagery

Ehsan Chatraei Azizabadi, Nasem Badreldin

University of Manitoba, Canada

Joint Use of Super-resolution and Semantic Segmentation on Sentinel-2 and Sentinel-1 Image Stacks for Detailed Mapping of Mangrove Forests

Misganu Debella-Gilo¹, Eliska Sieglöva¹, Richard Adade², Belachew Gizachew³

¹Norwegian University of Life Sciences (NMBU), Norway; ²University of Cape Coast (UCC), Ghana;

³Norwegian Institute of Bioeconomy Research (NIBIO), Norway

Remote Sensing-Based System for Automated Quantification of Forest Aboveground Biomass

Modeste Meliho, Mathieu Varin, Emmanuelle Bouffroy, Jean-François Prieur, Jonathan Sabourin, Julien Tremblay, Benoit Desrochers, Batistin Bour

CERFO, Canada

Lidar waveform reconstruction using multi-source remote sensing data for improved forest structure and agb estimation

Benyamin Hosseiny¹, Mahdieh Zabolizadeh², Pouria Ramzi³, Milto Miltiadou⁴, Saeid Homayouni⁵

¹University of Bristol, United Kingdom; ²University of Tehran, Iran; ³Australia Government of Western

Australia, Australia; ⁴University of Exeter, UK; ⁵Centre Eau Terre Environnement, Institut National de la Recherche Scientifique, Canada

Large-Scale Forest Structural Complexity Learning from GEDI WSCI Using Multi-source Remote Sensing Data

Yuqi Lei¹, Zheng Xu¹, Wen Xiao^{1,2}

¹School of Geography and Information Engineering, China University of Geosciences, 430074 Wuhan, China; ²National Engineering Research Center of Geographic Information System, China University of Geosciences, 430074 Wuhan, China

Soil-SSNet: A Spectral-Spatial Cross-Attention Network for Cropland Soil Salinity Inversion and Environmental Response Analysis

He Li

Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China, People's Republic of

Remote Sensing-Based Spatial Modelling of Avoided Deforestation in Tanzania's Protected Areas

Belachew Gizachew

Norwegian Institute of Bioeconomy Research (NIBIO), Norway

Alfalfa Fractional Vegetation Cover Estimation Using Sentinel-2 Multispectral Imagery and Machine Learning

Hazhir Bahrami, Karem Chokmani, Saeid Homayouni

Institut national de la recherche scientifique (INRS), Canada

From Ravaged to Regreened: Declining Gully Erosion in the India's Chambal Badlands

ATHIF SAYYAF, Ali P Yunus

Department of Earth and Environmental Sciences, Indian Institute of Science Education and Research Mohali, Punjab - 140 306, India

Winter Wheat Yield Prediction Using Machine Learning Algorithms Based on Climatological and Remote Sensing Data

Syed Amer Mahmood, Hafiza Sayyeda Farah Batool Batool, Shaiza Farooq

Institute of space science, university of the punjab, Lahore, Pakistan

Investigating AlphaEarth Embeddings for Wetland Mapping: a case study in the Stockholm Region

Ioannis Ioannidis¹, Andrea Nascetti², Jenny Lindblad¹, Lina Suleiman¹

¹Division of Urban and Regional Studies, KTH Royal Institute of Technology, Stockholm, Sweden;

²Division of Geoinformatics, KTH Royal Institute of Technology, Stockholm, Sweden

GLSTM-MLP: a deep learning framework for crop type classification in smallholder farms with PlanetScope images

Valinho António¹, Eric Umuhoza², Catherine Nakalembe³, Moise Busogi²

¹African Centre of Excellence in Internet of Things, University of Rwanda, Rwanda; ²Carnegie Mellon University Africa, Rwanda; ³Department of Geographical Sciences, University of Maryland, USA

Tree Health Assessment Using Mask R-CNN on UAV Multispectral Imagery over Apple Orchards

Mohadeseh Kaviani¹, Brigitte Leblon¹, Thangarajah Akilan², Dzhamal Amishev¹, Armand LaRocque³, Ata Haddadi⁴

¹Faculty of Natural Resource Management, Lakehead University; ²Department of Software Engineering, Lakehead University; ³Faculty of Forestry and Environmental Management, University of New Brunswick; ⁴Atkinsrealis, Woodbridge, Ontario, Canada

Testing the Suitability of Portable SLAM LiDAR to derive Structural Traits of Holm Oaks (*Quercus ilex*)

Leon Vehken¹, Arnaud Carrara², M. Pilar Martín³, Gerardo Moreno Marcos⁴, Jan Wolf¹, Georg Bareth¹, Christoph Hütt¹

¹University of Cologne, Germany; ²Fundación Centro de Estudios Ambientales del Mediterráneo;

³SpecLab, Spanish National Research Council; ⁴Universidad de Extremadura

Application of PRISMA Hyperspectral data for Improving Landcover Mapping in Kenya's Dryland Forest Stratification Zone

Merceline Awuor Ojwala¹, Maria Antonia Brovelli², Polychronis Kolokousis³

¹Sapienza University of Rome, Italy, Politecnico di Milano; ²Politecnico di Milano; ³Politecnico di Milano

Towards Operational Grapevine Cultivar Discrimination Using Hyperspectral Data: From Proximal Analysis to Satellite-Based Mapping

Kyle Loggenberg¹, Albert Strever², Zahn Münch¹

¹Stellenbosch University; ²South African Grape and Wine Research Institute

A Tree Crown Delineation Method Based on a Gradient Feature-Driven Expansion Process

Jiaxuan Jia, Lei Zhang

Aerospace Information Research Institute, Chinese Academy of Sciences, China

Spatial Analysis of Mining Intensity in Buffer Zones of Protected Areas of the Ecuadorian Amazon

Henry Lojan-Tenesaca¹, Isabel Adriana Chuizaca-Espinoza^{2,3}, Andrés Velastegui-Montoya^{1,3}, Paulo Escandón-Panchana^{4,5}, Fabiola D. Yépez-Rincón⁶, Kevin Rodríguez González⁶

¹Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ²Earth Observation and Geoinformatics Division, National Institute for Space Research (INPE); ³Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University;

⁴Departamento de Ingeniería Cartográfica y Topografía, Universidad Politécnica de Madrid (UPM);

⁵Escuela de Ciencias Ambientales, Universidad Espíritu Santo; ⁶Universidad Autónoma de Nuevo León, Faculty of Civil Engineering, Department of Geomatics, San Nicolás de los Garza, Nuevo León, México

Approaches to atmospheric modelling and multi-Source Data collection and processing for the FINCH CubeSat

Noam Tal-Siegel^{1,4}, Kemal Emirhan Uygun^{2,4}, Shuo Chen^{1,4}, Fedor Pavlov^{1,4}, Logan Norton^{3,4}, Zoe Augspach^{1,4}, Zara Graham^{1,4}, Andrei Akopian^{1,4}

¹University of Toronto Faculty of Arts and Science, Toronto, Canada; ²University of Toronto Scarborough, Toronto, Canada; ³University of Toronto Mississauga, Toronto, Canada; ⁴University of Toronto Aerospace Team Space Systems Division, Toronto, Canada

Estimation of diurnal hydraulic status of spruce trees using drone-based hyperspectral images and green shoulder indices

Chiara Zabeo¹, Luiz Cosimo¹, Leonie Schönbeck², Jose Lopez³, Langning Huo¹

¹Department of Forest Resource Management, Swedish University of Agricultural Sciences, Umea, Sweden; ²Southern Swedish Forest Research Centre, Swedish University of Agricultural Sciences, Alnarp, Sweden; ³Department of Forest Ecology and Management, Swedish University of Agricultural Sciences, Umea, Sweden

Spatiotemporal Modelling of Ground-Level Air Temperature in an agricultural context: Rigorous Evaluation of LST Modis and Landsat-8 Imagery Data

Marica Teresa Rocca¹, Andrea Bergamaschi², Christian Massimiliano Baldin¹, Fabio Dell'Acqua², Vittorio Marco Casella¹

¹Dept. of Civil Engineering and Architecture, University of Pavia, Italy; ²Dept. of Industrial and Information Engineering, University of Pavia, Italy

Ontario Ministry of Agriculture, Food and Agribusiness

Sam De La Mothe¹, Brian McLaren¹, Brigitte Leblon¹, Armand LaRocque¹, Christine O'Reilly²

¹Lakehead University; ²Ontario Ministry of Agriculture, Food and Agribusiness

Assessing effect of droughts and heatwaves on Indian tropical forests using time-series meteorological and vegetation biophysical parameters

A single Hyperspectral image for predicting Soil Organic Matter in saline semi-arid lands: insights from Random Forests and optimal band selection models

Soufiane Hajaj^{1,2}, Ahmed Laamrani^{1,2,3,4}, Jamal-Eddine Ouzemou^{1,2}, Nadir El Bouanani^{1,2}, Ali EL Battay^{1,2}, Abdelghani Chehbouni^{1,2}

¹Center for Remote Sensing Applications (CRSA), Mohammed VI Polytechnic University (UM6P), Ben Guerir 43150, Morocco; ²College of Agriculture and Environmental Sciences (CAES), UM6P, Ben Guerir, Morocco; ³Department of Geography, Environment & Geomatics, University of Guelph, Guelph, ON N1G 2W1, Canada; ⁴Institut de recherche sur les forêts (IRF), Université du Québec en Abitibi-Temiscamingue (UQAT), 445 boul. de l'Université, Rouyn-Noranda, Québec J9X 5E4, Canada

Should UAV-lidar be collected at night? Impacts of Solar Illumination on Intensity, Penetration, and Ground Surface Detection Over Dense and Wet Vegetation

Cristian Iranzo¹, Nicholas Pontone², Fernando Cabello¹, Jorge Angas³, Koreen Millard²

¹Institute of Research into Environmental Sciences of Aragón (IUCA), Universidad de Zaragoza, C/ Pedro Cerbuna, 12, Zaragoza, 50009, Zaragoza, Spain; ²Department of Geography and Environmental Studies, Carleton University, 1125 Colonel By Drive, Ottawa, Ontario, K1S5B6, Canada; ³Department of Ancient Sciences and Institute of Heritage and Humanities (IPH), ARAID–University of Zaragoza, 50009 Zaragoza, Spain

Geospatial Technology for Natural Resource Management in K-J Watershed North India amid Changing Climate

Bhagwan Singh Chaudhary

Kurukshetra University, Kurukshetra-136119, INDIA

Synthesizing hyperspectral Data using generative Models to train spectral Unmixing Methods for low-cost Crop Residue Cover Mapping

Ege Artan^{1,3}, Shuo Chen^{2,3}, Andrew Peng^{2,3}, Samuel Aldrich Karya^{2,3}, Kyaw Thiha^{1,3}

¹University of Toronto Scarborough, University of Toronto, Toronto, Canada; ²Faculty of Arts and Science, University of Toronto, Toronto, Canada; ³Space Systems, University of Toronto Aerospace Team, Toronto, Canada

Advancing Species-Level Mapping of Savannah Woody Vegetation with Multitemporal EnMAP and Sentinel-2 data

Christina Karakizi^{1,2,3}, Eleni Sofikiti^{1,3}, Akpona Okujeni^{4,5}, Vasileios Tsironis³, Athina Psalta³, Konstantinos Karantzalos³, Patrick Hostert⁴, Elias Symeonakis²

¹Hellenic Space Center, Greece; ²Department of Natural Sciences, Manchester Metropolitan University, UK; ³Remote Sensing Laboratory, National Technical University of Athens, Greece; ⁴Geography Department, Humboldt-Universität zu Berlin, Germany; ⁵Helmholtz Center Potsdam, GFZ German Research Center for Geosciences, Germany

Sensitivity of Spaceborne LiDAR, Optical, and SAR Features for Forest Biomass Modeling: A GEDI–Sentinel-2–SAOCOM Analysis

Eren Gursoy Ozdemir¹, Omer Gokberk Narin², Saygin Abdikan³

¹Bartın University, Türkiye; ²Afyon Kocatepe University, Türkiye; ³Hacettepe University, Türkiye

Water Quality Inversion and Spatiotemporal Analysis of Changshu City Based on Multi-source Remote Sensing Data

Siao Liu, Ye Tian, Jianyu Wang, Lei Chen, Ning Wang, Yihuan Li

Satellite Communications Branch China Telecom Co. Ltd.

Mowing Event Temporal Localization on Dense Satellite Time Series using Foundational Models

Tilemachos Moumouris, Vasileios Tsironis, Athena Psalta, Konstantinos Karantzalos

National Technical University of Athens, Greece

Assessing flowering dynamics from a remote sensing perspective in macadamia orchards, South Africa

Simone Kriel¹, Angélique Kritzinger¹, Abel Ramoelo^{1,2}, Philemon Tsele¹

¹University of Pretoria, South Africa; ²South African National Space Agency (SANSA)

Mapping Perennial Crops in Complex Tropical Landscapes with Harmonized Landsat Sentinel Time Series

Victória Beatriz Soares¹, Édson Luis Bolfe², Taya Cristo Parreiras¹, Danielle Elis Garcia Furuya², Katia de Lima Nechet³

¹State University of Campinas, Brazil; ²Embrapa Agricultura Digital; ³Embrapa Meio Ambiente

Land Cover Change and its Drivers in Chile: The Roles of Infrastructure, Population, Topography and Climate Factors

Lisette Cortés, Valentina González, Danniela Espinoza, H. Jaime Hernández

Geomátics and Landscape Ecology Lab, Forestry and Nature Conservation Faculty, Universidad de Chile, Chile

Research on inversion technology of empirical models for water chlorophyll concentration based on sentinel-2 images

Jiqiang Tan¹, Yilong Gong¹, Fuzhong Yin², Zhenfa Zhou², Song Bai¹, Hengfei Liu¹

¹Heilongjiang Geomatics Center of MNR; ²Heilongjiang Administration of Surveying, Mapping and Geoinformation

CASTING A NEURAL NET: SATELLITE-BASED COASTLINE EXTRACTION WITH NEURAL NETWORKS ACROSS DIVERSE COASTAL ENVIRONMENTS IN BRITISH COLUMBIA, CANADA

Piper Steffen, Mohsen Ghanbari, Maycira Costa
University of Victoria, Canada

AN EXPLAINABLE CLIMATE-AWARE GENERATIVE AND PREDICTIVE MODELLING FRAMEWORK FOR SIMULATION OF "WHAT-IF" PLAUSIBLE CLIMATIC SCENARIOS ACROSS MULTIPLE CROPS

Jayati Vijaywargiya, Omer Waqar
University of the Fraser Valley, British Columbia, Canada

A COMPREHENSIVE FRAMEWORK FOR REMOTE SENSING AND AI-DRIVEN REAL-TIME COTTON HEALTH MONITORING AND DISEASE DETECTION

Rohma Ilyas¹, Muhammad Shahzad Sarfraz¹, Ahmad Ali Tabassam², Hafiz Muhammad Danish³
¹National University of Computer and Emerging Sciences, Chiniot-Faisalabad Campus, Pakistan; ²National University of Computer and Emerging Sciences, Multan Campus, Pakistan; ³Harbin Engineering University, Harbin, China

FROM PIXELS TO POLICY: USING GEOSPATIAL TECHNOLOGIES TO ASSESS SAND MINING REGULATIONS

Har Amrit Singh Sandhu, Rajan Dabral
Punjab Engineering College, Chandigarh, India

REPEATED AIRBORNE LASER SCANNING FOR ANALYZING DROUGHT-RELATED CROWN DYNAMICS IN MATURE NORWAY SPRUCE

Alice Penanhoat, Langning Huo
Swedish University of Agricultural Sciences, Sweden

ASSESSMENT MODEL OF THE SOIL FERTILITY POTENTIAL OF YATSUDA RICE FIELDS BASED ON HUMUS DERIVED NITROGEN BALANCE USING UAV HYPERSPECTRAL SENSOR

Kyohei Sato¹, Shintaro Goto², Yuya Tanaka¹
¹Doctoral student, Graduate School of Geo-Environmental Science, Rissho University, Kumagaya, Saitama, Japan; ²Professor, Department of Environmental Systems, Faculty of Geo-Environmental Science, Rissho University, Kumagaya, Saitama, Japan

INTEGRATING MULTI-SOURCE AGRICULTURAL DATA WITH MACHINE LEARNING TO IMPROVE CROP MAPPING ACCURACY: A CASE STUDY OF THE NAVAJO NATION

Varatharajaperumal Thangavel¹, Sudhagar Nagarajan¹, Madasamy Arockiasamy¹, Pias Kumar Biswas², George Sklivanitis¹
¹Florida Atlantic University, Florida, United States of America; ²Navajo Technical University, New Mexico, United States of America

REMOTE SENSING AND AI-DRIVEN SUSTAINABLE COTTON FARMING FOR A RESILIENT FUTURE

Ahmad Ali Tabassam¹, Muhammad Shahzad Sarfraz², Saad Rafiq³, Muhammad Fayyaz²
¹National University of Computer and Emerging Sciences, Multan Campus, Pakistan; ²National University of Computer and Emerging Sciences, Chiniot-Faisalabad Campus, Pakistan; ³GIS LAB, Forestry and Wildlife Department, Govt. of Punjab, Lahore, Pakistan

MAPPING URBAN GREEN SPACES USING AN ANALYSIS OF VEGETATION INDICES

Joel Aldrighetti, Maria Grazia D'Urso
Department of Engineering and Applied Sciences, University of Bergamo

TRANSFERABLE REMOTE SENSING PREDICTION OF ABOVEGROUND AND BELOWGROUND CARBON CONSUMPTION FROM BOREAL WILDFIRES ACROSS NORTH AMERICA

Chinyere Ottah¹, Lucas Diaz², Zilong Zhong¹, Spencer Christensen³, Sander Veraverbeke^{2,4}, Alemu Gonsamo¹
¹School of Earth, Environment & Society, McMaster University, Hamilton, ON, Canada; ²Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands; ³Faculty of Science, University of Amsterdam, Amsterdam, The Netherlands; ⁴School of Environmental Sciences, University of East Anglia, Norwich, United Kingdom

SPECTRAL UNMIXING AND DESIGN REQUIREMENTS FOR A LOW-COST CROP RESIDUE COVER MAPPING NANOSATELLITE

Zoe Augspach^{1,3}, Andrei Akopian^{1,3}, Zara Graham^{1,3}, Fedor Pavlov^{1,3}, Ege Artan^{1,2}, Noam Tal-Siegel^{1,3}, Kemal Emirhan Uygun^{1,2}
¹Faculty of Arts and Science, University of Toronto, Toronto, Canada; ²University of Toronto Scarborough, University of Toronto Toronto, Canada; ³Space Systems, University of Toronto Aerospace Team, Toronto, Canada

ANNUAL VARIABILITY IN PHENOLOGICAL RESPONSES OF NATURAL VEGETATION IN INDUS RIVER WATERSHED OF LADAKH

Kartik Sharma, Dr. Subrat Sharma, Dr. M Surabuddin Mondal
University of Ladakh, India

LIDAR vs. SfM: WHICH IS BETTER FOR ANALYSING HABITAT OF THE HARVEST MOUSE (MICROMYS MINUTUS)?

Naoko Miura¹, Susumu Yamada²
¹The University of Tokyo; ²Tokyo University of Agriculture

LIGHTS THAT EXTINGUISH NATURE IN PROTECTED FORESTS: A LOOK AT THE IMPACT OF LIGHT POLLUTION

David Freire-Granda^{1,2}, **Sheyla Cevallos-Misco**³, **Gina Peña-Villacreses**⁴, **Julian Perez-Correa**³, **Julia Nieto**³, **Eder MS de Paula**⁵, **Andrés Velastegui-Montoya**^{2,6}

¹Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University; ²Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ³Faculty of Life Sciences, ESPOL Polytechnic University; ⁴Laboratório de Oceanografia Costeira e Estuarina, Instituto de Estudos Costeiros, Universidade Federal do Pará; ⁵Faculdade de Geografia, Belém, Universidade Federal do Pará; ⁶Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University

Fusing Satellite Remote Sensing and Argo Float Data for Enhanced Monitoring of Microplastic Concentrations in the West Pacific (2018–2020)

Ting On Chan, **Zhijie Chang**, **Wing Sum Yan**

School of Geography and Planning, Sun Yat-sen University, China, People's Republic of

Seasonal Variability between Major Air Pollutants and Physical Landscapes in the Greater Nairobi Metropolitan Region

Patricia Mwangi

Kenyatta University, Kenya

Geospatial Exploration of Urban Heat Island Behaviour and Thermal Discomfort Patterns in Pune

Vinayak Bhanage^{1,2}, **Han Lee**^{1,2,3}

¹Transdisciplinary Science and Engineering Program, Graduate School of Advanced Science and Engineering, Hiroshima University, Hiroshima 739-8529, Japan; ²Centre for Planetary Health and Innovation Science (PHIS), The IDEC Institute, Hiroshima University, Hiroshima 739-8529, Japan; ³Smart Energy, Graduate School for Innovation and Practice for Smart Society, Hiroshima University, Hiroshima 739-8529, Japan

Mapping the 21st-century Global Wetland Dynamics by Seamless Data Cube and Deep Learning

Shuai Yuan¹, **Jie Wang**², **Peng Gong**¹

¹Dept. of Geography, The University of Hong Kong, Hong Kong, China; ²Pengcheng Laboratory, Shenzhen, China

High-fidelity Planetary Simulation Environment for Rover Evaluation

Long Chen¹, **Dong Li**², **Ruilin Wang**¹, **Dujun Nie**¹, **Xiaotong Zhang**¹, **Yuchen Li**³

¹Institute of Automation, Chinese Academy of Sciences, Beijing, China; ²WAYTOUS Inc., Beijing, China; ³Department of Information, Technische Universität München, Munich, Germany

An Online Semantically-Rich 3D Information System for Collaborative Exploration of Planetary Surfaces

Sau Yuen Chan, **Bo Wu**, **Qichen Fan**, **Jiapei Hu**, **Ran Duan**

Poly U, Hong Kong S.A.R. (China)

DNN-Based Lichen Mapping Using AVIRIS-NG Hyperspectral Imagery and UAV Images in a Rocky Canadian Shield Landscape

Shahab Jozdani¹, **Dongmei Chen**¹, **Robert H. Fraser**², **Wenjun Chen**²

¹Department of Geography and Planning, Queen's University, Canada; ²Canada Centre for Remote Sensing, Natural Resources Canada

Toward early warning of tailings dam failures through InSAR, surface moisture, and deep learning: insights from the Brumadinho disaster

Ramin Farhadiani, **Sayyed Mohammad Javad Mirzadeh**, **Saeid Homayouni**

Institut national de la recherche scientifique (INRS), Québec, QC, Canada

Mapping wildfires in seconds

Simon Jones¹, **Karin Reinke**¹, **Konstantinos Chatzopoulos Vouzoglani**¹, **Nur Trihantoro**¹, **James Hilton**²

¹RMIT University, Australia; ²Covey Pty Ltd

Mapping urban flood risk under the combined effects of climate change and urbanization

Qinke Sun^{1,2}, **Xianglong Yang**¹, **Yabin Zhang**¹, **Liang Zhou**¹

¹Faculty of Geomatics, Lanzhou Jiaotong University, Lanzhou, 730070, China; ²Department of Coastal and Urban Risk & Resilience, IHE Delft Institute for Water Education, Delft 2601DA, the Netherlands

Exploratory Study on Using Deep Learning for Monitoring Vertical Ground Displacement

Felix Enyimah Toffah^{1,2}, **Ruben Cartuyvels**³, **Patrick Ebel**³, **Francesco Pirotti**^{2,4}

¹Department of Civil, Building and Environmental Engineering, Sapienza University of Rome, Via Eudossiana 18, 00184 Rome, Italy; ²Interdepartmental Research Centre of Geomatics (CIRGEO), University of Padova, Viale dell'Università 16, 35020 Legnaro, Italy; ³φ - lab of the European Space Agency, Via Galileo Galilei, 1, 00044 Frascati, Italy; ⁴Department of Land, Environment and Agro-Forestry (TESAF), University of Padova, Viale dell'Università 16, 35020 Legnaro, Italy

Hydrological Modelling and Flood Vulnerability Assessment of the Yola South Watershed Using GIS and HEC-HMS

Temitope Paul, **Adedayo Adeleke**

University Pretoria, South Africa

Landslide Dating and Activity Mapping using Transformer-Based Multi-Sensor Time-Series Framework

Tsung-Han Wen, Tee-Ann Teo

National Yang Ming Chiao Tung University, Chinese Taipei

A Multi-Temporal SAR-DEM Integrated Framework for Flood Dynamics Assessment and Recurrent Flood-Zone Identification in Sri Lanka

Sasitha Supun Abeysinghe, Sanka N. Perera

Department of Remote Sensing and GIS, Faculty of Geomatics, Sabaragamuwa University of Sri Lanka

Spatiotemporal trends of extreme precipitation in Caraguatatuba (SE Brazil) from CHIRPS data (1981–2024) using GEE and climate indices

Yasmim Carvalho Guimarães¹, Andrés Velastegui-Montoya², Gabriela Alves Carreiro¹, Luana Albertani Pampuch Bortolozo^{1,3}, Enner Alcântara^{1,3}

¹Graduate Program in Natural Disasters (UNESP/CEMADEN), São José dos Campos, Brazil; ²Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University, Guayaquil, Ecuador; ³Institute of Science and Technology, Environmental Eng. Dept., Unesp, São José dos Campos, Brazil

Geospatial Assessment for Agricultural Drought Management in the Semi-arid Regions of Southern India using Remote Sensing Time-series Data

Suresh Mondal, Arun Prasad K

Department of Geography, School of Earth Sciences, Central University of Tamil Nadu, Tamil Nadu, India

Analysing vulnerable GLOF sites in High Mountain Asia using geospatial techniques for disaster early warning: Northern Pakistan

Syeda Saleha Fatim Ali¹, Maria Ali¹, Raja Umair Arshad², Syed Waqar Hussain Shah¹, Muhammad Bilavel Raza³

¹Institute of Space Technology, Islamabad, Pakistan; ²COMSATS University, Abbottabad, Pakistan; ³University of Bremen, Germany

Analysing Surface Dynamics and Polynomial Trend Patterns: A Case Study from the HKH Region, Northern Pakistan

Shaiza Farooq¹, Dr. Syed Amer Mahmood²

¹University of Bayreuth, Germany; ²Institute of space science, university of the punjab, Lahore

Integrating Machine Learning and Classification methods for Wildland Fire Danger Mapping

Saeideh Sahebi Vayghan, Tarmo K. Rimmel

Faculty of Environmental and Urban Change, York University, Toronto, Ontario, M3J 1P3

Assessing hydrometeorological disaster impacts through spectral change detection: Insights from the 2025 flash flood in Dharali, Uttarkashi

Harshita Tiwari, Aditya Kumar Thakur, Rahul Dev Garg

Indian Institute of Technology Roorkee, Haridwar, India, India

PICANTEO: A Modular Change Detection Framework for Remote Sensing Applications

Dimitri Lallement¹, Christian Hümmer^{1,2}, David Youssefi¹, Paul Mauduit³, Agnès Verzeni¹

¹CNES (French Space Agency); ²DLR (German Aerospace Center); ³Thales Services SAS

Integrated Coastal Vulnerability Index (ICVI) for Kerala state, India using Multi-criteria Spatial analysis approaches

Chinni V Naga Kumar Kommireddi, Noobiya C, Naveena K, Venu Prasad H D

Centre for Water Resources Development and Management (CWRDM), India

Post-Fire Urban Runoff Assessment in a Mediterranean Basin Using Integrated UAV-SWMM-HEC-RAS Modelling

Alaa Kadora¹, Anna Brook², Lea Wittenberg³

¹Spectroscopy and Remote Sensing Laboratory, School of Environmental Science, University of Haifa, Israel; ²Spectroscopy and Remote Sensing Laboratory, School of Environmental Science, University of Haifa, Israel; ³School of Environmental Science, University of Haifa, Israel; ⁴Haifa university, Israel

Elevation accuracy assessment of typical areas in Oceania based on ICESat-2ATLAS data

Jing Guo, Haipeng Chen, Hongjing Tu, Bingquan Yao, Chang Li, Haolin Liu

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

The advantage of reflectance measurements in radiometric adjustment of aerial imagery

Susanne Scholz, Marc Muick

Vexcel Imaging GmbH, Austria

Techniques and methods of product quality inspection Urban Spatial Monitoring

Wenjuan Mao, Haitao Zhao, Bingquan YAO, Jin Zhou, Hongjing Tu

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

Assessing the Impact of Sun Glint on Seagrass and Benthic Habitat Classification Accuracy across various Algorithms using PlanetScope Imagery

Margaux Angelica Cruz

University of the Philippines Diliman, Philippines

Current Status of the National Ecological Observatory Network's Airborne Observation Platform

Tristan Goulden, Bridget Hass, Shashi Konduri, John Musinsky
Battelle - NEON, United States of America

Mapping Peatland Sub-classes and Swamps across Canada using Multi-sensor remote Sensing and hierarchal Classification

Nicholas Pontone¹, Leila Rashid¹, Vincent Ribberink¹, Murray Richardson¹, Dan K. Thompson², Nicolas Pelletier³, Koreen Millard¹

¹Department of Geography and Environmental Studies, Carleton University, 1125 Colonel By Drive, Ottawa, Ontario, K1S5B6, Canada; ²Canadian Forest Service, Great Lakes Forestry Centre, 1219 Queen Street East, Sault Ste. Marie, Ontario, P6A 2E5, Canada; ³Environment and Climate Change Canada, 335 River Road, Ottawa, Ontario K1V 1C7, Canada

Integrating spectral Indices with terrestrial Laser Scanner for Biomass Estimation in Hong Kong Mangroves

Muhammad Uzair Mahmood¹, Majid Nazeer¹, Man Sing Wong^{1,2,3,4}

¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University PolyU, Hong Kong S.A.R. (China); ²Research Institute for Sustainable Urban Development, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ³Research Institute for Land and Space, The Hong Kong Polytechnic University, Hong Kong SAR, China; ⁴Otto Poon Research Institute for Climate-Resilient Infrastructure, The Hong Kong Polytechnic University, Hong Kong, China

5:30pm - 7:30pm

SEPT-TIF: ISPRS Student and Early Professional (STEP) - TIF Evening Reception (by invitation only)

Awards Ceremony:

- TIF Travel Grants
- Professional Travel Award
- ESA Awards

8:30am - 10:00am	WG II/2E: Point Cloud Generation and Processing Location: 713A
	<p>8:30am - 8:45am Appearance-aware Scaling Diffusion Model for 3D Point Cloud Upsampling <u>Sunghwan Yoo</u>, Gunho Sohn York University, Canada</p> <p>8:45am - 9:00am Scan Outlier Ratio (ScOR): LiDAR Scanning and Survey-Aware Filtering of Detached Points in Terrestrial and Permanent Laser Scanning Point Clouds <u>Ronald Tabernig</u>^{1,2}, Bernhard Höfle^{1,2} ¹3DGeo Research Group, Institute of Geography, Heidelberg University, Heidelberg, Germany; ²Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University, Heidelberg, Germany</p> <p>9:00am - 9:15am LiDAR-Enhanced 3D Gaussian Splatting SLAM for Planetary Rover Exploration Lingxiao Zhang¹, <u>Rong Huang</u>^{1,2}, Yusheng Xu^{1,2}, Zhen Ye^{1,2}, Xiong Xu^{1,2}, Changjiang Xiao^{1,2}, Xiaohua Tong^{1,2} ¹College of Surveying and Geo-Informatics, Tongji University, Shanghai 200092, China; ²Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Shanghai 200092, China</p> <p>9:15am - 9:30am Sensor Domain Adaptation for 3D Object Detection via LiDAR Super-Resolution <u>June Moh Goo</u>, Zichao Zeng, Jan Boehm University College London, United Kingdom</p> <p>9:30am - 9:45am Ray Queries On Raw Point Clouds Balthasar Teuscher, <u>Paul Walther</u>, Kwasi Nyarko Poku-Agyemang, Martin Werner Technical University of Munich, Germany; TUM School of Engineering and Design, Department of Aerospace and Geodesy, Professorship of Big Geospatial Data Management</p> <p>9:45am - 10:00am Analysis of free large Area covering Elevation Models and improvement by ICESat-2 <u>Karsten Jacobsen</u> Leibniz University Hannover, Germany</p>
8:30am - 10:00am	WG III/1L: Remote Sensing Data Processing and Understanding Location: 713B
	<p>8:30am - 8:45am Enhancing digital soil texture mapping accuracy using high-resolution remote sensing data and a hierarchical modelling approach <u>Mahsa Mozaffari</u>¹, Jean-Daniel Sylvain^{2,4}, Osvaldo Valeria¹, Mickael Germain³, Maxence Martin¹ ¹Université du Québec en Abitibi-Témiscamingue, Canada; ²Ministère des Ressources naturelles et des Forêts (MRNF); ³Université de Sherbrooke, Sherbrooke, QC, Canada; ⁴École de technologie supérieure, Université du Québec, Montréal, QC, Canada</p> <p>8:45am - 9:00am Operational Crop Type Mapping Using Sentinel-1/2 Data with Intermodal and Temporal Mamba Fusion for the Case Study of Brandenburg, Germany <u>Minghui Chang</u>^{1,2}, Shuaifeng Peng², Shihua Li², Ayshah Xuan Chan^{3,4}, Yi Yuan^{1,2}, Marco Körner^{3,4}, Katharina Anders² ¹University of Electronic Science and Technology of China; ²TUM School of Engineering and Design, Technical University of Munich, Germany; ³Remote Sensing Technology, TUM School of Engineering and Design, Technical University of Munich, Germany; ⁴Munich Data Science Institute (MDSI), Technical University of Munich (TUM)</p> <p>9:00am - 9:15am Assessing the impact of spatial resolution on morphological spatial pattern analysis of urban green infrastructure connectivity: a case study of Miami-Dade County, USA <u>Oumayma Moufid</u>¹, Sarbeswar Praharaj² ¹Hassania School of Public Works, Casablanca, Morocco; ²Department of Geography and Sustainable Development and School of Architecture, University of Miami, FL, USA</p> <p>9:15am - 9:30am Pseudo-labeling strategy and U-Net for high-resolution LULC mapping using CBERS-04A imagery in the Servidão river basin, Brazil <u>Daniilo Marques de Magalhães</u>¹, Murilo Marinho Pardo Lucas¹, Edgar Auler Galvão de França² ¹Dept. of Geography and Environmental Planning, São Paulo State University, Rio Claro, Brazil; ²Institute of Computing, University of Campinas, Campinas, Brazil</p> <p>9:30am - 9:45am First-order branch modelling based on bidirectional searching <u>Hanwen Qi</u>, Xinlian Liang Wuhan University, China, People's Republic of</p> <p>9:45am - 10:00am</p>

Advancing GRACE/GRACE-FO Hydrology: Deep Learning-based Reconstruction and Downscaling

Joseph Awange, Jielong Wang

The Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

8:30am - 10:00am

ThS2: Remote Sensing of Methane: Technological and Methodological Advances

Location: 714A

8:30am - 8:45am

A Self-Supervised Learning Framework for Methane Emission Detection Using Sentinel-2

Mohammad Marjani¹, Masoud Mahdianpari¹, Eric. W Gill¹, Fariba Mohammadimanesh²

¹Memorial University of Newfoundland, Canada; ²Canada Centre for Remote Sensing, Natural Resources Canada, 580 Booth Street, Ottawa, ON, Canada

8:45am - 9:00am

Satellite-based detection of methane emissions from permafrost peatland warming

Ray Nassar¹, Joseph Mendonca¹, Sabour Baray¹, Peter Morse², Qindii Shafi³, Ama Gamage³, Oliver Schneising⁴, Michael Buchwitz⁴

¹Environment and Climate Change Canada, Science and Technology Branch, Toronto, Canada; ²Natural Resources Canada, Geological Survey of Canada, Ottawa, Canada; ³University of Waterloo, Waterloo, Canada; ⁴University of Bremen, Institute of Environmental Physics, Bremen, Germany

9:00am - 9:15am

Satellite-based Assessment of Wetland Methane Emissions in Urban Regions: a Comparative Analysis with Anthropogenic Sources Across North American Cities

Mohammadali Hemati¹, Masoud Mahdianpari^{1,2}, Hodjat Shiri³, Fariba Mohammadimanesh⁴

¹Department of Electrical and Computer Engineering, Faculty of Engineering and Applied Sciences, Memorial University of Newfoundland; ²C-CORE; ³Civil Engineering Department, Faculty of Engineering and Applied Sciences, Memorial University of Newfoundland; ⁴Canada Centre for Remote Sensing, Natural Resources Canada

9:15am - 9:30am

Methane Plume Detection in Sentinel-2 Imagery using a Transformer-based Model and a Comprehensive Benchmark Dataset

Ali Radman¹, Masoud Mahdianpari^{1,2}, Fariba Mohammadimanesh³

¹Memorial University of Newfoundland, St. John's, Newfoundland, Canada; ²C-CORE, St. John's, Newfoundland, Canada; ³Canada Centre for Remote Sensing, Natural Resources Canada, 580 Booth Street, Ottawa, Ontario K1A 0E4, Canada

9:30am - 9:45am

Cross Sensor Fusion of Hyperspectral-derived and Sentinel-5P Data for Greenhouse Gas and Air Pollution Mapping

Vasil Yordanov, Sadra Zahed Kachae, **Maria Antonia Brovelli**

Politecnico di Milano, Department of Civil and Environmental Engineering (DICA), Italy

8:30am - 10:00am

WG III/8E: Remote Sensing for Agricultural and Natural Ecosystems

Location: 714B

8:30am - 8:45am

Large-scale individual crown tree segmentation across entire white spruce forests using UAV hyperspectral imagery and deep learning

Sylvain Colomer^{1,5}, Aravind Harikumar¹, Leen Al-Sameai¹, Vincent Riedel¹, Vincent Seigner², Ian Major², Nathalie Isabel², Ingo Ensminger^{1,3,4}

¹Department of Biology, University of Toronto, Mississauga, ON L5L 1C8 CA; ²Laurentian Forestry Centre, Natural Resources Canada, Canada; ³Graduate Department of Cell and Systems Biology, University of Toronto, Toronto, ON M5S 1A5; ⁴Graduate Department of Ecology and Evolutionary Biology, University of Toronto, Toronto, ON M5S 1A5; ⁵ETIS Laboratory, UMR8051, CY Cergy Paris Université, ENSEA, CNRS, Cergy, France

8:45am - 9:00am

Evaluating a modified StarDist Implementation for Individual Tree Detection and Crown Delineation in heterogeneous Landscapes

Nora Tilly¹, Andreas Tilly², Georg Bareth¹

¹University of Cologne, Germany; ²Independent Researcher

9:00am - 9:15am

Treetop-Guided Multi-task Deep Learning Framework for Individual Tree Crown Detection and Delineation from Airborne LiDAR in Mixed-Wood Forests

Qian Li, Baoxin Hu

York University, Canada

9:15am - 9:30am

Tree species identification in Ontario mixed forests using multi-temporal hyperspectral and LiDAR data with UAV

Zhaoshu Shi¹, Alexander McLaren², Ben DeVries³

¹University of Guelph, Canada; ²University of Guelph, Canada; ³University of Guelph, Canada

9:30am - 9:45am

UAV-Based 3D gaussian splatting for reconstruction and individual segmentation of field-grown soybean seedlings

Hanbing Jiao¹, Junhua Kang¹, Heli Li², Guijun Yang^{1,2}

¹College of Geological Engineering and Geomatics, Chang'an University, China; ²Key Laboratory of Quantitative Remote Sensing in Agriculture of Ministry of Agriculture and Rural Affairs, Information Technology Research Center, Beijing Academy of Agriculture and Forestry Sciences, China

9:45am - 10:00am

Upscaling vegetation cover from UAV to satellite imagery

Elena Belcore¹, Marco Piras¹, Alvaro Moreno Martínez², Ana B. Ruescas²

¹DIATI, Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Corso Duca degli Abruzzi, 24, 10129 Torino, Italy; ²Image Processing Laboratory (IPL), Universitat de València, Paterna, Spain

8:30am - 10:00am

ICWG III/IVa-E: Disaster Management

Location: 715A

8:30am - 8:45am

A Remote Sensing Approach to Identifying Drought Onset and Progression in Central India

Hempushpa Sahu, Pradeep Kumar Garg, Saurabh Vijay

Indian Institute of Technology Roorkee

8:45am - 9:00am

Improved Agro-Climatological Drought Monitoring: The Near-global Combined Drought Monitoring Dataset

Sneha Kulkarni, Yohei Sawada

University of Tokyo, Japan

9:00am - 9:15am

Observed increase in tropical vegetation droughts over the past three decades

Shuai Cheng

Eastern Institute of Technology, Ningbo, China

9:15am - 9:30am

Multi-source data driven forecasting of Extreme Heat Events using an ARIMA-XGBoost hybrid framework

Dandi Liao, Lina Xu, Pengfei Long, Yuxuan Wang, Qiyong Dong, Siyu Liu, Xincan Chang

School of Geophysics and Geomatics, China University of Geosciences, Wuhan, China.

9:30am - 9:45am

Climate Transition Zones As Emerging Hotspots For Natural Hazards: Insights From Land Use- Climate Feedbacks Amplify Disaster Risk In Taiwan

Manikandan Sathianarayanan, Pai-Hui Hsu

National Taiwan University, Chinese Taipei

9:45am - 10:00am

Performance Evaluation and Limitations Assessment of GeoAI Democratization for Extreme Event Induced Disasters

Andrea Demartis¹, Fabio Giulio Tonolo¹, Andrea Ajmar²

¹Politecnico di Torino, Department of Architecture and Design (DAD), Viale Mattioli 39, 10125, Torino, Italy; ²Politecnico and Università di Torino, Interuniversity Department of Regional and Urban Studies and Planning (DIST), Viale Mattioli 39, 10125, Torino, Italy

8:30am - 10:00am

WG II/3G: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

8:30am - 8:45am

ZeD-MAP: Bundle Adjustment Guided Zero-Shot Depth Maps for Real-Time Aerial Imaging

Selim Ahmet Iz¹, Francesco Nex², Norman Kerle², Henry Meissner¹, Ralf Berger¹

¹German Aerospace Center, Germany; ²University of Twente, The Netherlands

8:45am - 9:00am

Bundle-Adjusted Initialization for efficient Earth Observation Gaussian Splatting

Jiyong Kim¹, Shuang Song^{1,3}, Rongjun Qin^{1,2}

¹Department of Civil, Environmental and Geodetic Engineering, The Ohio State University, USA;

²Department of Electrical and Computer Engineering, The Ohio State University, USA; ³Translational Data Analytics Institute, The Ohio State University, Columbus, USA

9:00am - 9:15am

Evaluating Classical and Deep Keypoint Detectors For SfM Reconstruction in Arctic UAV Imagery

Nicholas Sansoterra¹, Charles Toth¹, Alper Yilmaz¹, Mendoza Lenzano², John Anderson³, William Stuart³

¹The Ohio State University, United States of America; ²Resp. Lab. Geomatica Andino (LAGEAN);

³USACE ERDC GRL Corbin field Station, USA

9:15am - 9:30am

Occlusion-Robust SfM in Construction Sites via Geometry-Guided Foreground Segmentation

Changjiang Yin¹, Shaoming Zhang¹, Qin Ye^{1,2}, Junqi Luo¹

¹College of Surveying and Geo-Informatics, Tongji University, 200092, Shanghai, China; ²Key Laboratory of Urban Land Resources Monitoring and Simulation, Ministry of Natural Resources, 518000, Shenzhen, China

9:30am - 9:45am

Geometry-aided Video Panoptic Segmentation

Tuan Nguyen, Max Mehlretter, Franz Rottensteiner

Institute of Photogrammetry and Geoinformation, Leibniz Hannover University, Germany

9:45am - 10:00am

Quantifying altimetric and volumetric changes of the Belvedere glacier (2009–2023) using Pleiades and Pleiades neo data

Francesco Ioli¹, Luca Cerina², Alberto Cina³, Livio Pinto²

¹IRPI - Italian National Research Council, Turin, Italy; ²DICA - Politecnico di Milano, Italy; ³DIATI - Politecnico di Torino, Italy

8:30am - 10:00am

IvS7B: Innovative Remote Sensing of Wetlands in Canada and Beyond

Location: 716A

8:30am - 8:45am

Automated multi-temporal wetland mapping using Sentinel-2 in the Great Lakes-St Lawrence basin

Kathleen Reid¹, Ben DeVries¹, Genevieve Ali²

¹University of Guelph, Canada; ²McGill University, Canada

8:45am - 9:00am

High-Resolution Delineation of Coastal Marsh Boundaries: Evaluating Adaptive Thresholding and Machine Learning Approaches

Doris Obodoefuna, Bing Lu, Ali Jamali

Simon Fraser University, Canada

9:00am - 9:15am

Comparative Analysis of 5-band and 10-band Multispectral Drone Imagery for Salt Marsh Vegetation Mapping

Gregory S. Norris¹, **Brigitte Leblon**², **Armand LaRocque**¹, **Myriam A. Barbeau**³, **Alan R. Hanson**⁴

¹Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, NB, Canada, E3B 5A3; ²Faculty of Natural Resource Management, Lakehead University, Thunder Bay, ON, Canada, P7B 5E1; ³Department of Biology, University of New Brunswick, Fredericton, NB, Canada, E3B 5A3; ⁴Canadian Wildlife Service, Environment Canada, P.O. Box 6227, Sackville, NB, Canada, E4L 4N1

9:15am - 9:30am

Wetland classification and mapping in the Richelieu river watershed with Sentinel-1sar and Sentinel-2 multispectral data

Emma Denomme¹, **Brigitte Leblon**¹, **Florin Pendea**¹, **Armand LaRocque**¹, **Élias Benai**²

¹Lakehead University, Canada; ²Connexion Nature, Quebec, Canada

9:30am - 9:45am

Monitoring coastal marsh vegetation features using high-resolution remote sensing

Bing Lu, **Ali Jamali**, **Doris Obodoefuna**

Simon Fraser University, Canada

8:30am - 10:00am

Forum5A: From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience

Location: 716B

8:30am - 10:00am

ThS1: Advancements in Wildfire Science, Management, and Engagement: Integrating Earth Observation Technologies and Collaborative Development

Location: 717A

8:30am - 8:45am

Advancing Canadian wildfire technology through onboard processing and on the ground collaboration

Tim Heydrich¹, **Andrew Macdonald**¹, **Tanya Harrison**¹, **Becca Bonham-Carter**¹, **Luis Chavier**¹, **Alexis Pascual**¹, **Shannon Paul**¹, **Saleh Abdelrahman**¹, **Scott Brass**², **Cordy Tymstra**³, **Rob McAlpine**⁴, **Eric Choi**¹, **Yolanda Brown**¹

¹Mission Control Space Services Inc., Ottawa, ON Canada; ²Eagle Flight Network, Tsuu T'ina Nation, AB Canada; ³Whitebark & Sage Wildfire Science and Management, Edmonton, AB, Canada; ⁴Western University, London, ON, Canada

8:45am - 9:00am

Science Applications and Mission Updates from Canada's WildFireSat Mission

Morgan A. Crowley¹, **Julia Harvie**¹, **Mark C. de Jong**¹, **Dan K. Thompson**¹, **Alan S. Cantin**¹, **Matthew Ansell**¹, **Geoffrey Goetz**¹, **Jacqueline Oliver**¹, **Segun Oladipo**¹, **Maurice Lecours**¹, **Denis Dufour**², **Colin B. McFayden**¹, **Joshua M. Johnston**¹

¹Natural Resources Canada - Great Lakes Forestry Centre, Canada; ²Canadian Space Agency, Longueuil, Canada

9:00am - 9:15am

Advancing Wildfire Detection and Characterization Using the Normalized Hotspot Indices (NHI)

Giuseppe Mazzeo¹, **Nicola Genzano**², **Alfredo Falconieri**¹, **Carolina Filizzola**¹, **Nicola Pergola**¹, **Francesco Marchese**¹

¹National Research Council, Institute of Methodologies of Environmental Analysis, Tito Scalco (Pz); ²Politecnico Milano, Dept. of Architecture, Built Environment and Construction Engineering (DABC) Milano, Italy

9:15am - 9:30am

Rapid georeferencing of sensor-limited helicopter imagery for wildfire response

Seongyu Kim¹, **Jeonghyo Oh**¹, **Jangwoo Cheon**², **Impyeong Lee**¹

¹Dept. of Geoinformatics, University of Seoul, Seoul, Republic of Korea; ²Geospatial Team, InnoPAM, Seoul, Republic of Korea

9:30am - 9:45am

Characterizing Wildland-Urban Interface Fire Typology and Climate Associations across California, USA

Huiyi Su¹, Pingting Cao², Ximei Wu², Lu Liang³, Qingqing Xu⁴, Yang Ju⁵, Jiaojiao Diao⁶, Wenchao Ma^{1,2}, Qin Ma^{1,2}

¹State Key Laboratory of Climate System Prediction and Risk Management, Nanjing, China, 210023.; ²School of Geography, Nanjing Normal University, Nanjing, China, 210023.; ³Department of Landscape Architecture and Environmental Planning, University of California, Berkeley, USA, 94720; ⁴Sierra Nevada Research Institute, University of California, Merced, USA, 95340.; ⁵School of Geography and Ocean Science, Nanjing University, Nanjing, China, 210023.; ⁶Department of Integrative Biology, University of Guelph, Ontario, Canada N1G2W1

10:00am - 10:30am

Morning Coffee Break

Location: **Exhibition Hall "E"**

10:30am - 12:00pm

Plenary Session 5

Location: **Exhibition Hall "G"**

Keynote 1: Dr. Minda Suchan
Awards Ceremony:

- The Li Deren Award
- The Otto von Gruber Award

Keynote 2: Professor Michael Daly

12:00pm - 1:30pm

Lunch

Location: **Exhibition Hall "E"**

1:30pm - 3:00pm

WG III/1F: Remote Sensing Data Processing and Understanding

Location: **713A**

1:30pm - 1:45pm

From Image to Perception: Scene-Graph-Driven Modeling of Human-Scale Urban Experience with Street-view Images

Haipeng Yang, Xian Guo

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

1:45pm - 2:00pm

Real-Time Road Condition Detection and Mapping Using YOLOv11 and Built-In Car Dashcam

Harjot Josan¹, Frank Zhang², Baoxin Hu³

¹University of the Fraser Valley (UFV), Canada; ²University of the Fraser Valley (UFV), Canada; ³Dept. of Earth and Space Science and Engineering, York University, Toronto, Canada

2:00pm - 2:15pm

Towards Global Interpretability: Evaluating XAI Metrics in Building Footprint Extraction

Elif Ozlem Yilmaz, Taskin Kavzoglu

Gebze Technical University, Turkiye

2:15pm - 2:30pm

MaskRoof: A deep Learning Framework and Benchmark Dataset for fine-grained urban Rooftop Utilization and potential Analysis

Jinfeng Xie¹, Haojie Yang², Lingshuang Dong³, Anthony Yeh¹, Yi Zhang²

¹The University of Hong Kong, Hong Kong S.A.R. (China); ²Institute of Future Human Habitats, Tsinghua Shenzhen International Graduate School; ³Huawei Technologies Co., Ltd., Dongguan, Guangdong Province, China

2:30pm - 2:45pm

A comparison of CNN, Transformer, and open-vocabulary architectures for real-time photovoltaic defect detection using UAV thermal imagery.

Aissam Salah¹, Mouad Jabrane², Imane Sebari¹

¹Department of Photogrammetry and Cartography, School of Geomatics and Surveying Engineering, IAV Hassan II, Rabat, Morocco; ²Research Unit of Geospatial Technologies for a Smart Decision, IAV Hassan II, Rabat 10101, Morocco

1:30pm - 3:00pm

WG III/3C: Active Microwave Remote Sensing

Location: **713B**

1:30pm - 1:45pm

On the Suitability of Distributed Scatterers for Bridge Monitoring in very high Resolution SAR Data

Stefan Scheiblauer, Francescopaolo Sica, Michael Schmitt

University of the Bundeswehr Munich, Germany

1:45pm - 2:00pm

Modeling tunnel excavation in Taipei, Taiwan, using a Gaussian trough and single-look Sentinel-1 InSAR time series

Erik Rivas¹, Mahmud Haghighi¹, Mahdi Motagh^{1,2}

¹Leibniz Hannover University, Germany; ²Helmholtz Centre Potsdam-GFZ German Research Centre for Geosciences, Potsdam, Germany

2:00pm - 2:15pm

Stereo SAR for Building Imaging

Yun Lin, Yanping Wang, Junqi Tian, Jiankun Dong, Wenjie Shen, Wen Jiang

North China University of Technology, China

	<p>2:15pm - 2:30pm Towards Country-Wide LoD1 City Model Reconstruction of from TanDEM-X Intensity Images Michael Schmitt, Michael Recla, Christopher Ummerle, Islam Mansour University of the Bundeswehr Munich, Germany</p> <p>2:30pm - 2:45pm Deformation Monitoring and Analysis of Railway Bridges Integrating Time-Series InSAR and Finite-Element Modeling Xiaoqiong Qin^{1,2}, Qingbo Ma^{1,2}, Chisheng Wang³, Linfu Xie³, Xiangsheng Chen^{1,2} ¹State Key Laboratory of Intelligent Geotechnics and Tunnelling, Shenzhen University, Shenzhen, 518060, China; ²School of Civil and Traffic Engineering & Underground Polis Academy, Shenzhen University, Shenzhen, 518060, China; ³Smart City Research Institute & School of Architecture and Urban Planning, Shenzhen University, 518060, China</p> <p>2:45pm - 3:00pm A New SAR Interferometry Approach to Linear Infrastructure Monitoring using Spatial Displacement Gradients Andreas Piter¹, Mahmud Haghshenas Haghghi¹, Mahdi Motagh^{2,1} ¹Institute of Photogrammetry and Geoinformation, Germany; ²GFZ Helmholtz Centre for Geosciences, Germany</p>
<p>1:30pm - 3:00pm</p>	<p>WG III/7B: Remote Sensing of the Hydrosphere and Cryosphere Location: 714A</p>
	<p>1:30pm - 1:45pm Deep learning-based enhancement of feature tracking for sea ice drift estimation Ki-Yeong Mun, Junhwa Chi Division of Data Information Sciences, Pukyong National University, Busan, Republic of Korea</p> <p>1:45pm - 2:00pm Implementation and validation of a new weather filter for reducing weather effect in the ASMR2 sea ice concentration data Kohei Cho¹, Josefino Comiso², Misako Kachi Kachi³, Rigen Shimada³ ¹Tokai University, Japan; ²NASA; ³JAXA</p> <p>2:00pm - 2:15pm Capturing the Soil Zero-Curtain Effect from Multi-Frequency Passive Microwave Retrievals Hesam Salmabadi^{1,2}, Aaron Berg³, Alexandre Roy^{1,2} ¹Dep. of Environmental Sciences, University of Quebec in Trois-Rivieres, QC, Canada; ²Centre d'Études Nordiques, Université Laval, QC, Canada; ³Dep. of Geography, Environment & Geomatics, University of Guelph, ON, Canada</p> <p>2:15pm - 2:30pm Passive L-Band Surface State Retrievals in the Arctic Winter: L-Band Radiometer Development and Calibration Kristofer Mäkinen¹, Alexandre Langlois^{1,2}, Alexandre Roy^{2,3} ¹Université de Sherbrooke, Canada; ²Centre d'études nordiques; ³Université du Québec à Trois-Rivières</p> <p>2:30pm - 2:45pm Self-Modulation Aggregation within Dense Skip Connections for Mapping of Retrogressive Thaw Slumps Yi Yuan^{1,2}, Guiyun Zhou¹, Zhishuai Zheng¹, Minghui Chang^{1,2}, Andrea Maldonado², Binbin He¹, Martin Werner² ¹School of Resources and Environment, University of Electronic Science and Technology of China, China; ²Big Geospatial Data Management, Technical University of Munich, Germany</p> <p>2:45pm - 3:00pm Snow Persistence Dynamics in the NWH Himalaya (2000–2024): MODIS-Based Trend Analysis Sakshi Tripathi^{1,2}, Praveen.K Thakur¹, Vaibhav Garg¹, Ashutosh Sharma², R.P Singh¹ ¹Indian Institute of Remote Sensing . IIRS-ISRO, Dehradun; ²Indian Institute of Technology Roorkee, India</p>
<p>1:30pm - 3:00pm</p>	<p>ThS3: Spatial Intelligence in the Wild Location: 714B</p>
	<p>1:30pm - 1:45pm Proactive cognitive map for embodied spatial reasoning Wenbin Wang, Zhifeng Gu, Guangchi Fang, Bing Wang The Hong Kong Polytechnic University</p> <p>1:45pm - 2:00pm Automatic Update and 3D Gaussian Reconstruction of Building Facade using Multi-Sensor Unmanned Aerial and Ground Vehicles: An Air-Ground Fusion Approach Jing Li^{1,2}, Shicheng Xu¹, Banghui Yang^{1,3}, Shuhao Sun⁴ ¹Aerospace Information Research Institute, Chinese Academy of Sciences, Macau S.A.R. (China); ²International Research Center of Big Data for Sustainable Development Goals, China; ³University of Chinese Academy of Sciences, Beijing 101408, China; ⁴Tianjin Chengjian University, Tianjin, China</p> <p>2:00pm - 2:15pm</p>

Monocular 3D Reconstruction for Martian Terrain Based on Diffusion Model

Jiarui Cao¹, Rong Huang^{1,2}, Yusheng Xu^{1,2}, Zhen Ye^{1,2}, Xiaohua Tong^{1,2}

¹College of Surveying and Geoinformatics, Tongji University, Shanghai, China; ²The Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, Shanghai, China

2:15pm - 2:30pm

GESM: GMM-based Efficient Sonar Mapping

Kaicheng Zhang, Zhifeng Gu, Gaungchi Fang, Bing Wang

The Hong Kong Polytechnic University, Hong Kong S.A.R. (China)

2:30pm - 2:45pm

An Analysis of the Impact of Geospatial Data Sources on Mesh-Based Localisation Performance

Francesco Vultaggio^{1,2}, Phillipp Fanta-Jende¹, Alexander Kern², Markus Gerke²

¹Austrian Institute of Technology, Austria; ²Technical University of Braunschweig, Germany

2:45pm - 3:00pm

JCFI: a Composite Index for RMLS-based Shield Tunnel Segment Joint Recognition

Liyang Wang¹, Ze You¹, Yiwei Yu¹, Yong Feng², Chunxi Xie³

¹School of Geomatics, Liaoning Technical University, Fuxin, China; ²Division of Geoinformation Management, Department of Natural Resources of Liaoning Province, Shenyang, China; ³Institute of Surveying, Mapping and Geographic Information, China Railway Design Group Co., LTD., Tianjin, China

1:30pm - 3:00pm

ThS28: Learning Across Temporal and Spatial Scales

Location: 715A

Comparative analysis of dual-form networks for live land monitoring using multi-modal satellite image time series

Iris Dumeur¹, Jérémy Anger^{1,2}, Gabriele Facciolo²

¹Kayros, France; ²Université Paris-Saclay, ENS Paris-Saclay, CNRS, Centre Borelli, France

Seasonality and Aerosol Optical Thickness affect Landsat 7 and 8 Harmonization Performance

Galen Richardson¹, Anders Knudby¹, Elisha Richardson², Wenjun Chen³

¹University of Ottawa, Ottawa, ON, Canada; ²Carleton University, Ottawa, ON, Canada; ³Canadian Centre for Mapping and Earth Observation, Ottawa, ON, Canada

Dynamics of Urban Expansion in the Inter-Andean Valleys: Projecting Scenarios for Sustainable Territorial Planning

Mónica Enriquez¹, Jaqueline Morocho¹, Divar Castro-Rodas^{2,3}, Paulo Escandón-Panchana^{4,5}, Lucas Lima Raiol⁶, Andrés Velastegui-Montoya^{1,3}

¹Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ²Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University; ³Laboratory of Geoinformation and Remote Sensing, Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; ⁴Departamento de Ingeniería Cartográfica y Topografía, Universidad Politécnica de Madrid (UPM); ⁵Escuela de Ciencias Ambientales, Universidad Espíritu Santo; ⁶Programa de Pós-Graduação em Ciências Ambientais (PPGCA), Institute of Geosciences (IG), Federal University of Pará (UFPA)

Understanding the effect of spatiotemporal mismatches between airborne and ground surveys for ALS models of forest biomass: a case study in the Canadian boreal forest

Maxim Okhrimenko^{1,2}, Guillermo Castilla², Chris Hopkinson¹

¹University of Lethbridge, Canada; ²Canadian Forest Service (NRCAN), Canada

1:30pm - 3:00pm

SpS4B: Remote Sensing of Atmospheric Components for Climate Change and Air Quality: Bridging ISPRS and AERSS

Location: 715B

1:30pm - 1:45pm

PhysNorm-Net: A physics-guided adapted normalization network for reconstructing gapless, hourly tropospheric NO₂ VCDs over Asia (2019–2024)

Hongrui Gao, Kai Qin

School of Environment and Spatial Informatics, China University of Mining and Technology, Xuzhou 221116, China

1:45pm - 2:00pm

Physics-Informed Neural Networks for Efficient Spatiotemporal Inversion of NO_x Emissions from TROPOMI

Qin He¹, Kai Qin¹, Hongrui Gao¹, Man Sing Wong², Jason Blake Cohen¹

¹China University of Mining and Technology, Xuzhou, 221116, China; ²The Hong Kong Polytechnic University, Kowloon, 999077, Hong Kong

2:00pm - 2:15pm

Fast Cloud Property Retrieval from TROPOMI O₂-A Band Observations Using a DISAMAR-Based Neural Network Framework

Tao Xie¹, Xiaoyun Zhang^{2,3}, Wenmei Li¹, Yixiang Chen¹, Ping Wang², Piet Stammes², Gijbert Tilstra², Olaf Tuinder², Maarten Sneep², Feng Lu⁴

¹School of Internet of Things, Nanjing University of Posts and Telecommunications, China; ²R&D Satellite Observations (RDSW), Royal Netherlands Meteorological Institute (KNMI), NL; ³Nanjing University of Information Science and Technology (NUIST), China; ⁴Key Laboratory of Radiometric Calibration and Validation for Environmental Satellites, National Satellite Meteorological Center (National Center for Space Weather), Innovation Center for Feng Yun Meteorological Satellite (FYSC), China Meteorological Administrations, Beijing 100049, China

	<p>2:15pm - 2:30pm</p> <p>Generation of Nighttime Visible Bands for the Advanced Himawari Imager based on Deep Learning technologies</p> <p>Jiaqi Jin^{1,2}, Jing Li^{1,2}, Man Sing Wong^{1,2,3,4}, PW Chan⁵</p> <p>¹State Key Laboratory of Climate Resilience for Coastal Cities, The Hong Kong Polytechnic University, Hong Kong, China; ²Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ³Research Institute for Sustainable Urban Development, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ⁴Research Institute of Land and Space, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; ⁵The Hong Kong Observatory, Hong Kong, China</p>
	<p>2:30pm - 2:45pm</p> <p>A radiative transfer model-guided deep learning framework for aerosol optical thickness retrieval from satellite observations</p> <p>Man Sing Wong^{1,2,3,4}, Jing Li¹, Kai Qin⁵</p> <p>¹Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hong Kong SAR, China; ²Research Institute for Sustainable Urban Development, The Hong Kong Polytechnic University, Hong Kong SAR, China; ³Research Institute of Land and Space, The Hong Kong Polytechnic University, Hong Kong SAR, China; ⁴Otto Poon Research Institute for Climate-Resilient Infrastructure, The Hong Kong Polytechnic University, Hong Kong SAR, China; ⁵School of Environment and Spatial Informatics, China University of Mining and Technology, China</p>
	<p>2:45pm - 3:00pm</p> <p>Evaluating the generalization and uncertainty of data-driven air quality remote sensing models using an idealized testbed</p> <p>Xinqi Wei¹, Qin He², Kai Qin²</p> <p>¹Nanjing University of Posts and Telecommunications; ²China University of Mining and Technology</p>
1:30pm - 3:00pm	<p>lvS11: Remote Sensing and Geospatial Technologies for Vegetation Fire Management and Recovery Resilience</p> <p>Location: 716A</p>
	<p>1:30pm - 1:45pm</p> <p>Application of remote sensing data in ice modelling for a regulated river</p> <p>Karl-Erich Lindenschmidt¹, Denise Sudom², Saber Ansari², Mojtaba Jandaghian², Sergio Gomez¹, Amir Ali Khan², Thomas Puestow²</p> <p>¹University of Saskatchewan, Canada; ²National Research Council, Canada</p>
	<p>1:45pm - 2:00pm</p> <p>Investigating the Sensitivity of multi-frequency SAR Coherence to flooded Arctic Landfast Ice</p> <p>Constanza Salvo^{1,2}, Saeid Homayouni^{1,2}</p> <p>¹Institut national de la recherche scientifique, Canada; ²Centre d'études nordiques</p>
	<p>2:00pm - 2:15pm</p> <p>Segmentation of SAR imagery of river ice in the St. Lawrence River using deep learning: Preliminary steps to best practice</p> <p>Katharine Scott¹, Nathan Wu², Liubov Poliakova³, Denise Sudom⁴</p> <p>¹University of Waterloo, Canada; ²University of Waterloo, Canada; ³University of Waterloo, Canada; ⁴Ocean, Coastal and River Engineering, National Research Council of Canada</p>
	<p>2:15pm - 2:30pm</p> <p>Retrieving Snow Water Equivalent (SWE) from satellite gravimetry using a spectral combination approach</p> <p>Farzam Fatolazadeh¹, Shusen Wang², Mehdi Eshagh^{1,3}, Kalifa Goïta¹</p> <p>¹Centre d'applications et de recherches en télédétection (CARTEL), Département de Géomatique appliquée, Université de Sherbrooke, Sherbrooke, Québec J1K 2R1, Canada; ²Canada Centre for Remote Sensing, Natural Resources Canada, Ottawa K1A 0E4, Canada; ³Division of Meteorology-forecast and Observation, Swedish Meteorological and Hydrological Institute, Sweden</p>
	<p>2:30pm - 2:45pm</p> <p>Forecasting Ice Thickness on the Churchill River and Lake Melville, Labrador Using Machine Learning, 2023-2025</p> <p>Ian Turnbull, Michael Lynch, Maria Yulmetova, Pradeep Bobby</p> <p>C-CORE, Canada</p>
	<p>2:45pm - 3:00pm</p> <p>From Concept to Application: Machine Learning for Near-Real-Time River Ice Breakup Prediction Using SAR and Meteorological Data</p> <p>Maria Yulmetova, Pradeep Bobby, Michael Lynch, Ian Turnbull</p> <p>C-CORE, Canada</p>
1:30pm - 3:00pm	<p>Forum5B: From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience</p> <p>Location: 716B</p>
1:30pm - 3:00pm	<p>Forum10: Photogrammetry and Remote Sensing Enabled Geospatial Science for Equitable, Liveable Cities</p> <p>Location: 717A</p>
1:30pm - 5:00pm	<p>General Assembly 3</p> <p>Location: 701A</p>
3:00pm - 3:30pm	<p>Afternoon Coffee Break</p> <p>Location: Exhibition Hall "E"</p>

3:30pm - 5:15pm	ThS18: Advances in Reality Capture, AI, and Digital Twin Technologies for Construction Engineering Location: 713A
	<p>3:30pm - 3:45pm Image sequence based prediction of the temporal evolution of fresh concrete properties under realistic conditions <u>Max Meyer</u>¹, Amadeus Langer^{1,3}, Max Mehlretter¹, Dries Beyer², Max Coenen³, Bastian Strybny³, Tobias Schack⁴, Michael Haist⁴, Christian Heipke¹ ¹Institute of Photogrammetry and GeoInformation, Leibniz University Hannover, Germany; ²Feist Construct GmbH, Bad Pyrmont, Germany; ³Institute of Building Materials Science, Leibniz University Hannover, Germany; ⁴Institute of Construction Materials, University of Stuttgart, Germany</p> <p>3:45pm - 4:00pm Single-image to model registration for semantic enrichment of indoor BIM <u>Dorota Włodarczyk</u>, Małgorzata Jarzabek-Rychard Institute of Geodesy and Geoinformatics, Wrocław University of Environmental and Life Sciences, Poland</p> <p>4:00pm - 4:15pm LSTNet: Local Shape Transformer Network for Road Marking Extraction <u>Jiafeng Wu</u>^{1,2,3}, Chaorui Liu^{1,2,3}, Jiajun Shi^{1,2,3}, Jonathan Li^{1,2,3,4}, <u>Lingfei Ma</u>^{1,2,3,4} ¹Key Laboratory of Geographic Information Science (Ministry of Education), East China Normal University, Shanghai 200241, China; ²Key Laboratory of Spatial-temporal Big Data Analysis and Application of Natural Resources in Megacities, Ministry of Natural Resources, East China Normal University, Shanghai 200241, China; ³School of Geospatial Artificial Intelligence, East China Normal University, Shanghai 200241, China; ⁴Hinton STAI Institute, East China Normal University, Shanghai 200241, China</p> <p>4:15pm - 4:30pm Automatic 3D Building Model Generation for Energy Digital Twins <u>Oscar Roman</u>^{1,2}, <u>Giorgio Agugiaro</u>³, <u>Ken Arroyo Otori</u>³, <u>Maarten Bassier</u>⁴, <u>Elisa Mariarosaria Farella</u>¹, <u>Fabio Remondino</u>¹ ¹3D Optical Metrology, Bruno Kessler Foundation, via Sommarive 18, Trento, Italy; ²University of Trento, EICS and DII Department, Trento, Italy; ³3D Geoinformation group, Department of Urbanism, Faculty of Architecture and Built Environment, Delft University of Technology, Delft, The Netherlands; ⁴Department of Civil Engineering, TC Construction - Geomatics, KU Leuven - Faculty of Engineering Technology, Ghent, Belgium</p> <p>4:30pm - 4:45pm From propagation to prediction: point-level uncertainty evaluation of MLS point clouds under limited ground truth <u>Ziyang Xu</u>¹, <u>Olaf Wysocki</u>³, <u>Christoph Holst</u>^{1,2} ¹Chair of Engineering Geodesy, TUM School of Engineering and Design, Technical University of Munich; ²TUM Leonhard Obermeyer Center, Technical University of Munich; ³CV4DT, University of Cambridge</p> <p>4:45pm - 5:00pm Automatic Scan-to-BIM: The Impact of Semantic Segmentation Accuracy on Opening Detection <u>Jidnyasa Patil</u>, Arcot Sowmya, Mohsen Kalantari University of New South Wales, Sydney, Australia</p> <p>5:00pm - 5:15pm Fast and accurate point surveying using the PIX4Dcatch mobile app <u>Giulia Rovelli</u>¹, <u>Marta Coelho Lopes</u>², <u>Gaia Amaranta Taberna</u>¹, <u>Adrian Fernandez</u>¹, <u>Paloma Pomares</u>¹, <u>Jean-Baptiste Magnin</u>¹, <u>Andrei Mitache</u>¹, <u>Davide Antonio Cucci</u>¹, <u>Christoph Strecha</u>¹, <u>Pierangelo Rothenbühler</u>¹ ¹PIX4D SA, Switzerland; ²École Polytechnique Fédérale de Lausanne (EPFL), Switzerland</p>
3:30pm - 5:15pm	ThS9: EuroSDR Thematic Session: Emerging Challenges and Opportunities for National Mapping and Cadastral Agencies Location: 713B
	<p>3:30pm - 3:45pm Airborne Laser Scanning in GNSS-denied Areas <u>George Vosselman</u>¹, Florian Pöppel², Peter Rieger², Gottfried Mandlbauer³, Camillo Ressi³ ¹University of Twente, Netherlands, The; ²Riegl, Austria; ³TU Wien, Austria</p> <p>3:45pm - 4:00pm Visible Cadastral Boundary Delineation in Data-Scarce Countries using Data from Neighboring Data-Rich Countries <u>Jeroen Grift</u>^{1,2}, <u>Claudio Persello</u>¹, <u>Mila Koeva</u>¹ ¹University of Twente; ²Kadaster</p> <p>4:00pm - 4:15pm Aerial image quality control - spatial resolution <u>Ivar Oveland</u>¹, <u>Andreas Prebensen Korsnes</u>¹, <u>Eija Honkavaara</u>², <u>Lauri Markelin</u>², <u>Andrew C. Flatman</u>³, <u>Henry Meißner</u>^{4,5} ¹The Norwegian Mapping Authority, Kristiansand, Norway; ²NLS, Helsinki, Finland; ³KDS, Copenhagen, Denmark; ⁴German Aerospace Center, Berlin, Germany; ⁵Geoinformatics and Land Management, OTH Amberg-Weiden, Amberg, Germany</p> <p>4:15pm - 4:30pm</p>

New Digital Models for the Italian Terrain Morphology and Gravity Field

Silvano Pecora¹, Maria Paola Bonfiglio¹, Giuseppe Poccia², Carlo Doglioni^{4,5}, Fernando Sansò^{4,6}, Riccardo Barzaghi⁶, Renè Forsberg⁷, Vittorio Casella⁸, Marco Arciero⁹, Alessandra Maria De Pace^{10,12}, Filippo Bocchino¹⁰, Roberta Ravanelli¹¹, Mattia Crespi^{3,4,10,12}

¹Ministero dell'Ambiente e della Sicurezza Energetica, Rome, Italy; ²Istituto Geografico Militare, Florence, Italy; ³Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy; ⁴Accademia Nazionale dei Lincei, Rome, Italy; ⁵Dept. of Earth Sciences, Sapienza University of Rome, Rome, Italy; ⁶Dept. of Civil and Environmental Engineering, Politecnico di Milano, Milan, Italy; ⁷National Space Institute, Technical University of Denmark, Lyngby, Denmark; ⁸Dept. of Civil Engineering and Architecture, University of Pavia, Pavia, Italy; ⁹Geos S.p.A., Rome, Italy; ¹⁰Geodesy and Geomatics Division, Dept. of Civil, Building and Environmental Engineering, Sapienza University of Rome, Rome, Italy; ¹¹Geomatics Unit, Department of Geography, University of Liège, Liège, Belgium; ¹²Sapienza School for Advanced Studies, Sapienza University of Rome, Rome, Italy

4:30pm - 4:45pm

Colour Adjustment of Aerial Images from 2000–3000 m Altitude: Empirical Normalisation using Large Ground Colour Targets

Ivar Oveland¹, Steven Le Moan²

¹The Norwegian Mapping Authority, Kristiansand, Norway; ²Colourlab, Norwegian University of Science and Technology, Gjøvik, Norway

4:45pm - 5:00pm

Enabling regular map updates and identification of impervious surfaces through satellite data fusion, machine learning and cloud platforms

Melchior Shukuru¹, Stephen McCarron¹, Guillermo Castro Camba², Conor Cahalane¹

¹Department of Geography, Maynooth University, Co. Kildare, Ireland; ²Dept Surveying, Remote Sensing, Geodesy & Boundaries, Tailte Éireann, Phoenix Park, Dublin 8, Ireland

5:00pm - 5:15pm

Conceptualising Value in Public Sector Geographic Information for Digital Twins

Jack Metcalfe¹, Claire Ellul¹, Stefano Cavazzi², Jantien Stoter³, Jeremy Morley¹

¹Department of Civil, Environmental and Geomatic Engineering, University College London, London WC1E 6BT, UK; ²Ordnance Survey, Southampton SO16 0AS, UK; ³3D Geoinformation Research Group, Delft University of Technology, 2628 CD Delft, The Netherlands

5:15pm - 5:30pm

Consolidating Feedbacks and Expertise of Digital Twins of Territories' Engineers in Nation-Wide Frameworks

Théo Szanto, Mathieu Brédif, Bénédicte Bucher

Univ Gustave Eiffel, ENSG, IGN, LASTIG

3:30pm - 5:15pm

WG III/4D: Landuse and Landcover Change Detection

Location: 714A

3:30pm - 3:45pm

Study on Multi-scale Assessment Methodology for SDGs Localization

Mingyi Du, Shisong Cao, Jingyi Chen

Beijing University of Civil Engineering and Architecture, Beijing, China

3:45pm - 4:00pm

Discussion on the 'Integration of Four Databases' for Natural Resources Survey and Monitoring in Beijing Based on the 'Jiaxing Experience'

Yingchun Huang^{1,2}, Feng Ni^{1,2}, Jun Wu^{1,2}, Juan Gu^{1,2}, Yifei Cao^{1,2}, Xudong Yang^{1,2}

¹Beijing Institute of Surveying and Mapping, China, People's Republic of; ²Beijing Key Laboratory of Urban Spatial Information Engineering, Beijing, China, People's Republic of

4:00pm - 4:15pm

Pernambuco Water Dataset (PWD): a high-resolution multi-source dataset for deep learning-based waterbody segmentation in tropical and semi-arid regions

Tiago Prudencio Silvano¹, Reginaldo Pereira da Silva Filho², Joel Passos¹, Simone Sayuri Sato¹, Cleber Zanchettin¹

¹Federal University of Pernambuco (UFPE); ²Brazilian Army Geographic Service (DSG)

4:15pm - 4:30pm

Bitemporal Spatial Autocorrelation Matrix for Change Detection in Multispectral Imagery: A Case Study on the Drying of a Lake in Southern Italy

Giovanni Piccolo^{1,2}, Cinzia Sada¹

¹Università degli Studi di Padova - Physics & Astronomy Department "G. Galilei"; ²Engineering Ingegneria Informatica S.p.A

4:30pm - 4:45pm

A Novel Label-Free Approach for Post-Fire Environmental Assessment Based on Zero-Shot Segment Anything Model (SAM)

Melih Altay¹, Fatih Fehmi Simsek², Saygın Abdikan³

¹Department of Geomatics Engineering, Hacettepe University, Ankara 06800, Türkiye; ²TUBITAK Space Technologies Research Institute, Ankara 06800, Türkiye; ³Department of Geomatics Engineering, Hacettepe University, Ankara 06800, Türkiye

4:45pm - 5:00pm

Application of machine learning methods and Sentinel-2 data for multitemporal land-cover classification in conflict-affected areas

Kinga Karwowska¹, Aleksandra Sekrecka², Jakub Ślesieński³, Magdalena Lewińska⁴

¹Military University of Technology, Poland; ²Military University of Technology, Poland; ³Military University of Technology, Poland; ⁴Military University of Technology, Poland

5:00pm - 5:15pm

Monitoring landscape dynamics via multitemporal classification at Comandante Ferraz Station neighborhood, Keller Peninsula, Antarctica

Eduardo Soares Nascimento¹, Renato César dos Santos², Guilherme Cardim³, Samara de Azevedo⁴, Pedro Pina⁵, Erivaldo Antonio da Silva²

¹Graduate Program in Cartographic Sciences (PPGCC), Department of Cartography, School of Technology and Sciences, São Paulo State University (FCT-UNESP), São Paulo, Presidente Prudente, 19060-900, Brazil; ²Department of Cartography, School of Technology and Sciences, São Paulo State University (FCT-UNESP), São Paulo, Presidente Prudente, 19060-900, Brazil; ³Engineering Department, School of Engineering and Sciences, São Paulo State University (FEC-UNESP), Rosana, SP, Brazil; ⁴Institute of Natural Resources, Federal University of Itajubá (UNIFEI), Itajubá, MG, 37500-903, Brazil; ⁵Department of Earth Sciences, Faculty of Sciences and Technology, University of Coimbra (UC), 3030-790, Coimbra, Portugal

3:30pm - 5:15pm

WG III/6B: Remote Sensing of the Atmosphere

Location: 714B

3:30pm - 3:45pm

Improving Severe Convective Rainfall Forecasting Using Machine Learning with Multi-band Radar Observations

Leiming Ma

Shanghai Typhoon Institute, China, People's Republic of

3:45pm - 4:00pm

Assessing Real-Time PPP Performance for PWV Estimation Using Low-Cost GNSS Stations and Multi-Source Correction Products

Milad Bagheri, Paolo Dabove

Polytechnic University of Turin, Italy

4:00pm - 4:15pm

Use of FY-3G Airborne Rain Radar for Typhoon Precipitation Analysis

Hong Li, Rui He, Jingyao Luo

Shanghai Typhoon Institute of CMA, China, People's Republic of

4:15pm - 4:30pm

Spatiotemporal Characteristics and Environmental Drivers of Atmospheric Water Vapor in Mainland China: Insights from Fengyun-4A Satellite Data

Zhiguo Pang^{1,2}, Minghan Sun¹, Jingxuan Lu^{1,2}, Wei Jiang^{1,2}, June Fu^{1,2}, Xiangdong Qin¹

¹State Key Laboratory of Simulation and Regulation of Water Cycle in River Basin, China Institute of Water Resources and Hydropower Research, China; ²Research Center of Flood and Drought Disaster Prevention and Reduction of the Ministry of Water Resources, China

4:30pm - 4:45pm

Drought Identification and Prediction from GNSS Time Series Using SSA and Hybrid CNN-Transformer

Motahareh Esfandyari Kaloukan¹, Shirin Malihi², Siavash Iran-Pour³, Danesh Shokri⁴, Saeid Homayouni⁵

¹University of Isfahan; ²University of Cambridge, United Kingdom; ³University of Isfahan; ⁴Université Laval; ⁵Institut National de la Recherche Scientifique

4:45pm - 5:00pm

Integrating Satellite Observations to Assess Seasonal Wetland Methane (CH₄) and Carbon Dioxide (CO₂) Dynamics in the Greater Bay Area

Muhammad Umar, Majid Nazeer, Man Sing Wong

Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hong Kong SAR, China

5:00pm - 5:15pm

Remote Sensing Data Fusion for Urban Air Quality: Investigating the Relationship Between Land Surface Temperature, NDVI, and NO₂ Concentration

Aryan Hosein Aghaei, Hamid Ebadi, Abbas Kiani

Khajeh Nasir Toosi University of Technology, Iran, Islamic Republic of

3:30pm - 5:15pm

WG III/2B: Spectral and Thermal Data Processing and Analytics

Location: 715A

3:30pm - 3:45pm

BathyUNet++: A center-focused receptive-field network for high-resolution bathymetry mapping from SuperDove imagery

Wendian Lai^{1,2}, Xiaolong Yu¹, Anders Jensen Knudby², Lakmal Deshapriya Nawarathnage², Zhongping Lee¹

¹State Key Laboratory of Marine Environmental Science, College of Ocean and Earth Sciences, Xiamen University, Xiamen 361102, China; ²Department of Geography, Environment and Geomatics, University of Ottawa, 60 University Private, Ottawa, ON, Canada, K1N 6N5

3:45pm - 4:00pm

MQTT-Enabled Federated Self-Learning Minimal Learning Machine Classifier for Real-Time Hyperspectral Processing

Anna-Maria Raita¹, Hadrien Louichon², Ilkka Pölonen¹

¹University of Jyväskylä, Finland; ²IMT Atlantique

4:00pm - 4:15pm

Estimating inland water quality parameters using Wyvern Dragonette-001 hyperspectral imagery, a case study from the St. Lawrence River, Canada

Mohsen Ansari, Anders Knudby

Department of Geography, Environment and Geomatics, University of Ottawa, 75 Laurier Avenue East, Ottawa, ON, K1N 6N5, Canada

4:15pm - 4:30pm

Effect of Hyperspectral Data Compression on Data Pre-processing: Analysis of Reconstruction Error Propagation

Jannick Kuester^{1,3}, Wolfgang Gross¹, Simon Schreiner¹, Andreas Michel¹, Jannik Sheikh¹, Joshua Dare-Cullen², Michael Heizmann³

¹Fraunhofer IOSB; ²University of Exeter; ³Karlsruhe Institute of Technology KIT

4:30pm - 4:45pm

VNIR-SWIR hyperspectral spectroscopy and deep learning for nitrogen prediction in potato crops

Ehsan Chatraei Azizabadi, Masoomeh Gomroki, Nasem Badreldin

University of Manitoba, Canada

4:45pm - 5:00pm

A multi-scale strip-wise convnet for infrared image stripe removal

Wei You¹, Zhiqiang Bian², Xinbo Zhou², Yi Xu¹, Kaimin Sun¹

¹Wuhan University, China, People's Republic of; ²Shanghai Institute of Satellite Engineering, China, People's Republic of

5:00pm - 5:15pm

Unsupervised tree species classification with UAV ultra-high resolution multispectral imaging

Larissa Ane De Sousa Lima, Krzysztof Bakula

Warsaw University of Technology

3:30pm - 5:15pm

WG II/1B: Image Orientation and Fusion

Location: 715B

3:30pm - 3:45pm

ATOM-ANT3D in Action: 3D Surveying from Confined Spaces to Urban Environments

Ahmad EL-Alaily^{1,2}, Luca Perfetti³, Fabio Remondino², Francesco Fassi¹

¹3D Survey Group, ABC Department, Politecnico di Milano, Milano, Italy; ²3D Optical Metrology (3DOM) Unit, Bruno Kessler Foundation (FBK), Trento, Italy; ³Department of Civil, Architectural, Environmental Engineering and Mathematics (DICATAM), Università degli Studi di Brescia, Brescia, Italy

3:45pm - 4:00pm

Shape2Match: A Shape-to-Matching Framework for Infrared and Visible Image Matching

Maoyu Wang, Xulei Shi, Zhuolu Hou, Xinbo Zhao, Xin Huang, Yifan Liao, Yansong Duan, Pengjie Tao

School of Remote Sensing and Information Engineering, Wuhan University, China, People's Republic of

4:00pm - 4:15pm

Historical images for surface topography reconstruction intercomparison experiment (Historix)

Amaury Dehecq¹, Friedrich Knuth^{2,3}, Joaquin M.C. Belart⁴, Livia Piermattei⁵, Camillo Ressi⁶, Robert McNabb⁷, Adina Racoviteanu¹, David Shean⁸, Luc Godin¹

¹University Grenoble Alpes, IRD, CNRS, Grenoble INP, IGE, Grenoble, France; ²Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich, Zurich, Switzerland; ³Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), Birmensdorf, Switzerland; ⁴Natural Science Institute of Iceland, Akranes, Iceland; ⁵Department of Geography, University of Zurich, 8057 Zurich, Switzerland; ⁶TU Wien, Department of Geodesy and Geoinformation, Vienna, 1040, Austria; ⁷School of Geography and Environmental Sciences, Ulster University, BT52 1SA Coleraine, UK; ⁸Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, USA

4:15pm - 4:30pm

Geolocation enhancement of space borne cameras: the SAR-Optic approach

Philippe Nonin¹, Alexis Barot¹, Pascal Favé², Laurent Gabet¹, Mathilde Jaussaud², Wolfgang Koppe³, Alain Orsoni²

¹Airbus, France; ²Ign, France; ³Airbus, Germany

4:30pm - 4:45pm

Comparative analysis of mainstream image matching methods for georeferencing Tianwen-1 HIRIC imagery without ground control points

Zhuolu Hou, Aomei Zhang, Yunfei Hu, Xulei Shi, Pei Mi, Penjie Tao, Tao Ke

School of Remote Sensing and Information Engineering, Wuhan University, China, People's Republic of

4:45pm - 5:00pm

Transforming National Air Photo Archives into Analysis-Ready Geospatial Products

Mozhdeh Shahbazi, Evangelos Bousias Alexakis, Mikhail Sokolov, Ella Mahoro, Pierre Gravel

Canada Centre for Mapping and Earth Observation, Natural Resources Canada, Canada

5:00pm - 5:15pm

The Project evalAT for Investigating the Accuracy of Aerotriangulations in Map Projections

Camillo Ressi¹, Norbert Pfeifer¹, Christine Ressi², Andreas Bay²

¹TU Wien, Austria; ²BEV – Bundesamt für Eich und Vermessungswesen, Abteilung G2 – Fernerkundung, Wien, Austria

3:30pm - 5:15pm

IvS10: Innovation in River Ice and Surveillance and Modeling: Best Practices and Emerging Technologies

Location: 716A

3:30pm - 3:45pm

Mapping the Structural Complexity of Vancouver Island's Forests with Deep Learning and LiDAR–Sentinel Data Fusion

Luizmar De Assis Barros, Michelle Venter, Oscar Venter

University of Northern British Columbia, Canada

3:45pm - 4:00pm

Scaling LiDAR-derived forest biomass to optical and RADAR satellite imagery in peatlands: a systematic review and meta-analysis of modelling approaches and sensor performance

Jack Goldman¹, Sophie Wilkinson², Koreen Millard¹

¹Department of Geography and Environmental Studies, Carleton University, Ottawa, Ontario, Canada;

²School of Resource and Environmental Management, Simon Fraser University, Burnaby, British Columbia

4:00pm - 4:15pm

Habitat suitability mapping using satellite imagery and continuous landscape inventory CLI: a case study for new Brunswick, Canada

Susham Biswas³, Aman Anand², Ankit Sharma¹, Rakesh Mishra⁴, Yun Zhang⁵

¹Rajiv Gandhi Institute of Petroleum Technology, India; ²Rajiv Gandhi Institute of Petroleum Technology, India; ³Rajiv Gandhi Institute of Petroleum Technology, India; ⁴University of New Brunswick, Canada;

⁵University of New Brunswick, Canada

4:15pm - 4:30pm

Quantifying Wildfire Impacts on Carbon Stock from Remote Sensing based Forest Disturbance and Recovery Monitoring

Qin Ma¹, Roger Bales², Mike Goulden³, David M. Bell⁴

¹School of Geography, Nanjing Normal University, Nanjing 210023, China; ²School of Engineering and Environmental Systems Graduate Group, University of California, Merced, CA 95343, USA; ³Department of Earth System Science, University of California, Irvine, CA 92697, USA; ⁴Pacific Northwest Research Station, USDA Forest Service, 3200 SW, Jefferson Way, Corvallis, OR 97331, USA

4:30pm - 4:45pm

Wild Fire Early warning system: Global and Canadian Perspectives

Ankit Sharma¹, Aman Anand², Susham Biswas³, Rakesh Mishra⁴, Yun Zhang⁵

¹Rajiv Gandhi Institute of Petroleum Technology, UP, INDIA; ²Rajiv Gandhi Institute of Petroleum Technology, UP, INDIA; ³Rajiv Gandhi Institute of Petroleum Technology, UP, INDIA; ⁴University of New Brunswick, Canada; ⁵University of New Brunswick, Canada

4:45pm - 5:00pm

Integrating UAV imagery and deep learning for small-scale land cover classification in post-rehabilitated ecosystems

Ryan Siu¹, Daniel Nelson¹, Yuhong He¹, Jiali Shang²

¹University of Toronto, Canada; ²Agriculture and Agri-Food Canada

5:00pm - 5:15pm

Anomalous Moisture Signal in Sentinel-2 Imagery Precedes Overwintering Wildfire

Quinn E. Barber¹, Sophie L. Wilkinson², Koreen Millard¹

¹Carleton University, Department of Geography and Environmental Studies, 1125 Colonel By Drive, Ottawa, ON, Canada, K1S 5B6; ²Simon Fraser University, School of Resource and Environmental Management, 8888 University Drive, Burnaby, BC, Canada, V5A 1S6

3:30pm - 5:15pm

Forum5C: From Science to Action: Advancing Global Agricultural Monitoring for Food Security and Resilience

Location: 716B

3:30pm - 5:15pm

Forum11: Canadian Earth Observation Supersites for Technology Advancement and Research

Location: 717A

3:30pm - 5:30pm

P5: Poster Session 5

Location: Exhibition Hall "E"

Musings on Doctoral Level Geospatial Education: Lessons from the EPSRC CDT in Geospatial Systems

Jon Mills¹, Stuart Barr¹, Jamie Stogden¹, Phyllida Bailey¹, Stuart Marsh², Panos Psimoulis², Esther Little², Doreen Boyd³

¹School of Engineering, Newcastle University, Newcastle upon Tyne, UK; ²Faculty of Engineering, University of Nottingham, Nottingham, UK; ³School of Geography, University of Nottingham, Nottingham, UK

Building a unified DEM analysis tool for the CO3D mission

Valentine Bellet¹, Romain Hugonnet², Amaury Dehecq³, Alice de Bardonnière Richard⁴, Marine Bouchet⁴, Valentin Schaffner¹, Emmanuel Dubois¹

¹CNES, France; ²University of Alaska Fairbanks, United States; ³Institut des Géosciences de l'Environnement (IGE), France; ⁴CS GROUP, France

DINAMIS: The French National online Facility dedicated to Mutualization and Sharing of very high Resolution Satellite Imageries for Non-commercial Applications

Jean-Francois Faure¹, Anna Cristofol², Etienne Berthier³, Nadia Landachoco⁴, Jean-Philippe Caminade¹, Jean-Paul Sempère², Stéphane Dupuy⁵, Pierre Mauré⁶

¹IRD, France; ²IGN, France; ³CNRS, France; ⁴CNES, France; ⁵CIRAD, France; ⁶INRAE, France

TNE-GPSEducation Advanced Skills for Green Sustainable Environment: An Earth Observation Hub pathway (at ENSMR, Morocco)

Raffaella Brumana¹, Marzia Gabriele¹, Tawfik El Moussaoui², Wafae El Harraki², Nicola Genzano¹

¹Politecnico di Milano, Dept. of Architecture, Built Environment and Construction Engineering (DABC), Via Ponzio 31, 20133 Milan, Italy; ²Mines School of Rabat (ENSMR), Department of Mines, Avenue Hajj Ahmed Cherkaoui BP 753, Agdal, Rabat 10100, Morocco

Geospatial technology application in factorial ecology of human population in Nepal

Umeshkumar Mandal¹, Kabita Kumari²

¹Central Department of Geography, Tribhuvan University, Nepal; ²Associated to Bernhardt College, Kathmandu, Nepal

Spatiotemporal Assessment of Black and Organic Carbon Deposition Characteristics over Korba, Chhattisgarh

Aman Srivastava, Aditya Kumar Thakur, Rahul Dev Garg, Pradeep Kumar Garg

Indian Institute of Technology Roorkee, India

The Application of Unmanned Aerial Vehicle and Lidar in Undergraduate Education of Geographic Information Science in Beijing City University

Yunqing Li, Yuan Meng, Xiaolei Chu, Yanchao Huang, Haiying Mao, Yifei An

School of Urban Construction, Beijing City University, Beijing, People's Republic of China

Digital Imaging Applications or Fabrications: Preserving Academic Integrity in a Geomatics Engineering Technical Elective Course

Ivan Detchev

University of Calgary, Canada

EuroSDR e-learning for strengthening capacity in the geospatial domain

Anka Lisec¹, Markéta Potůčková², Joep Crompvoets³, Conor Cahalane⁴

¹University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia; ²Charles University in Prague, Faculty of Science, Prague, Czechia; ³Public Governance Institute, KU Leuven, Belgium; ⁴Maynooth University, Department of Geography, Ireland

India's Geospatial Information Management in the Global Geopolitical Landscape

Nithyanandam Yogeswaran, Swathi Kalyani

Takshashila Institution, India

Heritage at Risk and Pedagogical Approaches: Training Professionals in Digital Documentation for UNESCO World Heritage Sites Under Threat at the Saint-Sophia Cathedral Complex in Kyiv, Ukraine.

Miquel Reina Ortiz¹, Mario Santana Quintero², Serhii Revenko³

¹Université de Montréal, Montréal, Canada; ²Carleton University, Ottawa, Canada; ³UNESCO Antenna Office in Ukraine, Kyiv, Ukraine

Cloud-based remote sensing platforms in remote sensing experiment course

Jun Li, Jinjing Deng, Qiaozhi Wang, Xiangyang Zeng, Lin Hu, Yanzhong Liu

Wuhan University of Science and Technology, China, People's Republic of

Web-based tools for synthetic spatial data generation

Paddy Gorry¹, Peter Mooney²

¹Hamilton Institute, Maynooth University, Ireland; ²Department of Computer Science, Maynooth University, Ireland

Complex Adaptive Blended Learning for Higher GIS Education: A Theory-Driven Pedagogy

Yingwei Yan, Chen-Chieh Feng, Lewis Kwek Boon Leong

Department of Geography, National University of Singapore, Singapore

Climate Change-Induced Rapid Flood Assessment through Landsat-8, Sentinel-2, UAV, and Machine Learning Techniques: 2022 Swat Flood, Pakistan

Hafiza Sayyeda Farah Batool, Dr. Syed Amer Mahmood

Institute of space science, university of the punjab, Lahore, Pakistan

Managing curriculum development and improvement quality

Ritu Khati

Samridhha Commune Development Center, Nepal

MODERNIZING THE PHOTOGRAMMETRY CURRICULA WITH SMALL UAVS

Ahmed Elaksher

NMSU, United States of America

Geomatics-based approach for the geometric characterization of historical masonry towers

Gabriele Bitelli, Giulia Fiorini, Valentina Girelli, Maria Alessandra Tini, Luca Vittuari

Three Layers of Authenticity in Augmented Reality Heritage: A Case Study from Suzhou's Twin Pagodas

[Anna Vichnevetskaia](#)^{1,2}, Jiachen Liang^{1,2}, Yue Li¹, Nicholas Webb², Yi-Wen Wang¹

¹Xi'an Jiaotong-Liverpool University; ²University of Liverpool

Adaptive PCA-Scale Optimization for Edge Extraction from 3D Scanned Cultural Heritage Point Clouds

[Tomoya Okajima](#)¹, Satoshi Takatori¹, Brahmantara², Fadjal Thufail³, Liang Li¹, Satoshi Tanaka¹

¹Ritsumeikan University, Japan; ²Indonesian Heritage Agency, Indonesia; ³Research Center for Area Studies, National Research and Innovation Agency

Seasonal Hydro-Optical Assessment of NDWI and Satellite-Derived Bathymetry in the Coastal Waters of Goa (2022–2024)

[Vijaydeep Singh](#), Rahul Dev Garg, Pradeep Kumar Garg

Indian Institute of Technology Roorkee, India

A five-level LoD concept for modelling of Buddhist statues in 3D with semantic information

Yuehan Pan¹, Yanju Kong², [Hongchao Fan](#)³

¹Beijing University of Civil Engineering and Architecture, China; ²The Palace Museum, China;

³Norwegian University of Science and Technology, Norway

Feature-Enhanced Visualization of 3D Point Clouds of Cultural Heritage in Transparent Virtual Reality

[Taishi Matsuo](#), Satoshi Takatori, Liang li, Satoshi Tanaka

Ritsumeikan University, Japan

Evaluating Multispectral Data Fusion for Dense Instance Segmentation in Vegetation and Artificial Objects Point Clouds

Clodoaldo Faria Junior¹, Isabella Norberto², Marcos Ricardo Maximo¹, [Antonio Tommaselli](#)², Mauricio Galo²

¹Aeronautics Technological Institute, São José dos Campos, São Paulo 12228-900, Brazil; ²Faculty of Science and Technology, São Paulo State University (UNESP) at Presidente Prudente, São Paulo 19060-900, Brazil

Multi-temporal, Multi-modal UAV and Machine Learning Framework for Early Detection and Mapping of Bacterial Leaf Blight in Rice

Megharani Doddamani¹, Ziyi Wang¹, Florian Ellsäßer¹, Nancy Castilla², Alice Laborte², Andrew Nelson¹, Stephen Klassen², [Roshanak Darvishzadeh](#)¹

¹Department of Natural Resource, Faculty of Geo-information Science and Earth Observation (ITC), University of Twente, Enschede, Netherlands; ²International Rice Research Institute (IRRI), Los Banos, Laguna, Philippines

The use of geospatial artificial intelligence technologies (geoai) within national mapping agencies: a review

[Zineb Didouz](#)^{1,2}, Imane Sebari², Kenza Ait El Kadi²

¹Agence Nationale de la Conservation Foncière du Cadastre et de la Cartographie; ²Institut Agronomique et Vétérinaire Hassan II

Fusion of PlanetScope SuperDove and Orthorectified Aerial Images for Tree-Level Stress Monitoring in Boreal Forests

[Xiaoyang Zhao](#), Langning Huo

Swedish University of Agricultural Sciences, Department of Forest Resource Management, 90654 Umea, Sweden

LLM-Enhanced Semantic Segmentation of Large-Scale Urban LiDAR Point Clouds via Contextual Prompting

[Jinlong Wang](#), Tao Shen, Liang Huo, Fulu Kong, Jiahui Wang, Xuejia Wei

School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, No. 15, Yongyuan Road, Huangcun Town, Daxing District, Beijing, China

Developing an Urban Road Dataset: A Multi-Sensor Framework for DT and AI-Based Road Infrastructure Management

[Vittorio Scolamiero](#)¹, Piero Boccardo²

¹Sapienza Università di Roma, Italy; ²Politecnico di Torino, Italy

Application of LiDAR technology for identifying surface anomalies in concrete structures through reflective intensity analysis

[Andrea Nathaly Escobedo Tamez](#)¹, Nallely Salazar González¹, Fabiola Doracely Yépez Rincón¹, Melanie Sepúlveda García¹, Ian Eliseo Cruz Bulmes¹, Milena Mesa Lavista²

¹Department of Geomatics, Faculty of Civil Engineering, Universidad Autónoma de Nuevo León, San Nicolás de los Garza; ²Department of Structural Engineering, Faculty of Civil Engineering, Universidad Autónoma de Nuevo León

Understanding Public Experiences of Urban Greenspace: A Novel Data-driven Multimodal Method based on Online Review Data and Natural Language Processing

Zian Wang¹, Yifan Yang², [Peter van Oosterom](#)¹, Steffen Nijhuis¹, Stefan van der Spek¹

Capturing, processing and analysing 3D Data in a National Mapping Agency

David Holland, [James Gillespie](#), Chris Heap
Ordnance Survey, United Kingdom

Leveraging Close-range Photogrammetry and Inverse Rendering Engine for Photorealistic Material Reconstruction

[Han Hu](#), Xiaolin Guo, Junfan Wang, Qing Zhu
Faculty of Geosciences and Engineering, Southwest Jiaotong University, 611756 Chengdu, China

Decoupling Visual and Textual Representation for Remote Sensing Image Segmentation

[Ce Zhang](#), Boyi Li
School of Geographical Sciences, University of Bristol, United Kingdom

A Geo-Foundation Framework for Retrogressive Thaw Slump Detection Using High-resolution Remote Sensing Data

[Mohammad Marjani](#)¹, Masoud Mahdianpari¹, Fariba Mohammadimanesh²
¹Memorial University of Newfoundland, Canada; ²Canada Centre for Remote Sensing, Natural Resources Canada, 580 Booth Street, Ottawa, ON, Canada

Combining and Processing Airborne Laser Scanning and Crowdsourced Terrestrial Images for bilberry high-yield maps

Susanna Hyypää¹, Josef Taher¹, Matti Hyypää¹, Leena Matikainen¹, Xiaowei Yu¹, Harri Kaartinen¹, Oskari Saarinen¹, Kirsi Karila¹, Ville Luoma³, Marjut Turtiainen⁴, Birgitta Partanen⁴, Roope Näsi¹, Jyri Maanpää¹, Eetu Puttonen¹, Arttu Kivimäki¹, Mikko Vastaranta⁵, Antero Kukko¹, Hannu Hyypää², Matti Vaaja², Fabio Remondino⁶, Narges Takhtkeshha⁶, [Juha Hyypää](#)¹
¹Finnish Geospatial Research Institute, Finland; ²Aalto university, Finland; ³University of Helsinki, Finland; ⁴Arctic Flavours Association, Finland; ⁵University of eastern Finland, Finland; ⁶Bruno Kessler Foundation, Italy

A Knowledge Service System for Cultural Heritage Integrating Knowledge Graph and Semantic 3D Model

[Jiadong Zhang](#)^{1,2,3}, Miaohe Hou^{4,5}, Jun Chen^{2,3}, Xiaoguang Zhou¹, Jiaxin Ren^{3,6}, Shunxi Yin^{2,7}, Huiqiang Zhao⁵, Zhihua Zhang⁸, Bingliang Cui⁹
¹School of Geosciences and Info-Physics, Central South University, Changsha 410083, China; ²National Geomatics Center of China, Beijing 100830, China; ³Moganshan Geospatial Information Laboratory, Huzhou 313299, China; ⁴School of Land Engineering, Chang'an University, Xi'an 710054, China; ⁵School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, Beijing 100044, China; ⁶School of Earth Sciences, Zhejiang University, Hangzhou 310058, China; ⁷School of Environment and Spatial Informatics, China University of Mining and Technology, Xuzhou 221116, China; ⁸Shanxi Cultural Relics and Museum Industry Group Co., Ltd., Taiyuan 030001, China; ⁹Guangzhou Alpha Software Information Technology Co., Ltd., Guangzhou 510060, China

Evaluating different satellite-based Aerosol Optical Depth (AOD) in predicting inland daytime PM2.5 using machine learning-based regression approach

[Roseanne Ramos](#)^{1,2}, Mark Joseph Calubad³, Alvin Christopher Varquez¹
¹Department of Transdisciplinary Science and Engineering, School of Environment and Society, Institute of Science Tokyo; ²Department of Geodetic Engineering, University of the Philippines, Diliman, Quezon City, Philippines; ³Department of ICT Integrated Ocean Smart City Engineering, Dong-A University, Busan, South Korea

Learning Height from Geospatial Embeddings: an initial investigation of the Google AlphaEarth dataset

[Alireza Hamoudzadeh](#)¹, Hugo De Vecchi², [Valeria Belloni](#)¹, Roberta Ravanelli²
¹Geodesy and Geomatics Division, DICEA, Sapienza University of Rome, Rome, Italy; ²Geomatics Unit, Department of Geography, Faculty of Sciences, University of Liège, Liège, Belgium

Hierarchy-Aware Intent Recognition and Task-Oriented Text Generation for Non-Expert Satellite Instructions

[Xinyue Li](#)¹, Chunhui Wang², Hongwei Li², Zifeng Jiang³
¹School of Aeronautics and Astronautics, Zhejiang University; ²College of Information Science and Electronic Engineering, Zhejiang University; ³STAR.VISION Aerospace Group Limited, Hangzhou

A Tracking-Free Automatic Target Recognition (ATR) Radar Methodology for Real-Time Airspace Management in China's Low-Altitude Economy

[Jiangkun Gong](#)^{1,2}, Yan Jun², Deren Li²
¹Shanghai University, China, People's Republic of; ²Wuhan University, China, People's Republic of

Beyond Alerts: spatiotemporal Trade-offs in near-real-time Detection Systems for Forest Disturbance in the Brazilian Amazon

[Alby Duarte Rocha](#)¹, Alessandra Rodrigues Gomes², Luis Waldyr Rodrigues Sadeck³, Karine Reis Ferreira¹
¹Earth Observation and Geoinformatics Division, National Institute for Space Research (INPE); ²Amazon Spatial Coordination (COEAM), National Institute for Space Research (INPE); ³Graduate Program in Environmental Sciences, Institute of Geosciences, Federal University of Pará (UFPA)

An Intelligent Matching Method for Archaeological Pottery Shards Based on the Fusion of Lang SAM and DINO v2

Chang Xinfeng^{1,2,4}, **Gao Zhenhua**³, **Wei Shengnan**^{1,4}, **Hou Miaole**^{1,4}

¹Beijing University of Civil Engineering and Architecture, Beijing, China; ²Pingdingshan University, Henan, China; ³Shanxi Provincial Institute of Archaeology, Shanxi, China; ⁴Beijing Key Laboratory for Architectural Heritage Fine Reconstruction & Health Monitoring, Beijing, China

Multi-Source Remote Sensing for Maritime Security: A Performance Evaluation of SAR and RGB Imagery for Small-Scale Fishing Vessel Detection

Stefano Chiappini¹, **Marsia Sanità**¹, **Alessandro Galdelli**², **Anna Nora Tassetti**³, **Roberto Pierdicca**¹, **Carmen Ferrà Vega**³, **Andrea Fiorani**²

¹Department of Civil, Building Engineering and Architecture (DICEA), Università Politecnica delle Marche 60131 Ancona, Italy; ²Department of Information Engineering (D3A), Università Politecnica delle Marche, 60131; ³CNR-IRBIM, Institute for Marine Biological Resources and Biotechnology, National Research Council, 60125 Ancona, Italy

Toward IFC-Compatible HBIM Semantics for Component-Level Representation of Architectural Heritage

Wangin Liu¹, **Fabrizio Banfi**¹, **Marco Pela**¹, **Angelo Giuseppe Landi**², **Fabio Roncoroni**¹

¹Politecnico di Milano, Dept. of Architecture, Built Environment, and Construction Engineering (ABCE-CLICARUS); ²Politecnico di Milano, Dept. of Architecture and Urban Studies (DASTU)

Point Cloud Semantic Segmentation of Thousand-Buddha Niches in Grotto Temples Based on PointNet++ Transfer Learning

Songze Wei¹, **Miaole Hou**^{1,2}, **Bo Ning**³, **Yong He**³

¹School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, China, People's Republic of; ²School of Land Engineering, Chang'an University, Middle Section, South 2nd Ring Road, Xi'an, Shaanxi, 710054, China.; ³Yungang Research Institute, No. 1, Dong Street, Yungang Town, Yungang District, Datong City, 037007, China

Comparative Study of Stable Diffusion-Based Super-Resolution Methods for Remote Sensing Imagery

Yiran Lu^{1,2}, **Hongjie He**^{1,2,3}, **Fei Zhu**^{1,2}, **Jonathan Li**^{1,2,3}

¹School of GeoAI and Hinton STAI Institute, East China Normal University; ²Key Laboratory of Geographic Information Science (Ministry of Education), East China Normal University; ³Department of Geography and Environmental Management, University of Waterloo

Learning-based monocular depth estimation for photogrammetric 3D reconstruction

Chunyu Dou^{1,2}, **Yifei Yu**¹, **Xin Wang**¹, **Zongqian Zhan**¹

¹School of Geodesy and Geomatics, Wuhan University, China; ²School of Geography, Nanjing Normal University, China

From Peaks to Crowns: A Morphology-Based UAV-LiDAR Framework for Individual Tree Segmentation

Yijun Guo¹, **Hangpu Li**¹, **Jingyi Yuan**¹, **Huiyi Su**¹, **Tianhui Xu**², **Honggang Sun**², **Qin Ma**^{3,1,4,5}

¹School of Geography, Nanjing Normal University, Nanjing 210023, China.; ²Research Institute of Subtropical Forestry of Chinese Academy of Forestry, Hangzhou 311400, China.; ³State Key Laboratory of Climate System Prediction and Risk Management, Nanjing, China.; ⁴Key Laboratory of Virtual Geographic Environment (Nanjing Normal University), Ministry of Education, Nanjing, China.; ⁵Jiangsu Center for Collaborative Innovation in Geographical Information Resource Development and Application, Nanjing, China.

Steel Transmission Towers UAV Photogrammetric reconstruction for Corrosion Quantification supported by Deep Convolutional Neural Networks

Vincenzo Di Pietra¹, **Pierclaudio Savino**², **Fabio Graglia**³

¹Department of Environment, Land and Infrastructure Engineering - Politecnico di Torino, Italy; ²Tecne - Gruppo Autostrade per l'Italia, Roma, Italy; ³Rai Way S.p.A., Roma, Italy

Urban Building Function Mapping using AlphaEarth Foundations and OpenStreetMap

Yaoqi Xie, **Hao Wu**, **Lanfa Liu**

School of Urban and Environmental Science, Central China Normal University, China

Risk-Aware LLM Agents for Geospatial Data Retrieval: Design and Preliminary Adversarial Evaluation

Kyle Gao¹, **Joel Cumming**², **Jonathan Li**^{1,3}, **Linlin Xu**⁴, **David A. Clausi**¹

¹Department of Systems Design Engineering, University of Waterloo, Canada; ²SkyWatch, Canada;

³Department of Geography and Environmental Management, University of Waterloo, Canada;

⁴Department of Geomatics Engineering, University of Calgary, Canada

Real-time solar farms defect detection with YOLO based EDGE OVDs using thermal UAV images

Mouad Jabrane^{1,2}, **Aissam Salah**¹, **Kenza Ait El Kadi**^{1,2}, **Imane Sebari**^{1,2}

¹Department of Photogrammetry and Cartography, School of Geomatics and Surveying Engineering;

²Research Unit of Geospatial Technologies for a Smart Decision

Benchmarking and Deep-Learning-Based Bias Adjustment of Gridded Meteorological Datasets for Agricultural Applications

Abdelrahman Saleh, **Ali Youssef**, **Nasem Badreldin**

Digital AgroEcosystems Lab, Department of Soil Science, Faculty of Agricultural and Food Science University of Manitoba, Canada

Comparative Assessment of GeoAI-based Frameworks for Urban Tree Cover

Francesco Pirotti^{1,2}, Linda Avesani³, Matteo Pianetti⁴, Riccardo Greco³, Catherine Dezio², Davide Quaglia⁴

¹Interdepartmental Research Center in Geomatics (CIRGEO), University of Padova, Italy; ²Department of Land, Environment, Agriculture and Forestry (TESAF), University of Padova, Italy; ³Department of Biotechnology, University of Verona, Verona, Italy; ⁴Department of Informatics, University of Verona, Verona, Italy

MRGF:A robust SLAM Framework based on Millimeter wave Radar and GNSS Fusion in Harsh Environments

Fangcheng Qu¹, Yuheng Zhang³, Xianlang Wei⁴, Youchen Tang⁵, Jian Zhou^{2,5}

¹Wuhan University, School of Geodesy and Geomatics; ²Hubei LuoJia laboratory; ³Wuhan University, College of Earth and Space Sciences; ⁴Wuhan University, School of Electronic Information; ⁵Wuhan University, State Key Laboratory of Information Engineering in Surveying

Gaussian splatting for the reconstruction of complex and highly detailed object

Sara Gonizzi Barsanti¹, Dario Billi^{2,3}, Etienne Sommer², Erika Elefante¹, Arnadi Murtiyoso²

¹Department of Engineering, Università degli Studi della Campania Luigi Vanvitelli 81031 Via Roma 29, Aversa (CE) Italy; ²Université de Strasbourg, INSA Strasbourg, CNRS, ICube Laboratory UMR 7357, Photogrammetry and Geomatics Group, 67000 Strasbourg, France; ³Department of Civil and Industrial Engineering, ASTRO Laboratory, University of Pisa, Largo Lucio Lazzarino, 56122 Pisa, Italy

Towards a national geospatial digital twin in Slovenia

Nina Crnigoj¹, Anka Lisec¹, Ana Potočnik Buhvald¹, Krištof Oštir¹, Jernej Tekavec¹, Anže Žnidaršič², Aleš Vidiček², Katja Šušteršič²

¹University of Ljubljana, Slovenia; ²Flycom Technologies d.o.o., Slovenia

UAV data fusion approach to assess vegetation recovery dynamics after pipeline construction

Mattia Balestra^{1,2}, Stefano Chiappini¹, Bojana Petrovic^{1,3}, Filippo Giusti⁴, Giacomo Quattrini², Simone Pesaresi², Marco Bonacoscia⁴, Roberto Pierdicca¹

¹Department of Construction, Civil Engineering and Architecture (DICEA), Università Politecnica delle Marche, 60131 Ancona, Italy; ²Department of Agricultural, Food and Environmental Sciences (D3A), Università Politecnica delle Marche, 60131 Ancona, Italy; ³Department of Geology and Soil Science, Faculty of Forestry and Wood Technology, Mendel University in Brno; ⁴Hystrix - Società di ricerca, progettazione e consulenza naturalistica ed ambientale, 61032 Fano, Italy

A pipeline for automatic building reconstruction for Digital Twins in complex urban environments

Laura Candela¹, Luigi D'Amato¹, **Alessandro Di Benedetto**², Margherita Fiani², Lucas Matias Gujski²

¹Italian Space Agency (ASI), Rome, Italy; ²Department of Civil Engineering, University of Salerno, Fisciano (SA), Italy

Synthetic data generation for architectural typology documentation using diffusion models

Pedro Marco Achancaray Diaz¹, Leonhard Wesche², Markus Gerke¹, Sebastian Hoyer², Klaus Thiele²

¹Institute of Geodesy and Photogrammetry, Technische Universität Braunschweig, Germany; ²Institute of Steel Structures, Technische Universität Braunschweig, Germany

Crops and Varietal Discrimination using PRISMA Hyperspectral Data

Manik Kalubarme¹, Dharmesh Verma², A.N. Singh³

¹Space Application Centre, Indian Space Research Organization (ISRO), Ahmedabad, India; ²Terrasesense Intellicrop Pvt. Ltd. New Delhi, India; ³Remote Sensing Applications Centre, Uttar Pradesh (RSAC-UP), Lucknow, India

Real-Time Visualization of Cadastral Information from German Authorities Using Augmented Reality

Eike Marvin Sippel¹, **Andreas Wichmann**²

¹Landesamt für Geoinformation und Landesvermessung Niedersachsen (LGLN), Germany; ²Jade University of Applied Sciences, Germany

Integrating timber stability analysis for building life cycle management and HBIM framework support

Maria Chizhova¹, Junquan Pan¹, Gerold Kempter², Thomas Eissing¹, Thomas Luhmann³, Mona Hess¹

¹University of Bamberg, Germany; ²BauCaD *K+R* Kempter GmbH; ³Jade University of Applied Sciences

A Multilingual LLM-Based GeoAI Framework for Natural-Language-Driven Remote Sensing Analysis

Hossein Barakati¹, **Majid Kiavarz**¹, Hamid Kiavarz²

¹Department of Remote Sensing and GIS, Faculty of Geography, University of Tehran, Ira; ²Department of Earth & Space Science & Engineering, York University, Toronto, Canada

Urban-Graph: Bridging Local SLAM and Global EO for Fine-Grained LCLU Mapping

MingHao Yu^{1,2}, Chenyang Wang³, Youchen Tang¹, Xiao Wu⁴, Jian Zhou^{1,2}

¹Wuhan University, State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, 430070 Wuhan, China; ²Hubei LuoJia Laboratory, Wuhan University, Wuhan, China; ³State Key Laboratory of Marine Thermal Energy and Power Wuhan Second Ship Design and Research Institute, 430074 Wuhan, China; ⁴Wuhan University of Science and Technology, Key Laboratory of Metallurgical Equipment and Control Technology, Ministry of Education, Wuhan 430081, China

Using NeRFs for UAV-based 3D reconstruction of complex scenes: A comparison to MVS

Frederik Schulte, Perpetual Akwensi, Lukas Winiwarter

Unit of Geometry and Surveying - University of Innsbruck, Austria

Pre-ignition forest fire risk prediction using multi-temporal vegetation indices and machine learning: A case study from California

Jayantrao Diliprao Mohite, Suryakant Ashok Sawant, Ankur Pandit, Dineshkumar Singh

Tata Consultancy Services, India

Mapping natural disasters using social media posts with an encoder-decoder model

Nima Ekhtari¹, Andrew Niccolai², Kevin Slocum², Craig Glennie¹

¹University of Houston, United States of America; ²Cold Regions Research and Engineering Lab, Army Corps of Engineers

Enhanced Urban Land Cover Mapping and Green Space Assessment for a Medium-Sized City: A Case Study in Alta Gracia, Argentina

Silvana Palavecino

Mario Gulich Institute for Advanced Space Studies (CONAE-UNC), Córdoba, Argentina

Single-image estimation of Brown-Conrady distortion in Fringe Projection Profilometry

Osman Ali¹, Dalia Elobaid³, Xiangjun Kong¹, Tibebe Yalew¹, Waiel Elmadih², Samanta Piano¹

¹University of Nottingham, United Kingdom; ²Taraz Metrology, United Kingdom; ³Sudanese Materials Scientists & Engineers

Integrating Advanced AI techniques to assist Urban Digital Twins Generation

Jiaojiao Tian, Mareike Weishaupt, Veronika Gstaiger, Guneet Mutreja, Chaikal Amrullah, Corentin Henry, Thomas Krauß, Pablo d' Angelo, Sandeep Kumar Jangir, Stefan Auer, **Franz Kurz**, Ksenia Bittner

German Aerospace Center (DLR), Germany

Towards visualizing oceanographic Bibliometric Data across Canada

Colin Orian, Poppy Riddle, Zaiyang Zhong, Geoff Krause, Stephen Brooks, Philippe Mongeon

Dalhousie University, Canada

Data-centric approach for land use and land cover classification in Brazil

Glauber J. Vaz^{1,2}, João Francisco G. Antunes¹, Júlio C.D.M. Esquerdo¹, Alexandre C. Coutinho¹,

André S. Tavares¹, Adriane Calaboni¹, Lídia S. Bertolo¹, Filipe C. Felix¹, Anderson Rocha²

¹Embrapa Digital Agriculture, Brazil; ²Recod.ai, Institute of Computing, University of Campinas

Forest cover dynamics: impact on ecosystem services and environmental sustainability in biodiversity-rich Western Ghats of India

S Abdul Rahaman¹, K R Balaramdas²

¹Sathyabama Institute of Science and Technology, Chennai, India; ²Bharathidasan University, Tiruchirappalli, India

Leveraging Large Language Models for Automated Assessment and Mapping in Participatory Urban Planning

Mohammad Hasan Zali¹, Mohammad Ghanbarei Baba ahmadi², Meysam Argany³, **Mir Abolfazl Mostafavi**⁴

¹University of Tehran, Iran, Islamic Republic of; ²University of Tehran, Iran, Islamic Republic of;

³University of Tehran, Iran, Islamic Republic of; ⁴Center for Interdisciplinary Research in Rehabilitation and Social Integration, Université Laval, Québec (Qc), Canada

Robust Alignment Learning under incorrectly- and weakly-correlated Relationships for Remote Sensing Image-Text Retrieval

Yuchen Sha¹, Yichi Jin², Cheng Peng³, Yujian Feng⁴, Shuai You⁵, Jing Sun², Fei Wu⁶, Yimu Ji⁷

¹Nanjing University of Posts and Telecommunications, China, People's Republic of; ²Nanjing University of Posts and Telecommunications, School of Computer Science and Technology; ³National University of Singapore, Department of Civil and Environmental Engineering; ⁴Jiangsu University of Technology, School of Computer Engineering; ⁵Wuhan University, School of Computer Science; ⁶Nanjing University of Posts and Telecommunications, College of Automation; ⁷Zhejiang University, State Key Laboratory of Blockchain and Data Security

From BIM-SAR Fusion to API-Based Digital Twin Services for Building Deformation Monitoring

Chia-Hsiang Yang¹, Carsten Stemmler¹, Nils Wolf¹, Florian Lahn¹, Boris Idesman², Joana

Miguéns², Oliver Buck¹

¹EFTAS Remote Sensing Transfer of Technology, Germany; ²Clarity AI UG, Darmstadt, Germany – EnviroTrust

TreeCLIP: Unsupervised Tree Species Classification via Multi-view CLIP Feature Fusion

Dening Lu¹, Jonathan Li^{1,2}

Interactive 3D Scene Segmentation for Construction Sites via Gaussian Splatting and Foundation Models

Wentao Sun¹, Dayou Mao², Zhengsen Xu³, Quanyun Wu¹, Jingxiang Li¹, Kyle Gao¹, Yiping Chen⁴, Yuhao Chen¹, John S. Zelek¹, Jonathan Li¹

¹University of Waterloo, Canada; ²National Research Council, Canada; ³University of Calgary, Canada; ⁴Sun Yat-sen University, China

EarthDaily FM: A Change Detection and Forecasting Foundation Model for Daily Global Multi-Modal Imagery

Chris Rampersad, Seungwoo Lee, Jakob Leben, Peter McElroy, Rob Irwin, Rick Chern, Will Parkinson

EarthDaily, Canada

Improving Planet Fusion Surface Reflectance Gap-filling using Sentinel-1 Backscatter and AMSR-2 Brightness Temperature

Julie Nutini, Rasmus Houborg

Planet Labs PBC, San Francisco, California, USA

Bridging Physical and Digital Spaces: Interfaces for Sensor Planning and Situated Analytics

Valerio Signorelli

UCL University College London, United Kingdom

A multi-scale attention and texture enhancement method for ancient mural inpainting

Bing Xia, Dandan HE, Chaokui Ning, Haifeng Hu, Aiwan Fan

PINGDINGSHAN UNIVERSITY, China, People's Republic of

AgriFM: A Multi-source Temporal Remote Sensing Foundation Model for Agriculture Mapping

Wenyuan Li, Shunlin Liang, Yuxiang Zhang

Department of Geography, University of Hong Kong, Hong Kong, China

Digitizing Bamboo Scaffolding for Sustainable Construction: Structure-aware Mapping and Stock Analysis

Linghao Kong, Wen-Jun Cao

The University of Hong Kong, Hong Kong S.A.R. (China)

Does remote sensing-based Solar-Induced Chlorophyll II Fluorescence (SIF) data enable agricultural drought detection in Germany?

Fatemeh Saba, Nima Ahmadian, Olena Dubovyk

University of Hamburg (UHH), Institute of Geography, Germany

A new training-, marker-, and calibration-free vision framework for structural 3D displacement measurement with UAV-oriented design

Qingyu Xian, Berend Jan van der Zwaag, Ozlem Durmaz Incel

Pervasive Systems Research Group, Faculty of EEMCS, University of Twente, Enschede, The Netherlands

Integration of Crowd-Sourced Community and Cloud-Based Google-Earth-Engine Data for Spatiotemporal Mapping of Invasive Pests: A Case of Desert Locust Invasion in Kenya

Eliud Gachie Baraka^{1,2}, Guido D'Urso³, Oscar Belfiore³

¹Sapienza University of Rome, Italy; ²Ministry of Agriculture in Kenya; ³University of Naples Federico II

GLARS - Remote sensing over the Great Lakes basin

Brian Huberty

SharedGeo, United States of America

A National Application for assessing Rooftop Solar Potential in Israel

Elisha Goldstein, Eran Keinan, Gila Droshkowitz, Hagi Ronen, Nir Alush, Saar Ben-Zvi, Uri Dorozko

Survey of Israel, Israel

VGGT-SLAM for 3D Reconstruction of Low-altitude Remote Sensing Data: Feasibility and Limitations

Quanyun Wu, Wentao Sun, Kyle Gao, Jingxiang Li, Yuhao Chen, Jonathan Li

University of Waterloo, Canada

A Robust Two Stage LiDAR-Camera Extrinsic Calibration Framework via Monocular Depth Assisted Joint Optimization

Junhua Kang¹, Jiwen Jia¹, Haotian Wu¹, Yuan Tan²

¹College of Geological Engineering and Geomatics, Chang'an University, China.; ²Shanghai Algebra Rhythm Technology Co., LTD, China

A Machine-Learning Based Landslide Susceptibility Modelling and Runout Analysis Framework in the Nolichucky River Gorge of East Tennessee Following Hurricane Helene

Grace Braver, Arpita Nandi

East Tennessee State University, United States of America

Automated building extraction from airborne laser scanning data on national scale – Slovenia's approach

Primož Kete¹, Katja Šušteršič², Marjana Duhovnik³, Andreja Švab Lenarčič³

¹Geodetic Institute of Slovenia, Slovenia; ²Flycom Technologies d.o.o., Slovenia; ³Surveying and Mapping Authority of the Republic of Slovenia, Slovenia

Mapping Wildfire Risk under Future Climate Scenarios in Scania's Forests, Sweden

Maya Soraya Ghadiri¹, Sadegh Jamali²

¹Department of Human Geography, Lund University, Sweden; ²Department of Technology and Society, Faculty of Engineering, Lund University, Sweden

CO3D - Shaping the Future of Optical Earth Observation and Its Applications

Erwin Willem Johan Bergsma, Dimitri Lallement, Delphine Leroux, Jean-Baptiste Henry, Christian Hummer, David Youssefi, Stephanie Artigues, Laurent Lebegue, Olivier Queyrut, Sophie Le Gac
CNES, France

Automatic mapping of marine oil slicks in SAR images: How can foundation models help tackle the lookalike challenge?

Julien Vadnais, Benjamin Aubrey Robson

University of Bergen, Norway

Foundation Models for improved live Fuel Moisture Content Estimation

Tony Boston, Marta Yebra

Australian National University, Australia

High resolution earth observation quantifies insect-based biodiversity intactness across Africa

Tobias Landmann, Komi Agboka, Vincent Magomere

International Centre of Insect Physiology and Ecology (ICIPE, Kenya)

Comparing deep and traditional machine learning models for countrywide classification of dominant tree species

Urša Kanjir¹, Ana Potočnik Buhvald², Aleš Marsetič^{1,3}, Mitja Skudnik^{4,5}

¹ZRC SAZU, Slovenia; ²University of Ljubljana, Faculty of Civil and Geodetic Engineering, Slovenia;

³Space-SI, Slovenia; ⁴University of Ljubljana, Biotechnical Faculty, Slovenia; ⁵Slovenian Forestry Institute,

BetaEarth: Embedding Sentinel-2 and Sentinel-1 with a little Help of AlphaEarth

Mikolaj Czerkawski

Asterisk Labs, London, United Kingdom

Exploring the temporal transferability of AlphaEarth satellite embedding for land cover classification

Yawogan Jean Eudes Gbodjo¹, Dino Ienco²

¹VTT Technical Research Centre of Finland, Finland; ²INRAE, UMR TETIS, INRIA, EVERGREEN, University of Montpellier, France

UniTS: Unified Time Series Generative Model for Earth Observation

Yuxiang Zhang, Shunlin Liang, Wenyuan Li

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

Mapping Cocoa Mosaic Landscape in Ghana using High Resolution Remote Sensing Data and Machine Learning Models

Matthew Abutunghe, Booker Ogutu, Jadu Dash

University of Southampton, United Kingdom

A Multi-Modal Feature Fusion Framework for Pattern Classification of Cultural Relic Textiles

DANDAN HE, Bing Xia, Hong Li, Haifeng Hu, Aiwan Fan

PINGDINGSHAN UNIVERSITY, China, People's Republic of

Impact of Personal Laser Scanning Schemes on the Estimation Accuracy of Individual Tree Attributes in Lowland Pedunculate Oak (Quercus robur L.) Forest

Andro Kokeza¹, Albert Seitz¹, Damir Medak², Ivan Balenović¹

¹Division for Forest Management and Forestry Economics, Croatian Forest Research Institute, Cvjetno naselje 41, HR-10450 Jastrebarsko, Croatia; ²Faculty of Geodesy, University of Zagreb, Kačićeva 26, HR-10000 Zagreb, Croatia

IMU propagation as preintegration

Jianzhu Huai

Wuhan University, China, People's Republic of

Evaluation of Two QSM Reconstruction Methods for Tree Volume Estimates using PLS Data

Albert Seitz¹, Andro Kokeza¹, Krunoslav Indir¹, Damir Medak², Ivan Balenović¹

¹Croatian Forest Research Institute, Cvjetno naselje 41, HR-10450, Jastrebarsko, Croatia; ²Faculty of Geodesy – The university of Zagreb, Kačićeva 26

Optimization of LIDAR Point Size to Simulate Shortwave Radiation in Savanna Canopies

Cameron Proctor¹, Sarah Baker¹, Ethan Sutts¹, Pracithaa Vijayakumar¹, Bin Wang²

¹University Of Windsor, Canada; ²State Key Laboratory for Vegetation Structure, Function and Construction, Yunnan University, Kunming, China

ProbGLC: A Generative Cross-view Geolocalization Approach for Rapid Disaster Response

Hao Li¹, Steffen Knoblauch²

¹National University of Singapore, Singapore; ²Heidelberg University, Germany

8:30am - 10:00am	ThS21: The Global-local Exchange Loop: Coupling Earth Observation and Citizen Sciences for LCLU Mapping Location: 713A
	<p>8:30am - 8:45am</p> <p>OntoLULC-SOTA: An ontology based approach to make systematic reviews for LULC data</p> <p>Martin Cubaud¹, Ana-Maria Olteanu-Raimond¹, Cidalia C. Fonte^{2,3}, Diogo Duarte^{2,4}, Jacinto Estima⁵, Linda See⁶, Nicolas Gonthier¹, Laurence Jolivet¹, Clément Mallet¹, Arnaud Le Bris¹, Vyron Antoniou⁷</p> <p>¹Univ Gustave Eiffel, Géodata Paris, IGN, LASTIG, F-77454 Marne-la-Vallée, France; ²Institute for Systems Engineering and Computers at Coimbra (INESC Coimbra), 3030-290 Coimbra, Portugal; ³University of Coimbra, Department of Mathematics, Apartado 3008, EC Santa Cruz, 3001-501 Coimbra, Portugal; ⁴Department of Electrical and Computer Engineering, Polo 2, 3030-290 Coimbra, Portugal; ⁵University of Coimbra, CISUC, Department of Informatics Engineering, Rua Sílvio Lima, 3030-290 Coimbra, Portugal; ⁶International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria; ⁷Hellenic Army Geographical Directorate, 15561 Cholongos, Greece</p> <hr/> <p>8:45am - 9:00am</p> <p>Manual Annotations meet Fine-Tuned Foundation Models: a Comparison on Tree Crown Segmentation Task</p> <p>Rewanth Ravindran, Janik Steier, Samer Karam, Dorota Iwaszczuk Technical University of Darmstadt, Germany</p> <hr/> <p>9:00am - 9:15am</p> <p>Evaluation of the IGN FLAIR-HUB Model Transferability Performance for Land Cover Mapping in Iasi, Romania</p> <p>Ana-Maria Loghin¹, Loredana-Mariana Crenganis¹, Constantin Stoian², Ana-Maria Olteanu-Raimond², Anatol Garioud², Valeria-Ersilia Oniga¹, Bogdan Rusu¹</p> <p>¹quot;Gheorghe Asachi" Technical University of Iasi, Romania; ²Univ. Gustave Eiffel, IGN-ENSG, LaSTIG – Saint-Mande, France</p> <hr/> <p>9:15am - 9:30am</p> <p>Towards efficient Giant Tree Inventories: Deep Learning with crowdsourced Training Data</p> <p>Yu-Hui Wang¹, Chi-Kuei Wang¹, Chung-Cheng Lee¹, Rebecca Chia-Chun Hsu²</p> <p>¹Dept. of Geomatics, National Cheng Kung University, Chinese Taipei; ²Forest Ecology Division, Taiwan Forestry Research Institute, Chinese Taipei</p> <hr/> <p>9:30am - 9:45am</p> <p>The Global-Local loop: what is missing in bridging the gap between geospatial data from numerous communities ?</p> <p>Clément Mallet, Ana-Maria Olteanu-Raimond Univ Gustave Eiffel, IGN, Géodata Paris, LASTIG, France</p>
8:30am - 10:00am	ByA2: ISPRS Best Young Author Award Papers Location: 713B
	<p>Practical Implementation and Adaptation of Rainforest-Based Inter-calibration for ESCAT-ASCAT Scatterometer Data Records</p> <p>Clay Taylor Harrison¹, Sebastian Hahn¹, Roland Lindorfer¹, Thomas Melzer¹, Raffaele Crapolicchio², Wolfgang Wagner¹</p> <p>¹TU Wien, Austria; ²Serco Italia SpA - for European Space Agency, Rome, Italy</p> <hr/> <p>Impact of geometric priors: advanced fine-grained airplane detection with geometric details in high-resolution satellite images</p> <p>Tobias Traiser, Hai Huang, Helmut Mayer Universität der Bundeswehr München, Germany</p> <hr/> <p>Query2Property: Semantic retrieval of IFC properties for natural language BIM queries</p> <p>Rabindra Lamsal, Sisi Zlatanova University of New South Wales, Australia</p> <hr/> <p>Domain-Adaptive Object Detection for Enriching Semantic 3D City Models with Building Storeys from Street-View Images</p> <p>Lukas Arzoumanidis, Al Maimun As Samee, Elmehdi Kanna, Huynh Duc An Son Nguyen, Youness Dehbi HafenCity University Hamburg, Computational Methods Lab, Germany</p>
8:30am - 10:00am	WG III/7C: Remote Sensing of the Hydrosphere and Cryosphere Location: 714A
	<p>8:30am - 8:45am</p> <p>Spatial and Temporal Constraint One-Step Estimation of Terrestrial Water Storage Anomalies from GRACE/FO Monthly Gravity Field Models</p> <p>Yunzhong Shen, Lin Zhang Tongji University, China, People's Republic of China</p> <hr/> <p>8:45am - 9:00am</p> <p>Predicting groundwater dependent ecosystem habitats in boreal Alberta, Canada using remote sensing and machine learning modelling</p>

Michael Merchant¹, Michael Wendlant², Jennifer Hird¹, Andrew Wood², Cris Gray¹, Marshall McKenzie², Emily Herdman², David Evans¹, Jacqueline Dennet¹, Murdoch Taylor¹, David Roberts^{1,2}, Cynthia McClain¹

¹Alberta Biodiversity Monitoring Institute; ²InnoTech Alberta

9:00am - 9:15am

Enhancing supraglacial lake segmentation with hydrological features and FiLM-based two-stream U-Net

Sehoon Oh, Jiwan Hong, Geonu Park, Daegeon Woo, Joon Heo
Yonsei University, Korea, Republic of (South Korea)

9:15am - 9:30am

Glacial Lake Dynamics and Bathymetry Assessment Using Satellite Observations

Vaibhav Garg, Samiksha Mehra, Pankaj R. Dhote
Indian Institute of Remote Sensing, India

9:30am - 9:45am

Wildfire Drives Widespread and Decadal Change in Boreal Lake Colour

Qianyu Chang^{1,2}, Simon Zwieback², Aaron Berg¹

¹Department of Geography, Environment and Geomatics, University of Guelph, Canada; ²Geophysical Institute, University of Alaska Fairbanks, US

8:30am - 10:00am

WG V/3: Open Source Promotion and Web-based Resource Sharing

Location: 714B

8:30am - 8:45am

An Open Source Framework for Routing and Event Management in University Campuses

Gökdemir Çardak^{1,2}, Ibrahim Topcu³, Berk Anbaroglu³

¹Graduate School of Science and Engineering, Department of Geomatics Engineering, Hacettepe University Hacettepe University, Türkiye; ²General Directorate of Mapping, Ankara, Türkiye; ³Department of Geomatics Engineering, Hacettepe University Hacettepe University, Türkiye

8:45am - 9:00am

Demonstrating the importance of curriculum-focussed content: learnings from a collaborative STEM outreach partnership in second level schools in Ireland.

Eimear McNerney¹, Audrey Martin¹, Barry Doyle², Zerrin Doganç Küçük³, Angela Rickard³, James Lonergan⁴, Patricia Cleary⁵, Helen Cullen⁶, Sasha Brown⁶, Conor Cahalane⁶

¹School of Surveying and Construction Innovation, Technological University Dublin; ²Geospatial Strategy and Services, Tailte Éireann, Phoenix Park, Dublin 8. D08 F6E4, Ireland; ³Department of Education, Maynooth University, Co. Kildare, Ireland; ⁴Society of Chartered Surveyors Ireland, D02 EV61 Dublin, Ireland; ⁵Esri Ireland, D15 NP9Y Dublin, Ireland; ⁶Department of Geography, Maynooth University, Co. Kildare, Ireland.

9:00am - 9:15am

TorchGeo 1.0: Satellite Image Time Series, and Beyond!

Adam J. Stewart^{1,2}, Sieger Falkena³, Isaac A. Corley⁴, Harald Kristen⁵, Keenan Eves⁶, Yi-Chia Chang⁷, Chandni Nagda⁷, Frederick Schindlegger⁸, Yang Mu¹, Nils Lehmann^{1,2}, Arindam Banerjee⁷, Xiao Xiang Zhu^{1,2}

¹Technical University of Munich, Germany; ²Munich Center for Machine Learning, Germany; ³Shell Information Technology International B.V., The Netherlands; ⁴Taylor Geospatial, USA; ⁵Joanneum Research, Austria; ⁶Independent Researcher, USA; ⁷University of Illinois Urbana-Champaign, USA; ⁸University of Münster, Germany

9:15am - 9:30am

Empowering the Next Generation: ISPRS Student Consortium's Global Initiatives in Education, Networking, and Capacity Building

Laxmi Thapa¹, Chukwuma John Okolie², Saicharan Vasala³

¹Aston University, United Kingdom; ²African Centre for Cities, School of Architecture Planning and Geomatics, University of Cape Town, South Africa; ³Sharda University, Uttar Pradesh, India

9:30am - 9:45am

Evaluating the Rover-Side Performance of a Low-Cost GNSS Network for High-Accuracy Positioning and ZTD Estimation

Milad Bagheri¹, Paolo Dabove¹, Andrea Masiero², Ilaria Ferrando³, Wafi Mahdi Eldoud Mahdi³

¹Polytechnic University of Turin, Italy; ²University of Padova, Italy; ³University of Genoa, Italy

9:45am - 10:00am

Development of VR/AR applications to support geospatial education

Dimitrios Bolkas¹, Jeffrey D. Chiampi¹, Jason Herrera¹, Kyle E. Jones¹, Matthew B. Sharr¹, Matthew O'Banion², Erica I. Parisi³, Ivan Detchev⁴

¹Pennsylvania State University, United States of America; ²United States Military Academy, West Point; ³University of Florence, Italy; ⁴University of Calgary, Canada

10:00am - 10:15am

Modern online teaching formats for geodetic reconstruction methods in Ukraine

Iuliia Horkovchuk¹, Denys Gorkovchuk¹, Mykola Tregub², Maria Chizhova³, Darius Popovas⁴, Till Sieberth⁴, Thomas Luhmann⁴

¹Kyiv National University of Construction and Architecture; ²Dnipro University of Technology; ³Otto-Friedrich Universität Bamberg, Digital Technologies in Heritage Conservation; ⁴Institute for Applied Photogrammetry and Geoinformatics, Jade University of Applied Sciences, Oldenburg, Germany

8:30am - 10:00am	<p>ThS23B: Towards Large Cultural Heritage Foundation Models: Datasets, Semantic Alignment, and Component-Level Annotation Location: 715A</p>
	<p>8:30am - 8:45am Research on Hyperspectral-Based Feature Set Construction and Machine Learning Inversion for Mixed Salts Characteristics in Murals Wenxuan Lin^{1,2}, Shuqiang Lyu^{1,2}, Bo Ning³, Lihong Li³, Miaole Hou⁴ ¹Beijing University of Civil Engineering and Architecture; ²Beijing Key Laboratory for Architectural Heritage Fine Reconstruction & Health Monitoring; ³Yungang Research Institute; ⁴Chang'an University</p> <p>8:45am - 9:00am Research on Deacidification Treatment for Addressing the Acidification Crisis of Map Archives Ming Li¹, Fen Hu², Ju Bai¹, Lifei Feng³, Hao Yu¹, Yunlu Peng¹ ¹National Geomatics Center of China; ²Land Satellite Remote Sensing Application Center, Ministry of Natural Resources of P.R. China; ³Sichuan Ruli Heritage Preservation Technology Co., Ltd.,</p> <p>9:00am - 9:15am High-Precision Registration of Grotto Point Clouds Using Multi-Source Data Fusion jinru li¹, miaole hou^{1,2}, bo ning³, yong he^{1,3} ¹Beijing University of Civil Engineering and Architecture, China, People's Republic of; ²Chang'an University; ³Yungang Research Institute</p> <p>9:15am - 9:30am Automatic Line Drawing Generation for Grotto Wall Surfaces Based on Depth Map and Normal Map Fusion Jiteng Wang¹, Miaole Hou^{1,2}, Yong He^{1,3}, Bo Ning³ ¹School of Geomatics and Urban Spatial Informatics, Beijing University of Civil Engineering and Architecture, No. 15, Yongyuan Road, Huangcun Town, Daxing District, Beijing, 102627, China; ²School of Land Engineering, Chang'an University, Middle Section, South 2nd Ring Road, Xi'an, Shaanxi, 710054, China; ³Yungang Research Institute, No. 1, Dong Street, Yungang Town, Yungang District, Datong City, 037007, China</p> <p>9:30am - 9:45am An Automated Recognition Framework for Surface Deterioration Features of Stone Sculptural Artifacts in the Yungang Grottoes based on Deep Learning Zhenyu Lin^{1,2}, Yuan Cheng^{1,3}, Hanling Li¹, Jizhong Huang^{1,3}, Guanpeng Xia¹, Yue Zhang^{1,3}, Wanfu Wang⁴, Bo Ning⁵, Hongbin Yan⁵ ¹Institute for the Conservation of Cultural Heritage, School of Cultural Heritage and Information Management, Shanghai University, Shanghai, China; ²School of Materials Science and Engineering, Shanghai University, Shanghai, China; ³Key Laboratory of Silicate Cultural Relics Conservation (Shanghai University), Ministry of Education; ⁴National Research Center for Conservation of Ancient Wall Paintings and Earthen Sites, Dunhuang Academy, Dunhuang, Gansu, China; ⁵Yungang Research Institute, Datong, Shanxi, China</p> <p>9:45am - 10:00am Hyperspectral Analysis of Pigment Identification and Abundance Inversion in the Dome of China's Yungang Grotto 7 Junlin Yan^{1,2}, Shuqiang Lyu^{1,2}, Bo Ning³, Lihong Li³, Miaole Hou⁴ ¹Beijing University of Civil Engineering and Architecture; ²Beijing Key Laboratory for Architectural Heritage Fine Reconstruction & Health Monitoring; ³Yungang Research Institute; ⁴Chang'an University</p>
8:30am - 10:00am	<p>WG V/1: Education and Training through Curricula Development and Enhanced Learning Practices Location: 715B</p>
	<p>8:30am - 8:45am Earth Sensing in the Dolomites: A Summer School for Capacity Building and Collaboration on Geomatics for Environmental Applications Larissa Maria Granja^{1,2}, Erico Kutchart^{1,3}, Enrico Magazzino^{1,2}, Thomas Zieher⁴, Rasoul Eskandari⁵, Michele Crosetto⁶, Caterina Balletti⁷, Andrea Martino⁷, Mattia Balestra^{8,9}, Roberto Pierdicca⁹, Lindo Nepi¹⁰, Carlos Cabo¹¹, Anna Iglseider¹², Mauricio Acuna¹³, Borja García Pascual^{13,14}, Francesco Pirotti^{1,2} ¹Department of Land, Environment, Agriculture and Forestry (TESAF), University of Padova, Viale dell'Università 16, Legnaro, PD 35020, Italy; ²Interdepartmental Research Center of Geomatics (CIRGEO), University of Padova, Corte Benedettina, Via Roma 34, Legnaro, PD 35020, Italy; ³Forest Science and Technology Centre of Catalonia (CTFC), Carretera de Sant Llorenç de Morunys, Km 2, 25280 Solsona, Spain; ⁴Department of Natural Hazards, Austrian Research Centre for Forests (BFW), Rennweg 1, 6020 Innsbruck, Austria; ⁵Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano, via Ponzio 31, 20133 Milano, Italy; ⁶Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Geomatics Division, Av. Gauss, 7, E-08860 Castelldefels (Barcelona), Spain; ⁷Università Iuav di Venezia, Santa Croce, 191, Venezia, VE 30135, Italy; ⁸Department of Agricultural, Food and Environmental Sciences (D3A), Università Politecnica delle Marche, Ancona, 60131, Italy; ⁹Department of Civil, Building and Architectural Engineering (DICEA), Università Politecnica delle Marche, Ancona, 60131, Italy; ¹⁰Department of Information Engineering (DII), Università Politecnica delle Marche, Ancona, Italy; ¹¹Department of Mining Exploitation and Prospecting, University of Oviedo, Campus de Mieres, 33600 Mieres, Oviedo, Spain; ¹²Department of Geodesy and Geoinformation, TU Wien, Wiedner Hauptstraße 8-10, 1040 Vienna, Austria; ¹³Forest technology and Wood Material Solutions, Natural Resources Institute Finland (Luke), 80100 Joensuu, Finland; ¹⁴School of Forest Sciences, University of Eastern Finland, 80101 Joensuu, Finland</p> <p>8:45am - 9:00am</p>

Implementing Team-based Learning in Geomatics Education: Enhancing hard and soft Skills in multicultural academic Contexts

Andrea Ajmar¹, Fabio Giulio Tonolo²

¹Interuniversity Department of Regional and Urban Studies and Planning, Politecnico and Università di Torino, Italy; ²Department of Architecture and Design, Politecnico di Torino, Torino, Italy

9:00am - 9:15am

ISPRS SC Summer School: A Global Initiative on Capacity Building and Education Outreach in the Field of Photogrammetry, Remote Sensing and GIS

Laxmi Thapa¹, Nicolas Pucino², Miguel Luis Rivera Lagahit³, Chukwuma John Okolie⁴

¹Aston Business School, Birmingham, United Kingdom; ²Climate Friendly, Sydney, New South Wales, Australia; ³Dynamic Map Platform Co., Ltd., Tokyo, Japan; ⁴African Centre for Cities, School of Architecture Planning and Geomatics, University of Cape Town, South Africa

9:15am - 9:30am

Legal aspects in photogrammetric curricula: navigating property rights and airspace boundaries

Salvatore Marsico¹, Dimitrios Bolkas¹, Henrique Candido de Oliveira², Matthew Sharr¹

¹Penn State University, United States of America; ²Universidade Estadual de Campinas (Unicamp)

9:30am - 9:45am

Building Capacity in Satellite-Based Earth Observation and HQP Training: Canada as a Use Case

Ashraf Elshorbagy, Scott Mitchell, Koreen Millard

Carleton University, Canada

9:45am - 10:00am

Advancing Earth Observation in Africa : Achievements of the WG Africa Copernicus Training of trainers program in three languages

Linda Tomasini¹, Ali Arslan Nadir², Agnès Begue³, Nico Bonora⁴, Catarina Duarte⁵, Maria Daraio⁶, Jean-François Faure⁷, Philippe Gisquet⁸, Carlos Gonzales Inca⁹, Benjamin Palmaerts¹⁰, Michal Krupinski¹¹, Cécilia Leduc¹², Marc Leroy¹³, Marietta Papakonstantinou¹⁴, Cristina Lira¹⁵, Carolina Sa¹⁶, Dimitra Tsoutsou¹⁷

¹CNES, France; ²FMI, Finland; ³CIRAD, France; ⁴ISPRA, Italy; ⁵Air Centre, Portugal; ⁶ASI, Italy; ⁷IRD, France; ⁸Visioterra, France; ⁹University of Turku, Finland; ¹⁰ISSEP, Belgium; ¹¹CBK PAN, Poland; ¹²DGEO, France; ¹³Space4Dev, France; ¹⁴NOA, Greece; ¹⁵IPMA, Portugal; ¹⁶PT Space, Portugal; ¹⁷PRAXI network, Greece

10:00am - 10:15am

Geospatial UK Higher Education – status, challenges, and outreach initiatives

Henny Mills, Craig Robson, Alex Linighan, Stuart Edwards, Chris Larkin

Newcastle University, United Kingdom

8:30am - 10:00am

WG IV/3: Geo-computation and Geo-simulation

Location: 716A

8:30am - 8:45am

A Framework for Mapping Recreational Boating: Inferring Vessel Behaviour from Mobile Phone Data and Sentinel-2 Imagery

Katarzyna Sila-Nowicka¹, Richard Beauchamp¹, Murray Ford¹, Ian Tuck², Bruce Hartill²

¹University of Auckland, New Zealand; ²Ministry of Primary Industries, New Zealand

8:45am - 9:00am

Building Footprint Aggregation with Preservation of Edge Orientations

Alexander Naumann, Samuel Bergé, Jonas Sauer, Jan-Henrik Haunert

University of Bonn, Germany

9:00am - 9:15am

Lane-level Dynamic Information Updating for High-Definition Maps Based on Crowdsourced Data

Yuan Guo¹, Zhangcai Yin¹, Liangcun Jiang¹, Bijun Li², Han Zhou¹, Quanhua Dong³, Shen Ying⁴

¹School of Resources and Environmental Engineering, Wuhan University of Technology; ²State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University; ³Institute of Remote Sensing and Geographical Information Systems, School of Earth and Space Sciences, Peking University; ⁴School of Resources and Environmental Sciences, Wuhan University

9:15am - 9:30am

Maximum entropy for climate change and variability impact assessment on seabirds: use case on Eudyptula minor little penguins

Priyanka Singh¹, Sameer Saran², Amulya Saxena¹

¹Dept. of Natural and Applied Sciences, TERI School of Advanced Studies, Delhi, India; ²Regional Remote Sensing Center-North, ISRO, New Delhi, India

9:30am - 9:45am

Parametric Modelling and GIS Integration for Multi-Criteria Decision-Making: An Application to the Einstein Telescope Underground Research Infrastructure

Wissam Wahbeh¹, Maria Marsella², Francesco Rossi²

¹FHNW University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; ²Sapienza University of Rome, Department of Civil, Building and Environmental Engineering, Italy

9:45am - 10:00am

	<p>Kinematic Characteristics and Risk Analysis of Potential Rockfall based on 3D Point Clouds</p> <p>Wei Yuan¹, Changqing Liu^{1,2}, Han Bao², Weihang Ran⁴, Zhongyuan Yang¹, Xiuxiao Yuan³, Ryosuke Shibasaki⁴, Shunichi Koshimura¹</p> <p>¹Tohoku University, Japan; ²Changan University, China; ³Wuhan University, China; ⁴The University of Tokyo, Japan</p>
10:00am - 10:30am	<p>Morning Coffee Break</p> <p>Location: Exhibition Hall "E"</p>
10:30am - 12:00pm	<p>WG III/1G: Remote Sensing Data Processing and Understanding</p> <p>Location: 713A</p> <p>10:30am - 10:45am</p> <p>YOLOv8m-CCFM-GSConv: Research on Lightweight Marine Oil Spill Target Detection Based on Improved YOLOv8m Model</p> <p>Junjie Lu¹, Qingyang Wang^{1,2,3}, Bo Song¹, Jianwu Jiang^{1,2,3}, Bin Yang¹, Chen Jiao¹</p> <p>¹College of Geomatics and Geoinformation, Guilin University of Technology, Guilin 541004, China; ²Guangxi Ecological Spatiotemporal Big Data Perception Service Laboratory, Guilin 541004, China; ³Guangxi Key Laboratory of Spatial Information and Geomatics, Guilin 541004, China</p> <p>10:45am - 11:00am</p> <p>Detecting moving vehicles on Sentinel-2 imagery using semi-automatic labeling from S2A/S2C tandem phase</p> <p>Guillaume Buthmann¹, Florentin Poucin¹, Jérémy Anger^{1,2}</p> <p>¹Kayros SAS; ²Université Paris-Saclay, ENS Paris-Saclay, CNRS, Centre Borelli, 91190, Gif-sur-Yvette, France</p> <p>11:00am - 11:15am</p> <p>LAD-Enhancer: A Lightweight All in One Aerial Detection Enhancer Under Adverse Weather</p> <p>Yu Wan¹, Jie Li¹, Liupeng Lin², Zaiyan Zhang¹, Qiangqiang Yuan¹, Huanfeng Shen²</p> <p>¹School of Geodesy and Geomatics, Wuhan University, Wuhan 430079, China; ²School of Resource and Environmental Sciences, Wuhan University, Wuhan 430079, China</p> <p>11:15am - 11:30am</p> <p>A Collaborative Detection Method of Small Unmanned Aerial Vehicle Target via Multi-modal Feature Fusion in Complex Background</p> <p>Wen Jiang, Keyi Zhang, Yanping Wang, Yun Lin, Fukun Bi</p> <p>North China University of Technology, Beijing, People's Republic of China</p> <p>11:30am - 11:45am</p> <p>Infrared-Visible Image Fusion Method Based on Differential Feature Enhancement and Cross-Modal Attention</p> <p>Huang Zhang¹, Lina Xu¹, Qing Zhou¹, Tiyou Zhou², Siyu Liu¹, Xincai Chang¹, Hao Li¹</p> <p>¹Hubei Subsurface Multi-scale Imaging Key Laboratory, School of Geophysics and Geomatics, China University of Geosciences, Wuhan, 430074, China; ²State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, 430079, China</p>
10:30am - 12:00pm	<p>ThS27: From Photogrammetry, Remote Sensing, and AI to Climate Action</p> <p>Location: 713B</p> <p>10:30am - 10:45am</p> <p>Google Earth Engine Apps – a novel method for highlighting the role of satellite-derived bathymetry (SDB) to non-specialists and citizens – a case study for Irish bays</p> <p>Margarida Victor¹, Xavier Monteys², Gema Casal³, Isaac Obour Mensah¹, Conor Cahalane¹</p> <p>¹Department of Geography, Maynooth University, Co. Kildare, Ireland; ²Geological Survey of Ireland, Dept. of the Environment, Climate and Communications, Blackrock, Dublin, Ireland.; ³Oceanographic Centre of A Coruña, IEO-CSIC, Spain</p> <p>10:45am - 11:00am</p> <p>High-resolution Arctic Wetland Methane Flux Modeling using a Geofoundational Deep Learning Model and Multispectral Satellite Data</p> <p>Ali Radman¹, Masoud Mahdianpari^{1,2}, Fariba Mohammadimanesh³</p> <p>¹Memorial University of Newfoundland, St. John's, Newfoundland, Canada; ²C-CORE, St. John's, Newfoundland, Canada; ³Canada Centre for Remote Sensing, Natural Resources Canada, 580 Booth Street, Ottawa, Ontario K1A 0E4, Canada</p> <p>11:00am - 11:15am</p> <p>Automatic Levee Extraction along Rivers from High Resolution Terrain Models</p> <p>Wilfried Karel¹, Carolina Damm¹, Martin Wenk², Markus Hollaus¹, Norbert Pfeifer¹</p> <p>¹TU Wien, Department of Geodesy and Geoinformation, Austria; ²Federal Ministry of Agriculture and Forestry, Climate and Environmental Protection, Regions and Water Management, Austria</p> <p>11:15am - 11:30am</p> <p>Urban Temperature Simulation for resilient City Planning based on a single high resolution Satellite Stereo Data Scene</p> <p>Thomas Krauß¹, Pablo d'Angelo¹, Erwin Lintermeir¹, Chiara Richiardi², Markus Tum³</p> <p>¹DLR - German Aerospace Center, Germany; ²ENEA Bologna Research Centre: Bologna, IT; ³RIWA GmbH</p> <p>11:30am - 11:45am</p> <p>Assessment of bud flush and damage in young Norway Spruce trees through high-resolution multispectral UAV images</p>

Louisa Eurich¹, Sara López Fernández², Malin Elfstrand², María García-Gil³, Jonas Bohlin¹, Eva Lindberg¹

¹Department of Forest Resource Management, SLU, Umeå, Sweden; ²Department of Forest Mycology and Plant Pathology, SLU, Uppsala, Sweden; ³Umeå Plant Science Centre, Department of Forest Genetics and Plant Physiology, SLU

11:45am - 12:00pm

Decadal Evolution of the Nansen Ice Shelf, Antarctica, from Historical Aerial Photography and Landsat Imagery

Yujie Bian^{1,2}, Yuan Cheng^{1,4}, Philip Christopher Reid³

¹Key Laboratory of Silicate Cultural Relics Conservation, Shanghai University, Shanghai, China; ²School of Mechanics and Engineering Science, Shanghai University, Shanghai, China; ³The Marine Biological Association (MBA), The Laboratory Plymouth, UK; ⁴School of Cultural Heritage and Information Management, Shanghai University, Shanghai, China

10:30am - 12:00pm

WG III/3B: Active Microwave Remote Sensing

Location: 713B

10:30am - 10:45am

Evaluating the potential and added value of interferometric coherence in flood mapping across various environments

Sulaiman Fayez Hotaki¹, Mahmud Haghshenas Haghighi¹, Mahdi Motagh^{1,2}

¹Institute of Photogrammetry and GeoInformation, Leibniz University Hannover, Germany; ²GFZ German Research Centre for Geosciences, Department of Geodesy, Section of Remote Sensing and Geoinformatics, Potsdam, Germany

10:45am - 11:00am

Leveraging Polarized Ku- and C-band Radar Backscatter Time Series for Sea Ice Thickness Prediction using Random Forest

Mehran Dadjoo¹, Dustin Isleifson²

¹Centre for Earth Observation Science (CEOS), University of Manitoba, Canada; ²Department of Electrical & Computer Engineering, Centre for Earth Observation Science (CEOS), University of Manitoba, Canada

11:00am - 11:15am

Flood Depth Mapping from SAR Imagery Using CS-Mamba with DEM Sensitivity Analysis

Zhongyuan Yang¹, Wei Yuan¹, Weihang Ran², Changqing Liu¹, Bruno Adriano¹, Ryosuke Shibasaki³, Shunichi Koshimura¹

¹Tohoku University, Japan; ²The University of Tokyo; ³Reitaku University

11:15am - 11:30am

Temporal variation-guided self-supervised PolSAR despeckling network

Shaowei Shi¹, Jie Li^{1,2}, Liupeng Lin³, Qiangqiang Yuan¹, Huanfeng Shen³

¹School of Geodesy and Geomatics, Wuhan University, Wuhan, China; ²Hubei Luojia Laboratory, Wuhan, China; ³School of Resource and Environmental Sciences, Wuhan University, Wuhan, China

11:30am - 11:45am

A Novel Approach for Data Fusion of SAR (EOS-4) and Optical Multispectral (Sentinel-2) Data

Nidhi Chaubey, Srivally M.V., Sumit Pandey, Asha Rani B., Neeraj Mishra

Advance Data Processing Research Institute, Department of Space, India

10:30am - 12:00pm

ThS15: Data-Centric Learning for Geospatial Data

Location: 714A

10:30am - 10:45am

The Potential of Copernicus Satellites for Disaster Response: Retrieving Building Damage from Sentinel-1 and Sentinel-2

Olivier Dietrich¹, Merlin Alfredsson¹, Emilia Arens², Nando Metzger¹, Torben Peters¹, Linus Scheibenreif¹, Jan Dirk Wegner², Konrad Schindler¹

¹ETH Zurich, Switzerland; ²University of Zurich, Switzerland

10:45am - 11:00am

From Text to Map: AI-Based Graphic Translation of Information

Francesca Biolo, Franco Guzzetti, Isabella C.R. Balestreri

Politecnico di Milano, Department of Architecture, Built Environment and Construction Engineering, 20133 Milan, Italy

11:00am - 11:15am

From Pixels to Semantics: Can a Single Instruction-Tuned VLM Unify Geospatial Building Analysis?

Guneet Mutreja¹, Harisankar Harikumar², Chaikal Amrullah¹, Ksenia Bittner¹

¹Remote Sensing Technology Institute (IMF), German Aerospace Center (DLR); ²Karlsruhe Institute of Technology

11:15am - 11:30am

Geolocation-aware pretraining strategies for globally applicable remote sensing foundation models

Mojgan Madadikhajjan, Jonathan Prexl, Michael Schmitt

University of the Bundeswehr Munich, Germany

11:30am - 11:45am

An assessment of data-centric methods for label noise identification in remote sensing data sets

Felix Kröber^{1,2}, Genc Hoxha², Ribana Roscher²

¹Forschungszentrum Juelich GmbH, Germany; ²University of Bonn, Germany

11:45am - 12:00pm

Automatic Extraction and Multi-Class Instance Segmentation of Rural Road Networks from Orthoimagery using YOLOv11 and SAHI Sliced Inference for Cadastral Update

Marsia Sanità¹, Lindo Nepi², Eva Savina Malinverni¹, Adriano Mancini², Roberto Pierdicca¹, Artur Warchol³, Monika Balawejder⁴

¹Dept. of Civil, Building and Architecture, Marche Polytechnic University, 60131 Ancona, Italy;

²Department of Information Engineering (DII), Marche Polytechnic University, 60131 Ancona, Italy;

³Kielce University of Technology – Kielce, Poland; ⁴PANS State University of Applied Sciences in Jaroslaw, Poland

10:30am - 12:00pm

WG III/8F: Remote Sensing for Agricultural and Natural Ecosystems

Location: 714B

10:30am - 10:45am

Evaluating the Transferability of Machine-Learning Models for Pre-Emergence Bark Beetle Detection Using Multispectral and Hyperspectral UAV Data Across Europe

Wang Geng¹, Aurora Bozzini², Luiz Cosimo¹, Salma Bijou⁴, Raquel Oliveira³, Juha Soumalainen³, Erika Vennervirta³, Niko Koivumäki³, Roope Näsi³, Lucie Kupková⁴, Massimo Facciolli², Eija Honkavaara³, Langning Huo¹

¹Department of Forest Resource Management, Swedish University of Agricultural Sciences, 90 183,

Umeå, Sweden; ²Department of Agronomy Food Natural Resources Animals and Environment,

University of Padua, 35020, Legnaro (Padova), Italy; ³Department of Remote Sensing and

Photogrammetry, Finnish Geospatial Research Institute FGI, 00521 Helsinki, Finland; ⁴Department of

Applied Geoinformatics and Cartography, Faculty of Science, Charles University, Albertov 6, Prague 2,

Czech Republic

10:45am - 11:00am

Country-wide, high-resolution monitoring of forest browning with Sentinel-2

Samantha Biegel^{1,2}, David Brüggemann⁴, Francesco Grossi³, Michele Volpi⁴, Konrad Schindler^{1,2}, Benjamin D. Stocker^{5,6}

¹Photogrammetry and Remote Sensing, ETH Zürich; ²ETH AI Center, ETH Zürich; ³Forest and Soil

Ecology, Swiss Federal Institute for Forest, Snow and Landscape Research WSL; ⁴Swiss Data Science

Center, ETH Zürich and EPFL; ⁵Institute of Geography, University of Bern; ⁶Oeschger Centre for Climate

Change Research, University of Bern

11:00am - 11:15am

Evaluating the Potential of yearly Sentinel-1 Composites for Bark Beetle Infestation Detection

Sebastian Spreitzer¹, Georg Wohlfahrt², Martin Rutzinger¹

¹Department of Geography, University of Innsbruck, Austria; ²Department of Ecology, University of Innsbruck, Austria

11:15am - 11:30am

Integrating green-shoulder indices from hyperspectral drone imagery and sap flow monitoring to assess water dynamics in healthy and bark beetle-infested trees

Luiz Henrique Elias Cosimo¹, Jose Gutierrez Lopez², Eva Lindberg¹, Zuosinan Chen³, Langning Huo¹

¹Department of Forest Resource Management, Swedish University of Agricultural Sciences;

²Department of Forest Ecology and Management, Swedish University of Agricultural Sciences;

³Department of Water, Energy and Environmental Engineering, University of Oulu

11:30am - 11:45am

A Green Shoulder Index to estimate carotenoid content verified by the radiative transfer model FluSAIL and real-world data

Langning Huo

Swedish University of Agricultural Sciences, Department of Forest Resource Management, 90183 Umea, Sweden.

11:45am - 12:00pm

High-dimensional Detection of Landscape Dynamics 2.0: a Framework for Mapping Non-stand replacing Forest Disturbance using Sentinel-2 Time Series

Donato Morresi¹, Hyeyoung Maeng², Langning Huo¹

¹Swedish University of Agricultural Sciences, Department of Forest Resource Management,

Skogsmarksgränd 17 901 83 Umeå, Sweden; ²Durham University, Department of Mathematical

Sciences, Upper Mountjoy Campus, Stockton Road, Durham DH1 3LE, United Kingdom

10:30am - 12:00pm

WG II/3H: 3D Scene Reconstruction for Modeling & Mapping

Location: 715B

10:30am - 10:45am

Accurate Point Measurement in 3DGS - A New Alternative to Traditional Stereoscopic-View Based Measurements

Deyan Deng¹, Rongjun Qin^{1,2}

¹Department of Civil, Environmental and Geodetic Engineering, The Ohio State University, Columbus,

USA; ²Department of Electrical and Computer Engineering, The Ohio State University, Columbus, USA

10:45am - 11:00am

	<p>Gaussian Texturing: Structured 3D Gaussian Splatting for Metric-Accurate Heritage Preservation Ming Huang, Lei Wang Beijing University of Civil Engineering and Architecture,</p> <hr/> <p>11:00am - 11:15am Structured-Li-GS: Structured 3D Gaussians Splatting with LiDAR Incorporation and Spatial Constraints Huayuan Weng, Huibin Li, Chul Min Yeum University of Waterloo, Canada</p> <hr/> <p>11:15am - 11:30am Evaluating 3DGS for True Orthophoto Generation: Comparative Study with Photogrammetric Processes Jangwoo Cheon¹, Impyeong Lee² ¹Innopam, Korea, Republic of (South Korea); ²University of Seoul, Korea, Republic of (South Korea)</p> <hr/> <p>11:30am - 11:45am Supercharging Thermal Gaussian Splatting with depth estimation Manoj Biswanath¹, Chenxin Cai², Hannah Schieber³, Daniel Roth³, Benjamin Busam¹ ¹Photogrammetry and Remote Sensing, Munich Center for Machine Learning (MCML), Technical University of Munich, Munich, Germany; ²Technical University of Munich, Munich, Germany; ³Human-Centered Computing and Extended Reality Lab, TUM University Hospital, Clinic for Orthopedics and Sports Orthopedics, Munich Institute of Robotics and Machine Intelligence (MIRMI), Technical University of Munich, Munich, Germany</p>
<p>10:30am - 12:00pm</p>	<p>WG IV/4: Data Management for Spatial Scenarios Location: 716A</p> <hr/> <p>10:30am - 10:45am Construction and Integration of Image Control Point, Interpretation Sample, and Spectral Information Databases for Megacity Management Sitong Li, Xinhui Wang Shanghai Surveying and Mapping Institute</p> <hr/> <p>10:45am - 11:00am Fireguard: A Real-Time Wildfire Monitoring and Risk Assessment System Using Unmanned Aerial Systems and Multi-Sensor Fusion Hannah Kemper, Gerhard Kemper GGS GmbH Speyer, Germany</p> <hr/> <p>11:00am - 11:15am A Multi-Agent Geospatial Model for Semantic and Spatial Querying Amirhossein Nourbakhshrezaei, Saeed Abbasi, Mojgan Jadidi Department of Civil Engineering, Lassonde School of Engineering, York University, Canada</p> <hr/> <p>11:15am - 11:30am Point Cloud Data Management for Cross-Domain Applications Kwasi Nyarko Poku-Agyemang, Balthasar Teuscher, Martin Werner Technical University Munich, Germany</p> <hr/> <p>11:30am - 11:45am Mathematical Modeling of Confidence Ellipses and Computational Validation of their Implementation in the LFTools Plugin: A Case Study Using GWDBrazil Leandro Franca, Tiago Silvano, Simone Sato, Savia Gavazza Federal University of Pernambuco (UFPE), Brazil</p> <hr/> <p>11:45am - 12:00pm Consumer's risk in zero-defect sampling inspection of surveying and mapping products Fujun Luo^{1,2}, Haitao Zhao^{1,2}, Jinghu Liu^{1,2}, Xiaodi Wang^{1,2}, Chunxi Chen^{1,2} ¹National Quality Inspection and Testing Center for Surveying and Mapping Products, China, People's Republic of; ²Technology Innovation Center for Remote Sensing Intelligent Verification, Ministry of Natural Resources, Beijing, China</p>
<p>12:00pm - 1:30pm</p>	<p>Closing Ceremony Location: Exhibition Hall "G" Awards Ceremony:</p> <ul style="list-style-type: none"> • The President's Honorary Citation • ISPRS Certificate of Recognition of Service • Congress Best Reviewer Award • ISPRS Best Poster Award • The ISPRS CATCON Award