

METHODS & LAB PLATFORMS

- Applied Geophysics
- Geophysics applied to the environmental geology, the heritage and the earthquake engineering Lab (GeALab)
- Chemical analysis of geomaterials
- Chemical analysis of rocks and fibrous materials
- Cathodoluminescence Microscopy (Joint Lab CNR-UNIMI)
- Electrochemistry
- Electron Probe Micro Analyzer Lab
- Environmental Geochemistry
- Environmental Geochemistry and Thematic Cartography (GASLAB)
- Experimental volcanotectonics
- Fluid inclusions analysis
- Geographic Information Systems Laboratory (LabGIS)
- GeoHeritage and Geomorphology
- Geomorphological and geomorphometric analysis Lab (Morpho-Lab)
- GeoS Lab - Subsurface Geological Modeling
- Geotechnics and Sedimentology
- Hydrometallurgy
- Instrumental chemical analysis
- Optical and electronic microscopy and morphological analysis
- Ostra-Lab
- Palynology and Paleoecology
- Porosimetry and granulometry
- Quantitative hydrogeology and numerical modelling
- Radiogenic Isotope Lab
- Risk Analysis and Emergency Management (LARGE)
- Rock Mechanics
- Sample preparation
- Scanning Electron Microscope (S.E.M.)
- Stable Isotope Lab
- Stratigraphy
- Thin sections
- X-Ray Powder Diffraction

HEADQUARTERS

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Visit IGAG website



National Research Council of Italy



Institute of Environmental Geology and Geoengineering

The National Research Council (CNR) is a public national research organization founded in 1923 addressing advanced basic and applied scientific and technological research.

IGAG belongs to the "Department of Earth System Sciences and Technologies for the Environment" of the CNR.

The Institute of Environmental Geology and Geoengineering was created in Rome in 2001 merging five institutes operating in various fields of the geological sciences, engineering, chemistry and geochemistry, thus realizing the integration of skills typical of the earth sciences, geotechnical and mining engineering and environmental chemistry. The main mission of the Institute is to increase our understanding of Earth processes and to improve the quality of human life. Special attention is given to the interaction between geosphere, hydrosphere, atmosphere, biosphere, and human activities. We also deal with issues related to pollution, waste management, urbanization, and natural hazards, such as flooding and erosion.

RESEARCH TOPICS

DYNAMICS AND EVOLUTION OF THE EARTH SYSTEM

Knowledge of the Earth system, studying, reconstructing, and understanding the dynamics of endogenous and exogenous processes, as well as their interactions at all time and spatial scales. Basic and applied research activities on the Earth System are carried out, using the following methods: geological, geochemical, geophysical, and paleo-biological observations, measurements, and analyses, supported by mathematical and physical models.

"GEOSCIENCES TO UNDERSTAND THE PAST, LIVE THE PRESENT AND MODEL THE FUTURE OF THE EARTH AND THE OTHER PLANETS"

GEO-ENVIRONMENTAL RISK

Hazard analysis and risk assessment for planning and management of the territory and emergencies. Within this topic, stratigraphic-sedimentological, geological-structural, geomorphological, hydrogeological, volcanological, geochemical, geophysical and geotechnical studies are carried out, at regional and site-specific scale, for the realization of subsurface models and hazard assessment. The representative methodologies of structural engineering and planning, aided by information technology, contribute to studies aimed at assessing and mitigating geo-environmental risks.

"MULTI HAZARD ANALYSIS AND GEO-ENVIRONMENTAL RISKS ASSESSMENT TO BUILD A RESILIENT SOCIETY"

GEOMATERIALS, SUBSURFACE RESOURCES AND GEOLOGICAL HERITAGE

Improve the knowledge on resources, including: raw materials, like metal ores, primary and secondary industrial minerals, synthetic minerals, natural stones and synthetic materials characterized by chemical-physical behaviours similar to the natural ones; energy resources, such as hydrocarbons and geothermal reservoirs; groundwater; geological heritage.

"KNOWING THE GEORESOURCES AND THEIR POTENTIAL FOR A SUSTAINABLE EXPLOITATION"

ENVIRONMENTAL MONITORING, PROTECTION AND RECOVERY IN A CIRCULAR ECONOMY CONTEXT

Environmental monitoring, protection and remediation, coherently with the principles of circular economy. Research activities include the development of innovative systems for the sustainable exploitation of resources, minimization and valorization of waste and by-products, reduction of polluting emissions, treatment and disposal of hazardous waste and remediation of contaminated sites. Such objectives are pursued through advanced geochemical and geophysical methods and Earth Observation technologies, and through the development of integrated physical-bio-hydro-electrometallurgical, biological and bio-electrochemical processes.

"GEOSCIENCE FOR THE ECOLOGICAL TRANSITION OF THE SOCIETY"

THIRD MISSION, FORMATION, RESEARCH TRANSFER & OUTREACH

IGAG is a Competence Center of the National Civil Protection Dept. in the seismic hazard assessment, microzonation and emergence management. It coordinates the Center for Seismic Microzonation (CentroMS) involving the main Italian institutions operating in seismic hazard and risk assessment.

It takes part to regional innovation clusters Lazio Innova (Lazio Region) and Open Innovation (Lombardy Region) and acts as analyst and consultant for enterprises, public administrations and actuators in the geo-resources and territory planning sectors.

It organizes and leads public and societal events to share geological and environmental knowledge, enhance geo-diversity awareness, geo-resources sustainability and the resilience to natural disasters.

In synergy with universities, formation centers and Professional Orders, IGAG is involved in didactics and high formation activity at different levels.

"A PLACE WHERE ADVANCED AND APPLIED RESEARCH IN GEOSCIENCES CONJUGATES WITH FORMATION AND OUTREACH"

WEBINARS IGAG is an initiative designed to transfer and share ideas, development and results of research activities in geoscience

