

XII AIT International Conference

*“Smart Earth Observation for a
Sustainable Future”*

Programme



12 – 14 November 2025, Milan

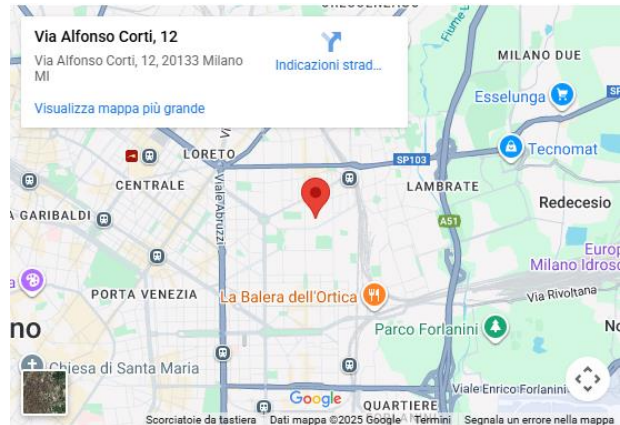


XII AIT International Conference
“Smart Earth Observation for a Sustainable Future”
Milan 12 – 14 November, 2025



Conference Venue

The **XII AIT International** Conference will be held in the Expo room and in the Conference room of the Milan Territorial Research Area 1 (AdRMi1), **Via Alfonso Corti, 12 – 20133 Milan**



The AdRMi1 is reachable from Milan central train station via the Green Line 2 subway (“Piola” or “Lambrate” stop).

Conference Rooms



Sala Conferenze - 150 seats

Sala A&B - 45 seats

Sala Expo - 100 seats



Thematic & Special Sessions

Wednesday 12th of November, 2025

S1 Special Session “Multifrequency microwave”

T1-1 Thematic session “Agriculture and Forestry”

S2 Special Session “Cryosphere”

T1-2 Thematic session “Agriculture and Forestry”

T2 Thematic session “Water resources”

T1-3 Thematic session “Agriculture and Forestry”

Thursday 13th of November, 2025

S3 Special Session “Climate change”

T3-1 Thematic session “Natural Hazard”

S4-1 Special Session “Space It Up”

WS Workshop Planetek

S4-2 Special Session “Space It Up”

T3-2 Thematic session “Natural Hazard”

Sponsor “SME Roundtable”

Friday 14th of November, 2025

S4 Special Session “Fire”

T4 Thematic session “Urban Climate and Infrastructure Monitoring”

S5 Special Session “Remote sensing of high-resolution soil moisture and irrigation applications”

T5 Thematic session “Air quality, Health, and Environmental Compliance”

T6 Thematic session “GeoAI”

T7 Thematic session “New EO Programs and Missions”

Session Time Table and rooms

Start	End	Wednesday	Thursday	Friday
09:00	09:30	Registration	S3	T3-1
09:30	10:00		S5	T4
10:00	10:30		Coffee Break	
10:30	11:00		Coffee Break	
11:00	11:30	Welcome & keynote	S4-1	Planetek round table
11:30	12:00	S1		S6
12:00	12:30	T1-1		T5
12:30	13:00	Light Lunch (hosted)	Lunch	Lunch
13:00	13:30		AIT assembly	
13:30	14:00	S2	T1-2	
14:00	14:30		S4-2	T3-2
14:30	15:00		T6	T7
15:00	15:30	Break & Poster session 1	Break & Poster session 2	Conclusion & prize
15:30	16:00			
16:00	16:30	T2	T1-3	
16:30	17:00		Sponsor session round table	
17:00	17:30			
17:30	18:00			
20:00	20:30		Social Event	
20:30	21:00			
21:00	21:30			

	Sala A& B	Sala Conferenze	Sala A&B	Sala Conferenze
Sala Conferenze	Sala Conferenze	Sala A&B	Sala A&B	Sala Conferenze
Sala A&B	Sala Conferenze			
Sala EXPO		Sala Conferenze		
Sala A&B	Sala Conferenze	Sala Conferenze	Sala A&B	Sala Conferenze
Sala EXPO		Sala EXPO	Sala Conferenze	
Sala A&B	Sala Conferenze	Sala Conferenze		



Wednesday 12th of November, 2025

09:00 – 11:00 Registration

11:00 – 11:10 Welcome – Sala Conferenze

- Host institution: Giacomo de Carolis
- Presidente AIT: Enrico Borgogno Mondino
- Presidenti SIFET-AIC-AM/FM-GFOSS (to be confirmed)

11:10 – 11:30 keynote – Sala Conferenze

Keynote (TBD)

11:30 – 12:30 Special Session 1 “Multifrequency Microwave” – Sala A&B

Chairs

Simonetta Paloscia, Emanuele Santi

Contributions

- Monitoring crops structural and dielectric parameters using GNSS interferometric reflectometry, *Samuele De Petris*
- Soil Moisture and Forest Biomass retrievals exploiting GNSS-R and Machine Learning, *Emanuele Santi*
- Global forest monitoring using SMOS L-VOD and satellite LiDAR metrics, *Cristina Vittucci*
- High-Resolution Mapping of Crop Biomass and Soil Moisture by Combining Multifrequency SAR Data Through Machine Learning, *Simonetta Paoloscia*

11:30 – 12:30 T1-1 “Agriculture, Forestry and Environmental” – Sala Conferenze

Chairs

Alberto Crema, Monica Pepe (to be confirmed)

Contributions

- Forest monitoring by hyperspectral spaceborne images, *Giovanni Nico*
- A possible role of remote sensing to monitor the spread of *Toumeyella parvicornis* (Cockerell) in urban forest, *Stefania Amici*
- Multi-season very high-resolution data for grassland habitat mapping in a Mediterranean site, *Cristina Tarantino*
- Towards estimating actual evapotranspiration partitioning in a Sicilian irrigated citrus orchard using remote sensing, *Dario De Caro*



Wednesday 12th of November, 2025

12:30 – 13:30 Light Lunch hosted by AIT – Sala EXPO

13:30 – 15:00 Special Session 2 “Cryosphere” – Sala A&B

Chairs

Davide Fugazza, Marco Casu, Maria Teresa Melis, Marco Scaioni, Guglielmina Adele Diolaiuti

Keynote

Chronicles of a fragile glacier: 10 Years of geomatics Monitoring of the Belvedere Glacier, *Livio Pinto*

Contributions

- Integrating hyperspectral and RGB data for snow algae detection in Alpine environments, *Olga Gatti*
- Paraglacial slope instabilities in relation with glacier retreat: the case of Venosta Valley (Italy), *Michele Di Biase*
- Provenance study of Debris covered glaciers sediments using EnMAP and EMIT spaceborne hyperspectral data, *Marco Casu*
- Investigating Glacier Dynamics using Neural Network and Motion Tracking, *Francesco Parizia*
- A digital twin of Chogo Lungma Glacier: the Spantik Lab project, *Davide Fugazza*

13:30 – 15:00 T1-2 “Agriculture, Forestry and Environmental” – Sala Conferenze

Chairs

Francesco Fava, Samuele De Petris (to be confirmed)

Contributions

- Crop residues presence and persistence from Sentinel-2 time series, *Emanuele Spirito*
- Crop classification algorithms comparison in the CAP controls framework, *Enrico Chiesa*
- Early-season crop mapping using Sentinel-2 time-series data and the Random Forest algorithm, *Simona Gargiulo*
- Integrated satellite observation technologies and systems for agri-environmental monitoring and support for the Common Agricultural Policy (CAP) 2023/2027, *Luigi Servadei*
- Map of Land Cover Partial Agreement: A Probabilistic Fusion Approach, *Qiongjie Xu*

Wednesday 12th of November, 2025

- Detection and classification of nitrogen-fertilized fields using Sentinel-2 imagery: an AI-based approach with comparative reflectance analysis of fertilizer types, *Sara Romagnoli*

15:00 – 16:00 POSTER SESSION 1 – Sala Expo

Sentinel-2 Analyzer: A QGIS Plugin for Supporting Environmental Monitoring Analysis, *Thomas Martinoli*

Analysis of space and time distribution of global night-time active fires and Fire Radiative Power (FRP) from 13 years of NASA VIIRS data, *Daniela Stroppiana*

Insights from SAOCOM MT-InSAR Applications in Gargano, Italy, in preparation for new L-band SAR missions, *Alberto Refice*

Contribution of Remotely Sensed Crop Coefficients to the integrated analysis of evapotranspiration in the plant-nursery district of Pistoia, *Bernardo Rapi*

Mapping Tillage and Crop Residue presence Using Planet and Sentinel-2 Imagery, *Giulio Tellina*

Integration of MODIS NDVI data into Tuscany meteorological fire risk bulletin, *Riccardo Mari*

Earth observation imaging spectroscopy missions for aquatic environments, *Andrea Pellegrino*

Fire Risk Mapping as a Tool for Integrated Hazard Assessment and Climate Resilience, *Davide D'Alò*

Monitoring changes within urban transformations: impacts on climate performance indicators observed through multi-temporal remote sensing techniques, *Nicola Romanato*

Two European projects for the introduction of Earth Observation in secondary schools, *Quang Huy Nguyen*

UAV multispectral and thermal data combined with GeoAI for scalable and site specific phenological mapping in viticulture, *Alessandra Capolupo*

Satellite-based assessment of sub-Saharan lakes: linking climatic drivers, water quality, and ecosystem vulnerability, *A. Joelle Greife*

Integration of Bioindication and Remote Sensing: UAV and Stratospheric Platforms for Environmental Monitoring, *Massimiliano Gargiulo*

Integrating ground and satellite measurements for High-Resolution Soil Moisture Mapping, *Rodolfo Roseto*

Modeling and Mapping Kc Dynamics from NDVI Time Series Using a Double Logistic Function, *Edoardo Ronco*



Integrating SWOT-Derived Water Level Estimates with High-Resolution DEM and Gauge Data: An Investigation for a Small Reservoir, Recentino Lake, Italy, *Lorenza Ranaldi*

Capacity building in Earth Observation hyperspectral remote sensing: the Horizon Europe EXPERT project between ASI, DLR and ROSA space agencies, *Deodato Tapete*

Application of PRISMA Hyperspectral data to improve Landcover Mapping in the Dryland Ecosystems “Case study of Samburu County, Kenya”, *Merceline Awuor Ojwala*

Crops Classification by Procrustes Analysis to support the CAP controls, *Samuele De Petris*

Data-Driven User Preparation for aquatic ecosystems monitoring with CHIME and LSTM, *Claudia Giardino*

Multiple Vegetation Indices Forecasting in the context of Precision Agriculture: a Machine and Deep learning comparison, *Alessandro Farbo*

2002-2024 Thermal Trends of Major European Lakes: A Satellite-Based Assessment of Climate Change Impacts Using LLM and GEE, *Carlo Alberto Brunori*

SpaceSUITE: Driving Skills Innovation for a Competitive European Space Workforce, *Francesca Albanese*

PRISTAR-GEOSPEC: PRISma Tools for Analysis in R for GEOcoding and SPECTral Refinement, *Emanuele Spirito*

Multi-crop traits estimation using spaceborne hyperspectral data and neural networks:

effect of different architecture and training set, *Lorenzo Parigi*

Yield and Grain Protein Content estimations using multiple hyperspectral images, *Lorenzo Parigi*

From Degradation to Regeneration: Remote Sensing Approaches for Sustainable Land Use in the Basilicata (Italy), *Marzia Gabriele*

Monitoring the drying dynamics of the Sal'e Porcus salt pond using Sentinel-1 time series: a preliminary study for climate-driven surface evolution, *Claudia Collu*

Near real time irrigation monitoring using Sentinel-2 data and Random Forest algorithm, *Sara Romagnoli*

A GeoAI Approach to Land Cover Change Prediction Using Multilayer Perceptrons and Copernicus EO Data to Support Future Territorial Planning in Aosta Valley (NW Italy), *Tommaso Orusa*

A standalone software for postfire erosion susceptibility assessment during the emergency phase, *Costantino Pala*

ATLHAS system for certifying and making unalterable satellite data and Geotag photos, guaranteeing EU CAP (Common Agricultural Policy) respect of rules and rapid payments, *Livio Rossi*

Wednesday 12th of November, 2025

16:00 – 17:30 T2 “Water resources” – Sala A&B

Chairs

Maria Antonietta Dessena, Mariano Bresciani (to be confirmed)

Contributions

- Laboratory-based analyses to support beach litter detection through remote sensing techniques, *Laura Corbari*
- Improving Coastal Bathymetry Accuracy from Optical Satellite Data Using a Spectral and Temporal Processing Technique, *Ninfa Arianna Speciale*
- EO Satellites for Hydroelectric Energy Management, *Andrea Lorenzoni*
- An operational forecast-based platform to identify and evaluate hydro-ecological risks in freshwater reservoirs in Sardinia, *Maria Antonietta Dessena*
- Advanced SAR Techniques for Wind and Sea Surface Velocity Mapping: Experimental Insights from the PLATiNO-1 Mission, *Andrea Petrossi*
- Remote Sensing of Inland Water Bodies Using Optical and SAR Data: Toward an Operational Monitoring Service, *Luca Cenci*

16:00 – 17:30 T1-3 “Agriculture, Forestry and Environmental” – Sala Conferenze

Chairs

Antonino Maltese, Francesco Nutini (to be confirmed)

Contributions

- A generalized method to estimate vegetation phenology from time-series of optical data, *Federico Filippini*
- Estimation of actual evapotranspiration through remote sensing: experiences in Mediterranean crops and future perspectives, *Dario De Caro*
- Towards a Regional Agricultural Drought Monitoring System based on Evapotranspiration MODIS Products: First Issues, *Edoardo Ronco*
- An evaluation of the Pol-InSAR forest height estimation performance with dual-pol Sentinel-1 data, *Samuele De Pretis*
- Multiscale Remote Sensing for Optimised Monitoring of Grapevine Downy Mildew (*Plasmopara viticola*): Preliminary Results from a Case Study in the Etna Viticultural Area, *Claudia Arcidiacono*
- Wheat grain protein content estimation using machine learning algorithm and multi/hyperspectral ground data, *Luca Miazzo*



Thursday 13th of November, 2025

09:00 – 10:30 Special Session 3 “Climate Change” – Sala A&B

Chairs

Elena Candigliota, Maria Virelli, Deodato Tapete (to be confirmed)

Keynote

Sea-Level Rise and Coastal Flooding: A Climate Modeling Journey from Fluid Dynamics to Impact Assessment, *Gianmaria Sannino*

Contributions

- Integrated Satellite Monitoring of Water Surface Extent and Lake Level Variations in Central Italy, *Lorenza Ranaldi*
- A generalized methodology using multi-sensor satellite imagery to monitor river shrinking, *Federico Filipponi*
- Earth Observation Products for the Early Forecasting of Irrigation Needs, *Giuseppe Satalino*
- Long Term “x” Preservation and Long Time Series Generation for Climate Change, *Iolanda Maggio*
- Developments and lessons learnt from the use of Earth Observation-based products in scientific downstream applications for urban and rural areas in the context of climate change, *Deodato Tapete*

09:00 – 10:30 T3-1 “Natural Hazard” – Sala Conferenze

Chairs

Francesco Casu, Fabio Giulio Tonolo (to be confirmed)

Contributions

- A Fully Automated Multi-Data Approach for Monitoring Glacial Lake Dynamics in High Mountain Asia, *Ravindra Kumar*
- Integrated GNSS and InSAR datasets for the monitoring of land subsidence in the Po River Delta: validation of EGMS and Regional Datasets, *Alice Danti*
- An algorithm for continuous satellite-based flood mapping using on-demand SAR data, *Luca Pulvirenti*
- Integrating Artificial Intelligence with multi-source satellite data for natural hazard monitoring and risk assessment in anthropogenic areas, *Alessandro Ursi*
- Generation and analysis of spaceborne DInSAR products to support Civil Protection activities in volcanic and seismic regions, *Fernando Monterroso*



Thursday 13th of November, 2025

- Thermal remote sensing of active volcanoes: a decadal experience with the MIROVA space-based system, *Adele Campus*

10:30 – 11:00 Coffee Break

11:00 – 12:30 Special Session 4-1 “Space It Up” – Sala A&B

Chairs

Piero Boccardo, Andrea Taramelli (to be confirmed)

Contributions

- Remote Sensing and Meta Population Data for Surface Urban Heat Island Vulnerability Assessment in Naples, Italy, *Massimo Musacchio*
- Developing urban and suburban photovoltaics with Earth Observation and geodata, *Margherita Moretti*
- Heat wave and heat stress space-time patterns assessment in Lombardy using climate reanalysis data and in situ measurements, *Alberto Vavassori*
- Mapping the Italian EO downstream market: demand and offer dynamics, *Valentina Zancan*
- Machine Learning-Based Gap-Filling for Enhanced Usability of Sentinel-5P Imagery, *Vasil Yordanov*
- Multi-Source Earth Observation Data Integration for Precision Agriculture: A Corn Crop Monitoring Case Study, *Massimiliano Gargiulo*

11:30 -12:30 Planetek Round Table – Sala EXPO

“Dall’osservazione satellitare all’azione sul campo: le nuove frontiere dell’ImageryPack per chi lavora sul territorio”, *Daniela Valentino – Planetek Italia, Stefano Frittelli – Vigili del Fuoco, Cristina Tarantino - CNR - Istituto sull’Inquinamento Atmosferico, Gruppo di Osservazione della Terra, Bari, Gaetana Ganci - Istituto Nazionale di Geofisica e Vulcanologia*



Thursday 13th of November, 2025

12:30 – 14:00 Lunch

13:00 – 14:00 Assembly AIT – Sala Conferenze

14:00 – 15:30 Special Session 4-2 “Space It Up” – Sala A&B

Chairs

Maria Brovelli, Emiliana Valentini (to be confirmed)

Contributions

- The new ATLHAS system for any digital data: the certified and unalterable evidence of timestamp and precise location through Galileo GNSS, even for drone flights certification, *Livio Rossi*
- Semi-Automatic Training and Test Sample Selection Using Urban Spatial Indices in Random Forest Based LCZ Mapping: A Milan Case Study, *Afshin Moazzam*
- Satellite-Derived Bathymetry: application and comparison in the Venice lagoon, *Federica Gerla*
- Preliminary Results for Local Climate Zones mapping of Bologna, *Gabriele Lo Grasso*
- Geospatial Integration for Operational Drought and Flood Management, *Sona Guliyeva*
- Multi-sensor approach for live cover detection in natural and seminatural ecosystems: a case study in Cần Giờ district (South Vietnam), *Serena Sapio*

14:00 – 15:30 T3-2 “Natural Hazard” – Sala Conferenze

Chairs

Francesco Casu, Manuela Bonanno (to be confirmed)

Contributions

- Satellite-Enhanced Flood Modeling in RESCUE_SAT, *Valerio Gagliardi*
- Satellite InSAR-based assessment of present-day land subsidence hazard and risk in the metropolitan cities of Italy, *Francesca Cigna*
- DInSAR time-series automatic generation of the Italian territory by exploiting Sentinel-1 SAR data archives through the P-SBAS approach, *Pasquale Noli*
- EO for flood damage assessment: the case of Emilia-Romagna, *Fabio Volpe*

Thursday 13th of November, 2025

- The multi-step Atmospheric Phase Screen (APS) filtering approach implemented within the P-SBAS DInSAR processing chain: national-scale experimental results and performance analysis, *Federica Casamento*
- Forecasting Volcanic Activity States Using LSTM and SGAN on Multi-Source Satellite Time Series, *Francesco Spina*

15:30 – 16:30 POSTER SESSION 2 – Sala EXPO

The Joint ASI - NASA/JPL Surface Biology and Geology Thermal Infrared (SBG-TIR) Mission, *Sara Venafra*

Small glaciation of Central Siberia on the example of Kuznetsk Alatau, Baikal region and Byrranga mountains, *Maria Ananicheva*

Analysis of the spatial and temporal agreement of snow cover products for Lombardy region, Italy, *Daniela Stroppiana*

Fast Bayesian inference for flood detection using GPU-accelerated statistical analysis of multi-temporal SAR stacks, *Rita Paudice*

Synthetic Aperture Radar (SAR) based flood extent mapping in Complex land cover areas, *David Mwenda Muriithi*

Implemented UAV based workflow for Soil Moisture Content modelling with Machine Learning approach, *Maurizio De Molfetta*

Satellite-Based Detection of Plastic Marine Litter, *Marco Polcari*

Satellite derived intra-daily spatio-temporal dynamics of lake water quality, *Bresciani Mariano*

A decision support system for early estimation of irrigation needs of processing tomatoes at district scale, *Michele Rinaldi*

A fully automated method for determining the Alpine glacier geometrical parameters, *Massimo Bianchini*

Advancing Sustainable Agriculture through Multi-Frequency SAR Integration and Early Drought Detection: First Year Activities from Space It Up sub-task 7.3.3, *Antonella Belmonte*

Leveraging Geospatial Techniques to Monitor Restoration Efforts and Assess Associated Forest Ecosystem Services in Kenya, *Faith Mutwiri*

21-years (2001-2022) AOD monitoring of a transition zone in central Italy using remote (MODIS-MAIAC) data, *Valentina Terenzi*

Estimate of population-related plastic fluxes into the sea using night-time light satellite imagery, *Svitlana Liubartseva*

An adaptive and unsupervised approach for the detection of irrigation at field scale from



high-resolution soil moisture maps, *Sofia Rossi*

Exploiting Optical Particle Counter data to derive PM2.5 from satellite AOD at ambient conditions, *Giorgia Proietti Pelliccia*

Assessment Framework for Quality assessment and Maturity Model, *Iolanda Maggio*

Cross-Platform Satellite Approaches for Methane Detection: Enhancing CH₄ Mapping through Hyperspectral and Multiresolution Observations, *Marco Falda*

Multiscale UAV and satellite monitoring of riverbank dynamics in the lower Tagliamento river, *Andrea Martino*

Italian Space Agency's most recent achievements in disaster response and risk management within CEOS and COSMO-SkyMed Open Call initiatives, *Deodato Tapete*

A DInSAR-based Comparison of Surface Deformations: The Central Italy's 1997-2017 Seismic Sequences, *Carlo Alberto Brunori*

Long-term albedo glaciers variations in Pakistan: a focus on the Hispar Basin, *Blanka Barbagallo*

HyperCrop: a new deployable automated robotic system for in-situ spectroradiometric measurements, *Alberto Crema*

Analysis of Sentinel-1 SAR backscatter over burned areas and across burn severity, *Rana Hassanpour Pestehbeiglou*

Eu-Mon: Operational Coastal Eutrophication Monitoring Using EO Data for SDG 14.1.1a, *Paola Di Lauro*

Monitoring glacier snow cover of Alpine glaciers with the TeNDIS index, *Nicola Genzano*

Combined use of dispersion modelling and TROPOMI data for spatiotemporal consistency analysis of gaseous pollutants generated by largescale fires, *Enrico Pisani*

Fuel type mapping in Sardinia Island, Italy, with Machine Learning Algorithms and Sentinel-2 time series, *Forough Rajabi*

CopernicusLAC: Development and Demonstration of the Flood Extent and Frequency Mapping Services in Latin America and the Caribbean, *Francesca Trevisiol*

InSAR EGMS for Regional Investigation of Landslide Dynamics: The Case of Northern Italy, *Rasoul Eskandari*



Thursday 13th of November, 2025

16:30 – 17:30 “SME Roundtable” – Sala Conferenze

Roundtable Moderator: Enrico Borgogno Mondino

- “Satellite r[e]volution: nuovi sensori, analytics e dati in abbonamento”, *Daniela Valentino, Government & Security SBU, Planetek Italia*
- “Copernicus Data Space Ecosystem in ArcGIS, dove Remote Sensing e GIS si incontrano”, *Alberto Meroni, Business Development Manager, Imagery and Remote Sensing, Esri*
- “GeoAgent & AI by NV5: Accelerating Geospatial Research Through. Intelligent Workflow Automation”, *Andrea Marchesi, NV5*
- “Schneider Digital demonstrates Stereo-VISTA, the Open Source 3D-Viewer with a Reference Implementation for Intuitive Interaction and Navigation”, *Orlando Grimaldi, Schneider Digital*
- “Publishing with MDPI: Spotlight on Excellence in Remote Sensing and Geomatics”, *Maja Dragojevic, MDPI*

Thursday 13th of November, 2025

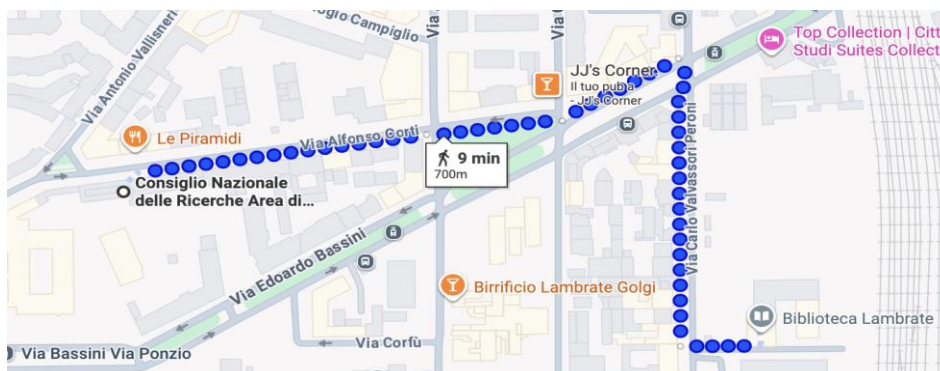
19:30 – 21:00 SOCIAL EVENT - Auditorium Stefano Cerri

“Dottò, ma quando scoppia il Vesuvio? Il Nuovo Grand Tour”

Vincenzo De Novellis, *CNR - Istituto per il Rilevamento Elettromagnetico dell'Ambiente*, Raffaele Somma, *Musicista*



Auditorium Stefano Cerri - via Carlo Valvassori Peroni, 56



Friday 14th of November, 2025

09:00 – 10:30 Special Session 5 “Fire” – Sala A&B

Chairs

Daniela Stroppiana, Pietro Alessandro Brivio (to be confirmed)

Keynote

Systematic fire products: meeting users’ needs from global to local, *Luigi Boschetti*

Contributions

- Fusion of SAR and optical data based on generative artificial intelligence for wildfire mapping, *Donato Amitrano*
- Monitor post-fire vegetation dynamics in forest ecosystems using Sentinel-2 and PlanetScope time series, *Federico Filipponi*
- High-Resolution Burned Area Mapping from PlanetScope Images Using Generalized Modelling Strategies, *Bhogendra Mishra*
- Towards an early fire detection by means of geostationary satellite data and methods, *Nicola Pergola*
- How EO data are used by the National Fire Corps (CNVVF) of Italy to support urgent technical rescue during disaster response, fire prevention and surveillance, *Rossella Simione*

09:00 – 10:30 T4 “Urban Climate and Infrastructure Monitoring” – Sala Conferenze

Chair

Enrico Borgogno Mondino, Gabriele Bitelli (to be confirmed)

Contributions

- Extensive Full Resolution P-SBAS analysis for monitoring critical displacements related to the built-up environment over the Italian territory, *Pasquale Striano*
- Micro-Doppler analysis of SAR data for the assessment of vibration frequencies of bridges, *Iolanda Maggio*
- A Prototype Earth Observation-Based Framework for Simulating Urban Intervention Effects on Land Surface Temperature, *Daniele Oxoli*
- Simplified estimation of Land Surface Temperature (LST) using the SolAir Temperature Model, *Naila*
- Geospatial analysis of local climate zones and urban heat islands in Italy and Vietnam, *Maria Antonia Brovelli*



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- Long-Term Evolution and Coupling of Urban Green Spaces with the Urban Heat Island in an Arid City: A Case Study of Urumqi (2000–2025), *Wenbo Li*

10:30 – 11:00 Coffee Break

11:00 – 12:30 Special Session 6 “Remote sensing of high-resolution soil moisture and irrigation applications” – Sala A&B

Chairs

Anna Balenzano, Giuseppe Satalino

Contributions

- Integrated Multi-Sensor Data Fusion with LSTM Networks for Surface Soil Moisture Estimation: Combining Multi-Frequency SAR, Optical, and Meteorological Data, *Ondieki Jephther*
- Investigating the Climatic Drivers of Seasonal Ground Motion through Multisensor SAR Soil Moisture, *Benedetta Brunelli*
- Enhancing EO Soil Moisture Validation with Cosmic Ray Neutron Sensors, *Anna Balenzano*
- Advancing High-Resolution Retrieval of Soil and Vegetation Water content from C- and L-band SAR Observations, *Francesco Mattia*
- A remote sensing-based evapotranspiration dataset for Europe using msg images, *Samuele Maffei*
- Mapping irrigation volumes and efficiency of water use by assimilating satellite data of land surface temperature and soil moisture into an energy-water balance mode, *Chiara Corbari*

11:00 – 12:30 T5 “Air quality, Health, and Environmental Compliance” – Sala Conferenze

Chairs

Cristiana Bassani, Carla Ippoliti (to be confirmed)

Contributions

- The Urban Green Area Index (UGAI) as part of the IndicaMI project on adaptation to climate change, *Giacomo Uguccione*
- City-scale mapping of urban tree species and structure through multispectral and tristereoscopic satellite data integration, *Chiara Bottaro*

Friday 14th of November, 2025

- A cumulative spectral approach for mapping suitable mosquito breeding sites using PlanetScope SuperDOVEs: a preliminary application in the Fucino area, Abruzzo, Italy, *Tommaso Orusa*
- Seasonal Monitoring of PM2.5 Precursors Using EO-Based Air Quality Products in the Lazio Region, *Patrizio Tratzi*
- In which ways can satellite images solve “wicked problems” like detecting illegality in urban planning? A concrete request for more training for the professionals, citizens, and lay persons, *Terry Inglese*
- IMPEL GIECA project: towards a common framework to contrast environmental crimes using geospatial intelligence, *Federico Filipponi*

12:30 – 14:00 Lunch

14:00 – 15:30 T6 “GeoAI” – Sala A&B

Chairs

Fabio Giulio Tonolo, Paolo Tagliolato (to be confirmed)

Contributions

- Sensitivity analysis and optimization of a hybrid Genetic Algorithm-Simulated Annealing and Generalized Additive Model framework for UHI threshold detection using satellite data, *Alessandra Capolupo*
- GeoAI-based Remote Sensing for Monitoring Territorial and Climatic Transformations: An Innovative Methodology Supporting Smart Agriculture, *Alessandro Vitale*
- Statistical Anomaly Detection in Multi-Temporal DInSAR Data, *Teresa Bortolotti*
- Analytical evaluation of Deep Learning models applied to remotely sensed imagery for object detection and segmentation tasks, *Andrea Demartis*
- Transformer-based Forecasting of Sentinel-2 Reflectance and Vegetation Indices Using Conformal Quantile Regression, *Alessandro Farbo*
- Transformer-based Predictive Model for Soil Organic Carbon Quantification, *Rodolfo Ceriani*



Friday 14th of November, 2025

14:00 – 15:30 T7 “New EO Programs and Missions” – Sala Conferenze

Chairs

Claudia Giardino, Michele Manunta (to be confirmed)

Contributions

- Mineralogical characterization of mine tailings with Remote Sensing, *Susanna Grita*
- Estimating Agronomic Variables in Paddy Rice with Field and Spaceborne Hyperspectral Spectroscopy, *Rodolfo Ceriani*
- ComeonBoardPSG! How to empower PRISMA Second Generation for wildfires localization with on board Deep learning approach, *Stefania Amici*
- The EarthCARE mission: an overview of science objectives, data processing chain and products visualization, *Alessandro Piro*
- Towards FLEX for water: analysis of ground, airborne and PRISMA observations in Lake Garda, *Lodovica Panizza*
- NIMBUS-IRIDE Constellation Design and DInSAR Performance Analysis, *Michele Manunta*

15:30 – 15:45 Farewell – Sala Conferenze

- Presidente AIT: Enrico Borgogno Mondino

15:45 – 16:00 Premio Zilioli & NV5 - Sala Conferenze

- Pietro Alessandro Brivio
- Paola Filippi



XII AIT International Conference
“Smart Earth Observation for a Sustainable Future”
Milan 12 – 14 November, 2025



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