National Research Council of Italy - Institute of Methodologies for Environmental Analysis
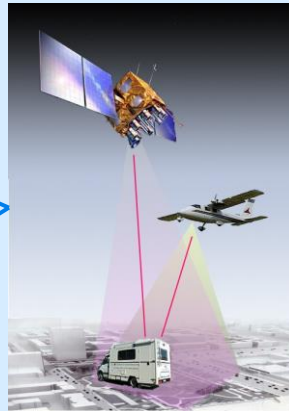
(CNR-IMAA) – www.imaa.cnr.it

MISSION: development and integration of **Earth Observation (EO)** methodologies for the study of a wide spectra of geophysical and environmental processes

Satellite and ground-based remote sensing

In-situ measurements and sensor network

Environmental modelling

ICT for EO data interoperability

HUMAN RESOURCES: more than **140 researchers**

IMAA in FP7: 20 projects mainly in SPA, ENV, ICT, SEC, Energy

ACTRIS "Aerosols, Clouds, and Trace gases Research Infrastructure Network"   INFRA-2010-1-1.1.16: Research Infrastructures for Atmospheric Research;
MODELPROBE, G-MOSAIC, GIGAS, EUROGEOSS, SAFER, REACCESS, ISTIMES, DORIS, GEOVIQUA, DORIS-NET, EGIDA, WEZARD, SAGRES, ITARS,ELITE,LAMPRE,IMAGE, BEYOND.

IMAA in H2020: GAIA-CLIM (Gap Analysis for Integrated Atmospheric ECV CLImate Monitoring), Call EO-3-2014 (1 March 2015 - 29 February 2018).

Research Infrastructures:

- **Atmospheric Observatory** (one of the 5 European sites of GRUAN – GCOS UPPER-AIR NETWORK and site of EARLINET network)
- **Receiving, archiving and processing system for satellite data**
- **Mobile laboratory systems** equipped with Lidar, Interferometric and radiometric instruments, geochemical and geophysical sensor
- **Full Scale Lab Hydrogeosite**

Expression of Interest to TOPIC 2015 SC5

WATER

EXPERTISE: Development of **integrated energy system models** at different spatial scales and individuation of strategies to optimize the resource utilization - **Integrated sensing technologies** for non-invasive **survey of subsoil and vegetation**

Fighting and adapting to climate change

Developing comprehensive and sustained global environmental observation and information systems

EXPERTISE: Development and Integration of Lidar, Radiometric and Microwave Tecniques for the 4D Characterization of Atmosphere. The research activity is mainly addressed to atmospheric studies (PBL, troposphere and stratosphere) using remote sensing and in situ techniques. It is carried out in the frame of the **GEOSS international context** and of the **main ground based observing networks** (EARLINET, CloudNet, AERONET, NDACC, GRUAN, GALION, BSRN), to support several satellite missions (NASA, ESA, JAXA) and in cooperation with modelers community. **Development and experimentation of EO techniques** for remote sensing data analysis and the characterization and the modelling of surface processes and the phenomena linked to natural, environmental and anthropic risks.