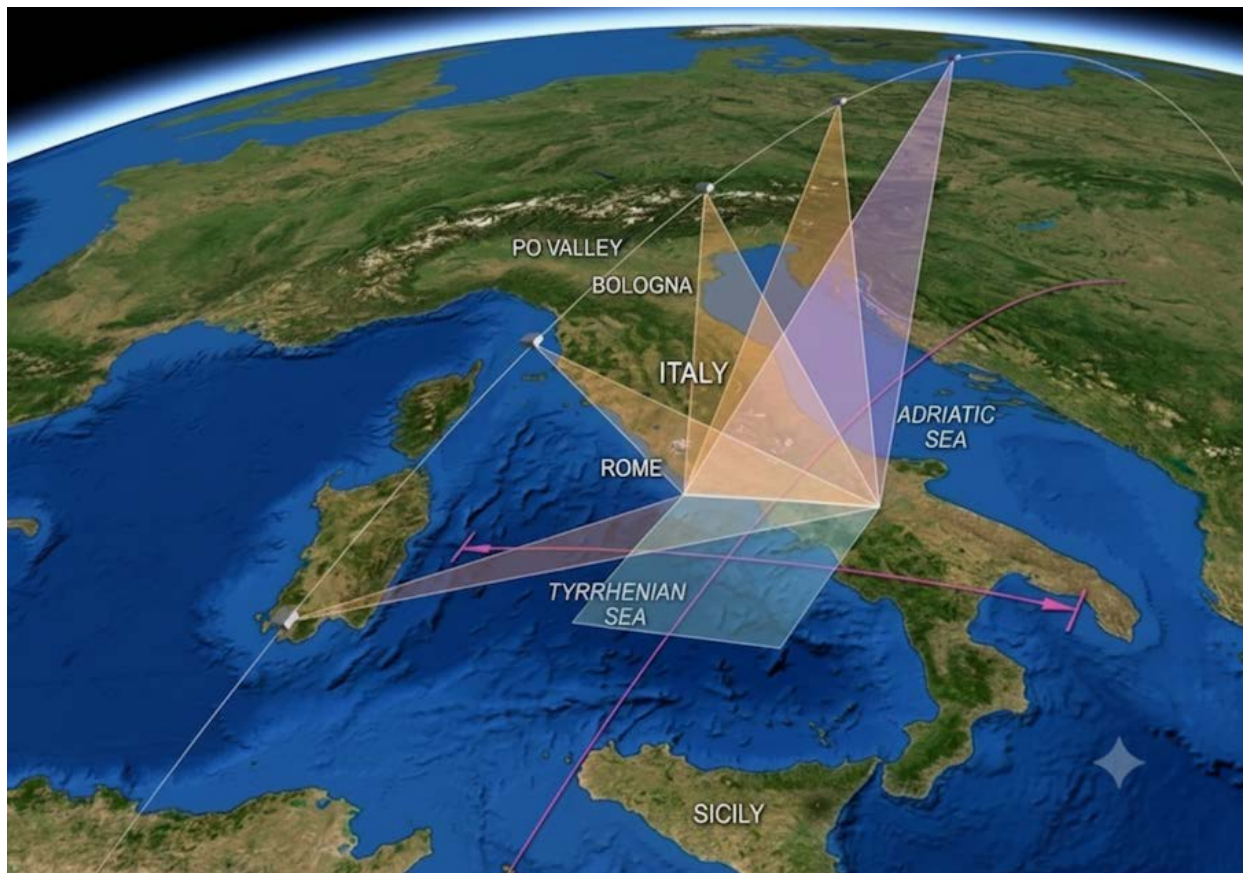




Workshop “MAIA: Air Quality, Aerosols and Human Health from Space”



Organised by Agenzia Spaziale Italiana / Italian Space Agency (ASI)

ASI Headquarters in Via del Politecnico snc, Rome, Italy

14-15 October 2026

ASI Scientific and Organising Committee

Matteo Picchiani

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Ufficio “Osservazione della Terra” / “Earth Observation” Office,
Settore Coordinamento Utenti, Data Policy, e Downstreaming” / “User
Coordination, Data Policy and Downstreaming” Sector

SCIENTIFIC – TECHNICAL PROGRAMME

Day 1: 14 October 2026

Title	Speaker	CEST	PST
Participants registration		09:00 – 09:30	00:00 – 00:30
Welcome and Workshop objectives	Francesco Longo and Simona Zoffoli Italian Space Agency (ASI)	09:30 – 09:45	00:30 – 00:45
Session #1 “The joint ASI-NASA MAIA Mission” Chair: Simona Zoffoli & Sara Venafra ASI			
Multi-Angle Imager for Aerosols (MAIA) Prelaunch Activities and Preparations for the Flight Mission	David Diner Jet Propulsion Laboratory, California Institute of Technology	09:45 – 10:10	00:45 – 01:10
Programmatic overview of MAIA Mission	Vincenzo Pulcino Italian Space Agency (ASI)	10:10 – 10:25	01:10 – 01:25
Session #2 “Advanced Aerosol Monitoring from Space: Leveraging Multispectral Data in the Framework of the joint ASI-NASA MAIA Mission” Chair: Matteo Picchiani & Sara Venafra ASI			
Status Update and Results from the First Four Years of MAIA’s Ground-Based Particulate Matter Monitoring Network	Sina Hasheminassab, Jet Propulsion Laboratory, California Institute of Technology	10:25 – 10:45	01:25 – 01:45
Overview of MAIA Italian science projects	Matteo Picchiani Italian Space Agency (ASI)	10:45 – 11:00	01:45 – 02:00
APEMAIA: A Multi-Source AI-Based Approach for Intra-Urban PM Concentration and Population Exposure	Maria Adamo CNR-Institute of Technologies and Environmental Intelligence (CNR-ITIAm)	11:00 – 11:15	02:00 – 02:15
Coffee Break		11:15 – 11:45	02:15 – 02:45
The EIRENE Research Infrastructure: recent progress and future developments in bridging environmental science, human exposome studies and effectiveness policy evaluation	Nicola Pirrone CNR-Institute of Technologies and Environmental Intelligence (CNR-ITIAm)	11:45 – 12:00	02:45 – 03:00
High-Resolution PM10 and PM2.5 Mapping in Apulia: From APE-MAIA Results to Physics-Informed Modelling	Alessandro Fania University of Bari Aldo Moro (UNIBA)	12:00 – 12:15	03:00 – 03:15
High-resolution spatio-temporal modelling of daily PM2.5 concentrations across Europe (2005–2022)	Federica Nobile Department of Epidemiology, Lazio Region Health Service/ASL Roma 1	12:15 – 12:30	03:15 – 03:30

Deep Learning Approach for PM2.5 Surface Estimation Using Sentinel-5P Radiance Data	Antonio Mazza National Research Council of Italy, Institute of Integrated Methodologies for Earth Observation (CNR-IMIOT)	12:30 – 12:45	03:30 – 03:45
High-Resolution PM2.5 Estimation from CAMS Forecasts using Machine Learning	Luigi Celona University Of Milan-Bicocca (UNIMIB)	12:45 – 13:00	03:45 – 04:00
From Earth Observation to Operations: IRIDE's Air Quality and Hydro-Meteo-Climate Services	Matteo Picchiani Italian Space Agency (ASI)	13:00 – 13:15	04:00 – 04:15

Lunch	CEST	PST
	13:30 – 14:30	04:30 – 05:30

Site-Specific vs. Multi-City Machine Learning for Intra-Urban PM Mapping: the APEMAIA Approach in Southern Italy	Marica De Lucia CNR-Institute of Technologies and Environmental Intelligence (CNR-ITIAM)	14:30 – 14:45	05:30 – 05:45
A Physically Based Framework for Generating PRISMA-Like Hyperspectral Datasets for Atmospheric and Aerosol Applications	Marco Di Giacomo Tor Vergata University of Rome	14:45 – 15:00	05:45 – 06:00
Fine-scale estimation of air temperatures using spatiotemporal machine learning models in Italy for the period 2003-2024	Alessio Felici Department of Epidemiology, Lazio Region Health Service/ASL Roma 1	15:00 – 15:15	06:00 – 06:15
Remote Sensing of Volcanic Aerosols: State of the Art and Future Strategies for Air Quality Monitoring	Claudia Spinetti National Institute of Geophysics and Volcanology (INGV)	15:15 – 15:30	06:15 – 06:30
Coffee Break		15:30 – 16:00	06:30 – 07:00
Interactive session		16:00 – 16:45	07:00 – 07:45

Day 2: 15 October 2026

Session #3 “Bridging Satellite and Ground information: networks and methodologies to measure near surface PM and air quality in support of the joint ASI-NASA MAIA Mission”			
Chairs: Giovanni Rum & Matteo Picchiani			
ASI			
Title	Speaker	CEST	PST
Welcome and session introduction	Simona Zoffoli Italian Space Agency (ASI)	09:30 – 09:45	00:30 – 00:45
Deeping on air quality topics in Emilia-Romagna region	Vanes Poluzzi Environmental Protection Agency of Emilia Romagna Region (ARPAE)	09:45 – 10:00	00:45 – 01:00
ARPA Lombardia Activities in Air Quality Field	Eleonora Cuccia Environmental Protection Agency of Lombardia Region (ARPA Lombardia)	10:00 – 10:15	01:00 – 01:15
Physics-based source apportionment of near-surface PM: a ground-based approach to support satellite aerosol characterization and health-impact assessment	Caterina Mapelli Regional Environmental Protection Agency of Lazio Region (ARPA LAZIO)	10:15 – 10:30	01:15 – 01:30
Past Milestones and Future Challenges Supporting MAIA Mission: Bridging Air Quality Ground Networks, High-Altitude Sentinel, and Earth Observation Data	Mariantonia Bencardino CNR-Institute of Technologies and Environmental Intelligence (CNR-ITIAM)	10:30 – 10:45	01:30 – 01:45
Contributions of ACTRIS and ASCENT networks to ASI-NASA MAIA mission	Rosa Maria Petracca Altieri Consiglio Nazionale delle Ricerche (CNR)	10:45 – 11:00	01:45 – 02:00
Coffee Break		11:00 – 11:30	02:00 – 02:30
Support to in situ and satellite air quality monitoring through operational ground-based measurements of aerosol profiles across Italy within the national cooperative Automated Lldar-CEilometer network ALICENET	Francesca Barnaba National Research Council of Italy, Institute of Atmospheric Science and Climate (CNR-ISAC) on behalf of the Alicenet team	11:30 – 11:45	02:30 – 02:45
CIAO (CNR-IMIOT Atmospheric Observatory): an Italian Supersite for the Validation and Exploitation of MAIA Aerosol Products	Ilaria Gandolfi National Research Council of Italy, Institute of Integrated Methodologies for Earth Observation	11:45 – 12:00	02:45 – 03:00

	(CNR-IMIOT)		
The Lampedusa Station for Climate Observation: A Mediterranean Site for Aerosol Research and Satellite Validation	Giandomenico Pace Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)	12:00 – 12:15	03:00 – 03:15
Validation and characterization of the 3D aerosol fields over the Italian peninsula using relevant ESA-JAXA EarthCARE products from the first two years of satellite operations in the framework of the ASI - ECVALMED.it project	Francesca Barnaba National Research Council of Italy, Institute of Atmospheric Science and Climate (CNR-ISAC)	12:15 – 12:30	03:15 – 03:30
Airborne Innovative Lightweight Sondes for MAIA In-Situ Validation	Riccardo Biondi ER S.r.l.s.	12:30 – 12:45	03:30 – 03:45
Interactive session		12:45 – 13:30	03:45 – 04:30

Lunch	CEST	PST
	13:30 – 14:30	04:30 – 05:30

Session #4 “Earth Observation data and Societal Health: Assessing Acute and Chronic Illness Risks with ASI-NASA MAIA Mission” Chairs: Matteo Picchiani & Massimo Stafoggia ASI & Lazio Region Health Service / ASL Roma 1			
Title	Speaker	CEST	PST
Spatiotemporal modelling of air pollution using satellite data for epidemiological applications, an overview	Massimo Stafoggia Lazio Region Health Service / ASL Roma 1	14:30 – 14:45	05:30 – 05:45
Assessment of population exposure risk to PM at intra-urban scale in Bari (Italy) using PWEL and GIS Approaches	Delia Evelina Bruno CNR-Institute of Technologies and Environmental Intelligence (CNR-ITIAM)	14:45 – 15:00	05:45 – 06:00
Bayesian spatio-temporal exposure modelling of air pollution in Rome, Italy, and short-term effects on cause-specific mortality	Edoardo Rosci Lazio Region Health Service / ASL Roma 1	15:00 – 15:15	06:00 – 06:15
Coffee Break		15:15 – 15:45	06:15 – 06:45
Interactive session		15:45 – 16:30	06:45 – 07:30

Conclusive discussion & remarks	CEST	PST
	16:30 – 17:00	07:30 – 08:00