



National Research Council of Italy



Institute of Methodologies for Environmental Analysis



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<http://www.imaa.cnr.it>



THE SCIENTIFIC MISSION



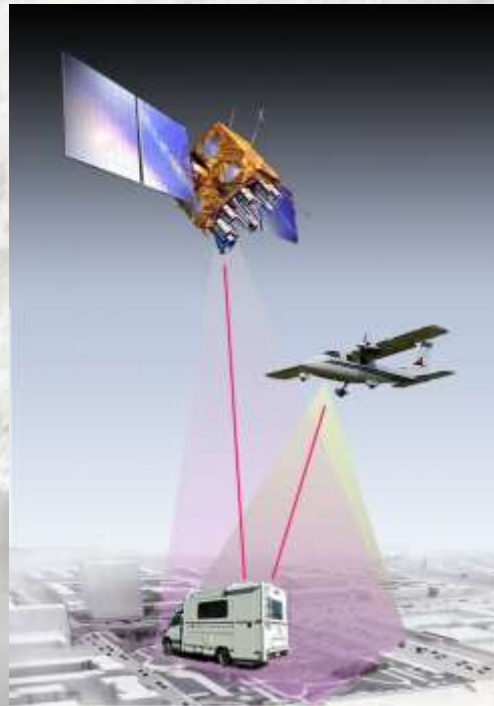
The IMAA mission is devoted to advancing and promoting scientific knowledge in the field of Earth Observation and environmental modelling with the aim to study environmental and geophysical processes.

Satellite and ground-based remote sensing

In-situ measurements and sensor network

Environmental modelling and planning

ICT for geospatial data interoperability



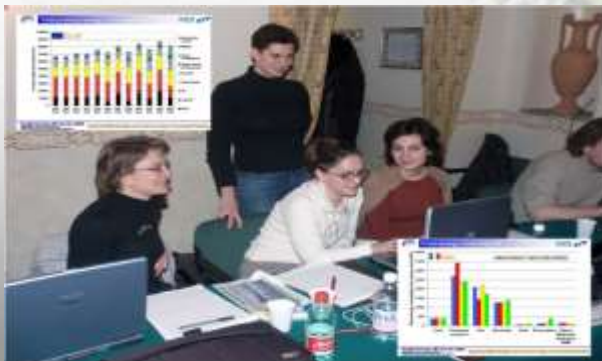
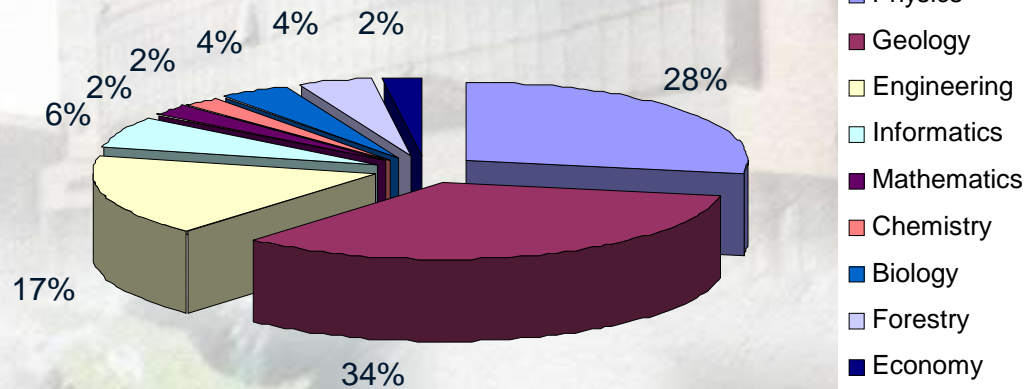
This approach fits with the main strategic lines of COPERNICUS and GEOSS implementation plans.



HUMAN RESOURCES



At IMAA labs about 130 researchers with multidisciplinary skills are currently involved in experimental activities, most of them under 35, with a high percentage of women researchers (50%): 64 researchers; 22 technicians, 4 administrative employers and about 40 units among post-graduated fellows, PhD students, associate researchers from universities, collaborators and/or interns.





FINANCIAL RESOURCES



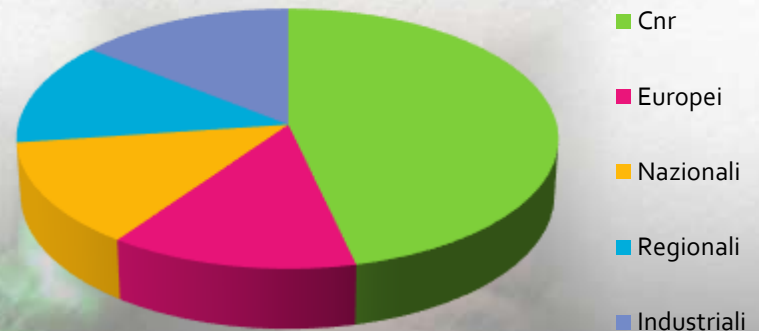
IMAA shows a strong fund rising capacity in the frame of competitive international calls.

During the period 2011-2015 active contracts were stipulated with third parties for about 15 Meuro.

In 2016 the budget derived from external contracts was about 2 MEuro of which more than 40% was represented by financial resources relating to EU calls for bids.

Fund rising capacity*

Internal resources (CNR) + External resources
----- ~ 2
Internal resources(CNR)



* Mean value estimated over the last 5 years

- CIAO (CNR IMAA Atmospheric Observatory (one of the 5 European sites of GRUAN – GCOS UPPER-AIR NETWORK and node of RI-ACTRIS). On March 2016, RI-ACTRIS was included in the european ESFRI roadmap.
- Receiving, archiving and processing system for satellite data (NOAA, MSG, EOS-AQUA, EOS-TERRA, METOP-A, FENG-YUN-1D).
- Full Scale Lab Hydrogeosite (Polo CNR Marsico Nuovo).
- Lidar, interferometric and radiometric instruments, chemical-physical, geochemical and geophysical sensors for lab and in-situ measurements; TIR and IR sensors for airborne platforms.

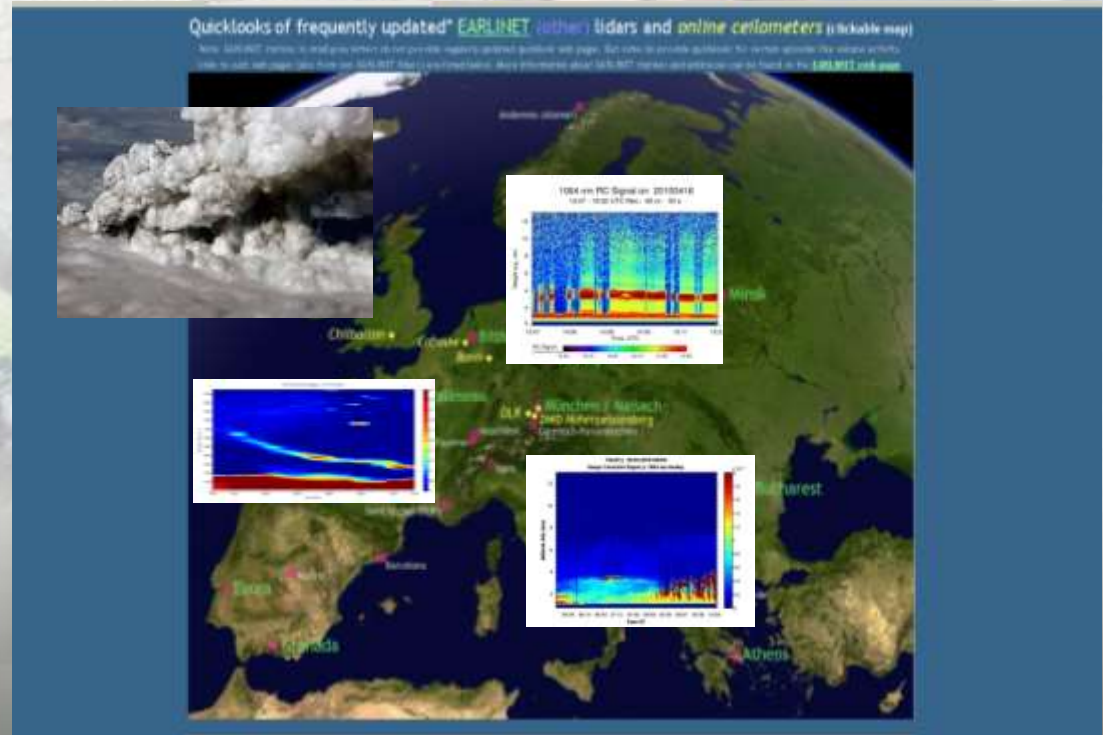


RIs are pivotal to establish stronger and better connections between research, innovation and education for the benefit of society.

EARLINET network of Lidar stations coordinated by CNR-IMAA



EARLINET quicklooks of Eyjafjallajökull plume

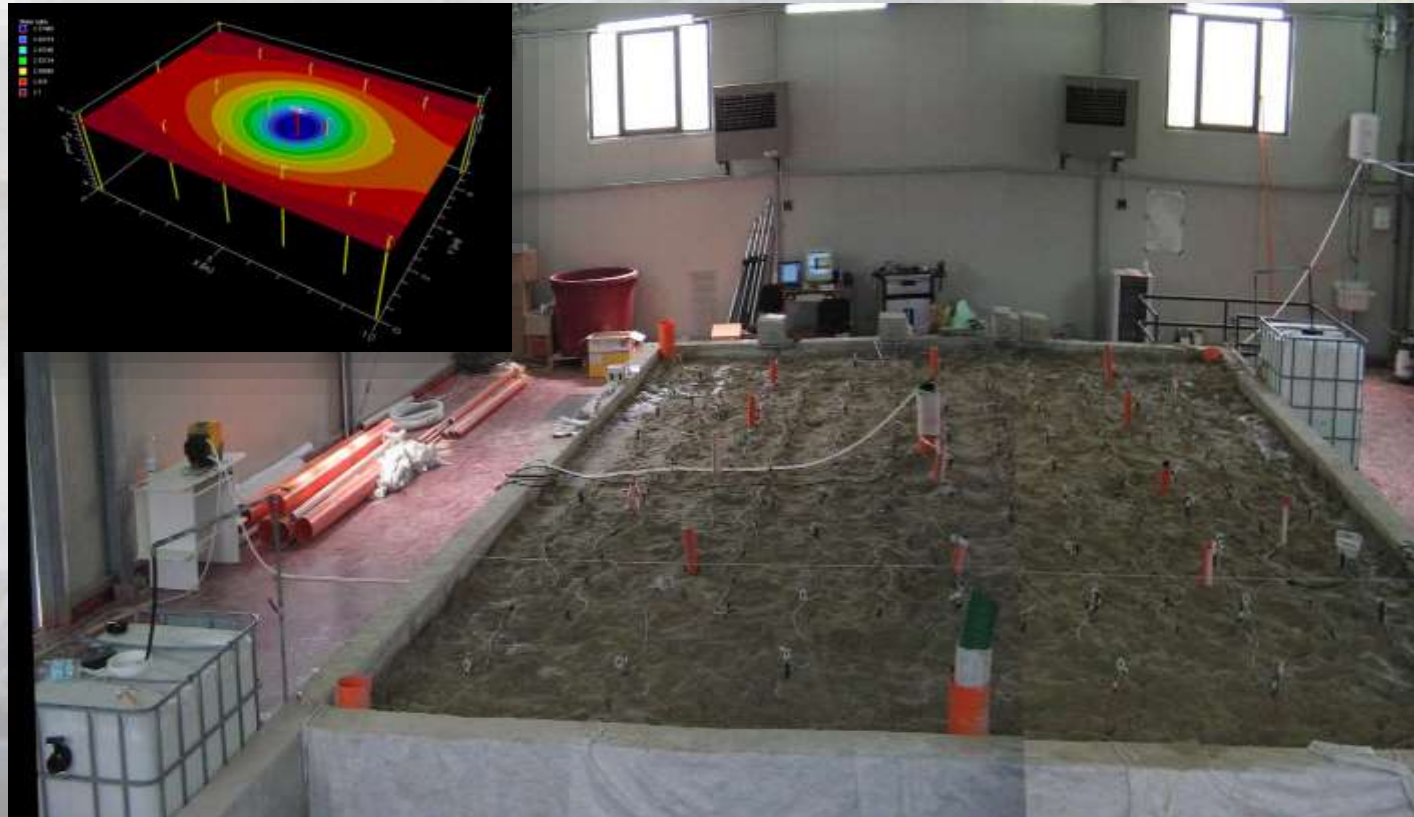




RESEARCH INFRASTRUCTURES (3)



Hydrogeosite – a full scale laboratory for testing hydrological, hydraulic and geophysical technologies





IMAA IN EUROPE (1)



CNR-IMAA has already recorded n. 6 projects funded under HORIZON 2020, with a financial contribution of about 2,5 MEuro. In the frame of COSME, the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises, CNR-IMAA has obtained a funding in a project addressed to create an European Strategic Cluster Partnership.

	Project Acronym	Project Title	Participant Role of CNR-IMAA	Status
HORIZON 2020	GAIA-CLIM	Gap Analysis for Integrated Atmospheric ECV CLimate Monitoring	Partner	Ongoing
	ACTRIS-2	Aerosols, Clouds, and Trace Gases Research InfraStructure	Coordinator	Ongoing
	ENVRIPLUS	Environmental Research Infrastructures providing shared solutions for science and society	Partner	Ongoing
	ATHENA	Remote Sensing Science Center for Cultural Heritage	Partner	Ongoing
	ECARS	East European Centre for Atmospheric Remote Sensing	Partner	Ongoing
	EUNADICS-AV	European Natural Airborne Disaster Information and Coordination System for Aviation	Partner	Ongoing
	COSME	SPACE2ID	Space Clusters International Industrial Diversification	Partner

In the frame of the past FP7 programme IMAA has been involved in 21 projects on the following topics: Space; Environment; ICT e Security. (<http://www.ima.cnr.it/images/ima/IMAAFP7.pdf>).



IMAA IN EUROPE (2)



IMAA is involved in other European programs



Interreg Med Programme: “Prioritise energy efficiency (EE) measures in public buildings: a decision support tool for regional and local public authorities” **PrioritEE** modular Project (2017-2019)



ARTES 20IAP programme of the ESA: “Satellite enabled Services for Preservation and Valorisation of Cultural Heritage” **ArTeK** project (2016-2018)



Copernicus C3S_311a_Lot3: Access to Observations from Baseline and Reference Networks: “Baseline And Reference Observation Networks” **BARON** service (2017-2021)



COST Action TU1104 “Smart Energy Regions” (Action Chair: Prof. Philip John Jones) (2012-2016)



IMAA IN EUROPE (3)



IMAA takes part in other European projects in cooperation with the end-users:



South East Europe RE-SEETIES Project “Towards resource efficient urban communities in SEE” (2012-2014) www.re-seeties.eu



COST Action ES1303 Earth System Science and Environmental Management – “Towards operational ground based profiling with ceilometers, doppler lidars and microwave radiometers for improving weather forecasts” (TOPROF) (Action Chair: Prof. Anthony Illingworth) (2013-2017) www.toprof.eu



COST Action TU1104 “Smart Energy Regions” (Action Chair: Prof. Philip John Jones) (2012-2016) <http://www.smart-er.eu/>



INTERREG IVC “Regional Strategies for Energy Conscious Communities” RENERGY (2012-2014) <http://www.renergyproject.eu/>



COST Action TU0902 “Integrated assessment technologies to support the sustainable development of urban area” (Action Chair: Dr. Richard DAWSON) (2009-2013) <http://iaforcities.com/>



Energy European Research alliance (EERA). Joint Programme “Smart Cities”, Sub-programme “Energy in cities” (2011-2014). <http://www.eera-set.eu/index.php?index=30>



South East Europe Programme Project: ORIENTGATE “A structured network for integration of climate knowledge into policy and territorial planning” (Sub-contract of the Basilicata Region) (2012-2014). <http://orientgate.rec.org/>



- ❑ University of Wisconsin, Colorado School of Mines, Nasa Goddard Space Flight Center – USA; institutes and research centres of CNRS, Max Plank and CSIC.
- ❑ University of Tokyo, Chiba University – Japan
- ❑ Institutes of Chinese Academy of Science - China
- ❑ Collaborations with research centers in Argentina, Mexico and Perù
- ❑ Projects funded in the frame of the Bilateral Agreements between Italy and the following International Countries: CINA, REPUBBLICA CECA, AZERBAIJAN, EGITTO, ARGENTINA, PARAGUAY, LIBANO, POLONIA



NATIONAL PROJECTS AND COLLABORATIONS



Collaboration with the University of Basilicata

- Participation in doctorates in the environmental field, teaching activities, associated researches, training of scholarship holders and final year students.

Collaboration with other Universities:

- UNICAL; UNINA; UNISA; UNIBA; UNIBO; Roma La Sapienza; Roma Tor Vergata; UNIPA; POLITO.

Collaborations with other institutes of the CNR scientific network:

- IGAG, IGG, IRPI; ISAC; IAC; IREA; ISTC; ISM; IBAM.

Cooperations with national and/or interuniversity consortia:

- INGV; OGS; ASI; CNIT; CNISM; ENEA; RELUIS.

Main ongoing projects:

- INTEGRO “management and interoperability of geospatial data” – Min. of Defence
- SAP4PRISMA Project – Italian Space Agency
- CLARA Smart Cities Project - MIUR
- SOLARCLOUD Project - MISE



SCIENTIFIC HIGHLIGHTS



More than 400 papers published on ISI journals in the period 2011-2016. 80 papers published in 2016, about 55% fall within Q1 category and more than 60% have a foreign researcher in the author's list.

ANVUR identified the IMAA as the first Research Centre in Italy for the thematic area "Earth Sciences" (VQR 2011-2014) – www.anvur.org.





TECHNOLOGICAL TRANSFER AND PROJECTS WITH INDUSTRIAL PARTNERS



- ❑ Industrial Research Projects with ENI, FCA, Leonardo-Finmeccanica private companies.
- ❑ Start-up of innovative companies, spin-off, licences: es. United States Patent for synthesis of zeolites.
- ❑ Activities to promote the technological district TeRN “Tecnologie per l’Osservazione della Terra ed i Rischi Naturali” and the Aerospace cluster in Basilicata region.



PROJECTS WITH PPAA



- ❑ CNR-IMAA is Centre of Competence of the Civil Protection Department D.M. n.252/06 (technical-scientific support in emergency management: Amatrice and Norcia earthquakes and other numerous emergencies concerning landslide risk)
- ❑ Smart Basilicata and CLARA Projects – Call Smart Cities, MIUR announcement (an example of quadruple helix for innovation).
- ❑ Scientific and technological support to the Basilicata administration in the Framework Agreement CNR- Basilicata Regional Authority.



OUTREACH AND DISSEMINATION ACTIVITIES



IMAA pays particular attention to promoting scientific culture throughout, through training, dissemination and exploitation of results of scientific research:

- ❑ CNR-IMAA meets the schools “*Open lessons*”
- ❑ Project “*Alternanza Scuola-Lavoro*”
- ❑ Scientific dissemination: seminars; videos; newsletters



Science for social:

- ❑ “*Il Togo in Tasca ... Il progetto continua ...*”, solidarity activities to give information that is supporting the construction of new water wells in Togo using non-invasive geophysical exploration technologies.

