

Tuesday, 2 September 2025**Local time**

- 9:00** **Welcome by the General Co-chairs of MIGARS 2025**
9:05 **Welcome by Mihnea Costoiu, Rector of POLITEHNICA Bucharest**
9:10 **Welcome by Silvia Liberata Ullo, IEEE GRSS Europe Liaison**
9:15 **Welcome by Francesco Mauro, IEEE GRSS Region 8 Coordinator**
- 9:20** **Scientific activities of the European IEEE GRSS Chapters**
 Session chairs: Silvia Liberata Ullo and Francesco Mauro
- 9:20 Austria Chapter
 9:30 German Chapter
 9:40 Hungary Chapter (Student branch)
 9:50 South Italy Chapter
 10:00 Central Italy Chapter
 10:10 Poland Chapter
 10:20 Romania Chapter
 10:30 Spanish Chapter
 10:40 Sweden Chapter
 10:50 Turkey Chapter
 11:00 UK & Ireland Chapter
 11:10 Q&A
- 11:30** **Coffee Break**
- 12:00** **Keynote speech**
 Advanced Earth Observation Using Explainable AI in the Era of Multisensor Cooperation
 Prof. Akira Hirose, University of Tokyo
- 12:45** **Invited talk - Orange**
 Localisation and Sensing in Next-Generation Networks: Research and Innovation Actions at Orange Romania
 Ioan Constantin, Orange Romania
- 13:00** **Lunch break**
- 14:00** **Keynote speech**
 Coordinates with physical meaning and the non-linear geometry of high dimensional data
 Prof. Marina Meila, University of Washington
- 14:45** **Session 1: SAR Data Processing**
 Session chair: Georgios Pilikos (Erasmus MC, formerly European Space Agency)
- 14:45 **Group Residual Vector Quantized Autoencoders for SAR Raw Data Compression**
 Georgios Pilikos, Mario Azcueta and Nicolas Floury
 15:00 **Physics-Informed Diffusion Models for SAR Ship Wake Generation from Text Prompts**
 Kamirul Kamirul, Odysseas Pappas and Alin Achim
 15:15 **Anomaly Detection on Water Bodies in SAR Data using Multi-Scale Features and Clustering**
 Andrei Racoviteanu, Matei Debu, Kamal Marandskiy, Serban Oprisescu, Corneliu Florea and Mihai Ivanovici
 15:30 **A Comparative Analysis between NDVI and Backscatter of Sentinel-1 and Full-Polarimetric ALOS-2 Imagery for Forests**
 Eren Gursay Ozdemir and Saygin Abdikan
 15:45 **Automatic Identification of Ground and Canopy from Single-Polarized SAR Tomograms**
 Karima Hadj-Rabah, Martin Sudmanns, Nabil Haddad and Gilda Schirinzi
 16:00 **Comparison of Novel Classical and Developed AI Techniques for SAR Oil Spill Detection**
 Muhammad Amjad Iqbal, Eleftheria Kalogirou, Despina Makri, Christodoulos Mettas, Marios Tzouvaras and Diofantos. G Hadjimitsis
- 16:15** **Coffee Break**
- 16:45** **Briefing on local organizer activities**
 DTEClimate: Competence Center for Climate Change Digital Twin for Earth Forecasts and Societal Redressment
 Prof. Mihai Datcu, POLITEHNICA Bucharest
- 17:00** **Session 2: AI for EO I**
 Session chair: Sadeh Jamali (Lund University)
- 17:00 **Wall-to-Wall Mapping of Forest Canopy Height using ICESat-2 Data and Multi-source Remote Sensing Images in a Machine Learning Framework**
 Ehsan Khankeshizadeh, Sadeh Jamali, Soheil Zaghian, Ernest William Mauya, Ali Mohammadzadeh and Filbert Francis
 17:15 **State-Space Modeling with Mamba For Interpretable Crop Yield Estimation: A Cotton Case**
 Furkan Yardımcı, Alp Ertürk, Mustafa Serkan Isik and Esra Erten
 17:30 **Generative AI for Earth Observation, a Prospect**
 Reza Mohammadi Asiyabi, Omid Ghosatlou, Saqlb Nazir, Mobina Keymasi, Muhammad Amjad Iqbal and Mihai Datcu
 17:45 **Linked Generative Adversarial Networks for Vector Map Generation using Remote Sensing Images**
 Dasari Arun Kumar, Jagadeeswar Reddy C and Prabhakar M
 18:00 **Enhancing Low-Cost Imagery for GeoAnalytics and Remote Sensing Using Deep Learning-Based Super-Resolution**
 Jihad El-Sana, Borak Madi and Hussein Mahajna
 18:15 **DKM-HybridSN: A Resource-Efficient Model for Hyperspectral Image Classification in Oil Spill Detection**
 Neeraj Kumar Nadipelli and Hitendra Sarma Togercheti
 18:30 **Leveraging Learning Rate Schedulers for Real-time Accurate Ship Detection in Optical Remote Sensing Images**
 George Cloroiu and Anamaria Radoi
- 18:45** **Dinner - Icebreaker**

*The program may still be subject to minor modifications.

Wednesday, 3 September 2025**Local time**

- 9:00 Keynote speech**
Recent Trends in AI for Earth Observation and Pathways Forward
Prof. Begüm Demir, Technische Universität Berlin
- 9:45 Session 3: AI for EO II**
Session chair: Yuanyuan Wang (Technical University of Munich)
- 9:45 **Semi-supervised Learning for Regression Problems in Earth Observation**
Yuanyuan Wang and Xiaoxiang Zhu
- 10:00 **Multi-Temporal Attention U-Net for Seasonally Variable Subsurface Feature Detection**
Andaleeb Yaseen, Giulio Poggi, Sara Ferro, Sebastiano Vascon and Arianna Traviglia
- 10:15 **Time Series Mixup for Crop Segmentation in Domain Adaptation**
Bianca Andrei, Antonela-Adelina Dinescu, Sebastian Candea and Corneliu Florea
- 10:30 **Evaluation of a New 30m Soil Organic Carbon Density (SOCD) Dataset for Pan-Europe Over Türkiye, where No Samples Were Included During Model Training**
Elif Dincer, Yekta Can Uzundemir, Fatma Selin Sevimli and Esra Erten
- 10:45 **Fine-grained Interpretable Remote Sensing Image Recognition with LLM-guided Semantic Decision Trees for Human-like Reasoning**
Zhao Shuaike and Huang Zhongling
- 11:00 **Coastline Detection in Sentinel-2 Images using Transformer-based Architectures under Copy-Paste Augmentations**
Melisa Ünsalan, Alexandru-Gabriel Lefterache and Anamaria Rădoi
- 11:15 Coffee Break**
- 11:45 Session 4: Atmosphere and Climate**
Session chair: Mihai Ivanovici (Transilvania University of Brasov)
- 11:45 **Humidity Inference with Geographic Features and Machine Learning for Enhanced Contrail Prediction for African Airspace**
Baimam Boukar Jean Jacques, Jonathan Kayizzi, Alice Mugengano and Moise Busogi
- 12:00 **Clustering and Feature-Based Similarity Retrieval of Infrasonic Events during Two Storms in Constanta, Romania**
Iustin Floroiu, Andrei Anghel, Laura Petrescu and Mihai Datcu
- 12:15 **A Visual Analytics Platform for Climate Resilience and Sustainable Infrastructure Planning**
Theodor Pintilie, Andrei Danila, Streche Robert, Oana Orza, Cristina Dobre and George Suciu
- 12:30 **Spatial, Temporal and Environmental Analysis of Nitrogen Dioxide and Carbon Monoxide Gas Columns using Sentinel-5 Precursor**
Aysha Aljawder and Suad Khalifa
- 12:45 **Temporal Analysis: Difference in Temperature Before and After Afforestation Plan Using Satellite Imagery**
Suad Khalifa
- 13:00 **Mapping Socioeconomic Air Quality Disparities In Rwanda Using Sentinel-5P TROPOMI Data In Google Earth Engine**
Baimam Boukar Jean Jacques, Kamikazi Ndayizeye Raissa, Bertinn Ndahayo Singizwa, Umubyeyi Evelyne and Emily Aiken
- 13:15 Lunch break**
- 14:15 IEEE GRSS Europe Best PhD Award Ceremony**
- 14:45 Session 5: Geospatial Analysis and Applications I**
Session chair: Luca Bergamasco (Fondazione Bruno Kessler)
- 14:45 **A preliminary study on the detection of glacial lake outburst flood in Norway using Sentinel 2 imagery**
Luca Bergamasco, Elena Donini, Ronja Lappe, Martina Calovi and Francesca Bovolo
- 15:00 **Digital Terrain Models-Based Identification for Helicopter Landing Zones in Mountain Rescue**
Marius-Lucian Necula, Andreea Joca, Liviu Porumb, Dan Gabriel Răducanu and Octavian Andronache
- 15:15 **Viability of simple ANN solutions for professional pathloss estimation**
Teodor Petrita and Rares Dobre-Baron
- 15:30 **FuseTen: A Generative Model for Daily 10 m Land Surface Temperature Estimation From Spatio-Temporal Satellite Observations**
Sofiane Bouaziz, Adel Hafiane, Raphaël Canals and Rachid Nedjai
- 15:45 **Predicting Global DEM Errors using a Mixture-of-Experts Ensemble Model: Preliminary Results**
Michael Meadows, Karin Reinke and Simon Jones
- 16:00 **Experimental Verification of Volume Model for Dry Bulk Piles using a Single Image**
Madhu Koirala, Debanshu Ratha and Pål Gunnar Ellingsen
- 16:15 Coffee Break**
- 16:45 Keynote speech**
On the Foundations of Earth and Climate Foundation Models
Prof. Xiaoxiang Zhu, Technical University of Munich
- 17:30 Session 6: Geospatial Analysis and Applications II**
Session chair: Pål Gunnar Ellingsen (UiT The Arctic University of Norway)
- 17:30 **Geometric Shape Modelling and Volume Estimation of Dry Bulk Cargo Piles using a Single Image**
Debanshu Ratha, Madhu Koirala and Pål Ellingsen
- 17:45 **Zero-Shot Land Cover Segmentation with Grounding DINO-Segment Anything Model on WorldView-3 and DeepGlobe Data**
Can Michael Hucko and Elif Sertel
- 18:00 **Urban Growth and Ecological Quality Assessment Using Spatial Metrics And RSEI: A Case Study Of Hills Shire Council, Sydney, Australia**
Anali Azabdaftari and Filiz Sunar
- 18:15 **Directional Object Detection in Aerial Images**
Szilard Molnar, Levente Tamas and Zoltan Kato
- 18:30 **Hybrid Hyperspectral Anomaly Detection via Robust Subspace Recovery and Laplacian Cauchy-Based Methods**
Ufuk Kaya, Behçet Uğur Töreyn and Fatma Küçük
- 18:45 **Spectral Unmixing for Bare Soil Detection: A Step Toward Soil Organic Carbon Estimation**
Haris Ampas, Konstantinos Karyotis, George Zalidis and Sophia Petridou
- 19:00 **PCA-CAM: A Principal Component Analysis-Based Shell Method For Class Activation Mapping**
Furkan Yardımcı and Gulsen Taskin
- 19:15 Conference Dinner**

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Thursday, 4 September 2025**Local time**

- 9:00 Keynote speech**
AI for Geospatial and Imagery Intelligence
Prof. Ana-Maria Rădoi, POLITEHNICA Bucharest
- 9:45 Session 7: SAR Image Processing**
Session chair: Emmanuel Trouvé (Université Savoie Mont Blanc)
- 9:45 **Spatio-Temporal Encoding for Deep Slope Instability Detection from Time Series of SAR Interferograms**
Antoine Bralet, Emmanuel Trouvé and Abdourrahmane Atto
- 10:00 **Real-time Ship Detection in SAR Images using a Transformer-based Architecture under Schedule-Free Optimization**
Enrico Gârăman and Anamaria Rădoi
- 10:15 **Coastal Monitoring with SAR observations and U-Net Model: Global Pretraining and Local Adaptation**
Noel Ivan Ulloa, Changhyun Choi, Cheng Hui Yeng, Emma M.Hill and Sang-Ho Yun
- 10:30 **Impact of Data Enhancement Methods on Ship Detection Using YOLO11 in SAR Imagery**
Furkan Büyükkarber, Mustafa Yanalak and Nebiye Musaoğlu
- 10:45 **SAR-to-Optical Image Translation using Enhanced Generative Adversarial Networks**
Antonio Chirtu and Anamaria Radoi
- 11:00 **Development of a Sentinel-1 Single Look Complex Interferometric Wideswath Dataset For Landcover Classification**
Bogdan Marghescu, Stefan-Adrian Toma and Mihai Datcu
- 11:15 Coffee Break**
- 11:45 Session 8: Geospatial Analysis and Applications III**
Session chair: Esra Erten (Istanbul Technical University)
- 11:45 **Exploiting SAR Time Series for EEFUX-based Evapotranspiration Predictions via Attention LSTM Over Cotton Fields**
Fatma Selin Sevimli, Mustafa Serkan Işık and Esra Erten
- 12:00 **Efficient aggregate land cover queries with cloud-optimized raster formats**
Luke McQuade, Martin Sudmanns and Dirk Tiede
- 12:15 **LULC mapping via 3D CNN with noisy data, supervised and weakly supervised learning**
Valdivino Alexandre de Santiago Júnior and André Estevam Costa Oliveira
- 12:30 **Hierarchical Saliency Feature Learning with Tree Structure for Infrared Small Target Detection**
Zixuan Wang, Jie Liang, Lipeng Wang, Chuang Song and Xuelin Qian
- 12:45 **Belowground, Litter and Shrub Biomass Mapping using Sentinel-1/2 and ALOS-2 Products**
João E. Pereira-Pires, Juan Guerra-Hernández, Adrián Pascual, João M. N. Silva, José M. Fonseca and André Mora
- 13:00 **Elevation-based Clustering and Spatiotemporal Analysis of Coffee Crop Agro-Environmental Dynamics**
Tamires Lima da Silva, Luciana Alvim Santos Romani and Silvia Maria F. Silveira Massruhá
- 13:15 **Analysis of Northern Littoral Region of Romania using 5D SAR Tomography**
Cosmin Danisor, Diego Reale, Antonio Pauciullo and Gianfranco Fornaro
- 13:30 Lunch break**
- 14:30 Session 9: Geospatial Analysis and Applications IV**
Session chair: Siddhartho Paul (Purdue University)
- 14:30 **Predicting Soil Properties for Site-Specific Management**
Siddhartho S. Paul
- 14:45 **Remote Sensing-Based Method for Eutrophication Assessment to Support Land Use Planning: A Case Study in Graminha Tropical Reservoir, São Paulo State, Brazil**
Fernando Silva, Janaina Kimpara, Cassiana Coneglian and Luciana Romani
- 15:00 **Gated Convolutional Feed-Forward Module In Transformers For Sea Ice Segmentation In SAR Imagery**
Mihai Gabriel Botezatu, Nicolae Catalin Ristea, Andrei Anghel, Alexis Mouche, Frederic Nougier, Antoine Grouazel and Mihai Datcu
- 15:15 **Data Fusion for Vegetation Assessment: The ROSPIN-SAT-1 & Sentinel-2 Approach for Reforestation Site Detection**
Rares-Cristian Bisag, Dragos Ilinca, Armin Purle-Kopacz, Adrian Dumitrescu and Sebastian Severin
- 15:30 **Biomass Estimation at Footprint Level Using GEDI Data and Machine Learning**
Diogo M. Silva, João E. Pereira-Pires, Juan Guerra-Hernández, Adrián Pascual, João M. N. Silva, André Mora and José M. Fonseca
- 15:45 **LAI Estimation of Paddy Rice using Sentinel-2 Vegetation Indices**
Saygin Abdikan, Dessislava Ganeva, Omer Gokberk Narin, Petar Dimitrov, Alihsan Sekertekin, Zlatomir Dimitrov, Caglar Bayik, Milen Chaney, Lachezar Filchev, Mustafa Ustuner, Mustafa Tolga Esetilli, Fusun Balk Sanli and Yusuf Kurucu
- 16:00 Conference closing**

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