



## **Laura Gaggero**

Full professor

✉ [laura.gaggero@unige.it](mailto:laura.gaggero@unige.it)

☎ +39 010 3358317

### ***Education and training***

1990

#### **PhD in Earth Sciences**

University of Genoa - Genoa - IT

1986

#### **Graduated with honors in Geological Sciences**

University of Genoa - Genoa - IT

### ***Academic experience***

2020 - ONGOING

#### **Full professor of Mining and mineralogical-petrographic applications for the environment and cultural heritage**

University of Genoa - Genoa - IT

Delegate to Research activities UNIGE. Coordinator of CdS Methodologies for Conservation and Restoration (since November 2017). Head of SEM Laboratory at Distav

2018 - 2020

#### **Associate professor of Mining and mineralogical-petrographic applications for the environment and cultural heritage**

University of Genoa - Genoa - IT

2000 - 2018

#### **Associate Professor of Petrology and Petrography**

University of Genoa - Genoa - IT

PI project LIFE FIBERS - projects PRIN MIUR - Responsible Laboratory Electron Microscopy DISTAV

1992 - 2000

#### **Permanent research position in Petrology and Petrography**

University of Genoa - Genoa - IT

### ***Language skills***

**English**  
Proficient

**French**  
Proficient

**Spanish**  
Independent

## ***Postgraduate research and teaching activity***

### **Supervision of PhD students, residents and post-doctoral fellows**

1995 to present.

Supervisor / co-supervisor of 7 theses carried out in the Doctorate of Earth Sciences or in the STAT PhD School of UNIGE (1 European PhD; 1 thesis in co-tutelage Italy France).

Supervisor / co-supervisor of 3 theses carried out in the PhDs of Earth Sciences of the Universities of Pavia and Florence.

In particular: Matteo Maino is RTDB at Pavia University; Simona Scrivano (Eu PhD) is post – doc at Genoa University; Giacomo Pepe is post-doc at Genoa University.

Co-supervisor 1 thesis in the Doctorate of Geological Sciences of the Université de Marrakech (Morocco).

### **PhD committees membership**

2006-2014 Member of the Teaching Committee XXII - XXIX PhD Program in Earth Sciences

2014 to present. Member of the Teaching Committee XXX - XXXII PhD Program in Sciences and Technologies for the Environment and the Territory (STAT)

## ***Research interests***

My research lines are:

- 1) Igneous and metamorphic Petrology of the lower Paleozoic continental lithosphere in the Ligurian Alps and in Sardinia.
- 2) Permo-Carboniferous Magmatism in Brianzonese Ligure, Sardinia, Sudalpini and Balcani.
- 3) Permo-Triassic volcanism in Sardinia and Southalpine.
- 4) Igneous petrology and oceanic and orogenic fund metamorphism of the Jurassic and Ordovician ophiolites and in the modern oceanic crust.
- 5) Petrography applied to materials sciences.
  - 1) Igneous and metamorphic Petrology of the lower Paleozoic continental lithosphere in the Ligurian Alps and in Sardinia

Detection, petrological, radiometric and geochemical characterization of petrogenetic processes in the lower Paleozoic base in the Ligurian Alps, and

in pre-variscan terranes of Sardinia.

Microstructural, mineralochemical, petrological investigations of the basic and pelitic systems, geochemical (Sr-Nd) and radiometric (U-Pb) analyzes are integrated towards a geodynamic model of the pre-variscan and variscan evolution of structural units of different crustal levels.

The paleopertinence of the investigated bases is interpreted on the basis of the different pre-Alpine evolution and on a radiometric and stratigraphic basis. Some research topics are related to the petrographic contributions to geological mapping (see below).

## 2) Permo-Carboniferous Magmatism in Southern Europe

Stratigraphic, petrographic, mineralogical, alteration, geochemical, radiometric (Ar / Ar and U / Pb) surveys of the Permo-Carboniferous volcanic-sedimentary sequences of southern Europe (Ligurian Alps, Sardinia, Sudalpine, Balkans). Some research topics are related to the petrographic contributions to geological mapping (see below).

3) Permo Triassic Volcanism in Southern Europe. Stratigraphic, petrographic, mineralogical, geochemical and radiometric dating (Ar / Ar) of alkaline and calc-alkaline volcanites in the bases of Sardinia, Sudalpine, Balkans, precursors of Tetide Alpina and Meliata. Some research topics are related to the petrographic contributions to geological mapping (see below).

4) Igneous petrology and oceanic and orogenic fund metamorphism of the Jurassic, Ordovician and of the modern oceanic crust.

The research includes: i) Petrogenesis and ocean evolution in modern and fossil environments, ii) Orogenic evolution (subduction processes, orogenic prism, obduction) of the oceanic lithosphere and associated sedimentary coverings. The investigations are based on the detection and characterization of the oceanic lithosphere representative of different genetic environments: ophiolitic complexes in the Neo-Tetide and Tetide of the Alps (Alps, Apennines, Albania), ophiolites of the Ural chain and current oceanic lithosphere. Some research topics are related to the petrographic contributions to geological mapping (see below).

## 5) Petrographic contributions to geological mapping

From 1995 to today I have collaborated on projects CARG (Sheet 213-Genoa, Sheet 411-Bocche di Bonifacio, Sheet 428 Arzachena, Sheet 99 - Iseo, Sheet 541 Jerzu, Sheet 549 Muravera, Sheet 228 Cairo Montenotte) and CartoTI, geological map of Foglio Mendrisio, Switzerland), with particular attention to topics of igneous and / or metamorphic petrology.

## 6) Archaeometry

Characterization and provenance of polished stone instruments from the Neolithic to the Eneolithic. Lithic culture and material related to the mining activity of the copper age (hammers, tools and metallurgical raw materials).

## 7) Biomineralizations in the marine environment

8) Petrography applied to materials sciences

Co-convener of sessions at national and international conferences; referee of national and international magazines; referee of national and international research projects.

## **Grants**

2013 - 2016

### **LIFE12 ENV/IT/000295 FIBERS - FIBERS INNOVATIVE BURNING AND REUSE BY SHS (2013-2016).**

Commissione Europea - Programma LIFE+  
Principal investigator

2013 - 2014

### **Petrogenesi evoluzione geodinamica e implicazioni ambientali in litosfera oceanica.**

UNIGE Progetti di Ricerca di Ateneo - (Università di Genova) - IT  
Principal investigator

2012 - 2013

### **Inertizzazione di fibre di amianto mediante applicazione innovativa di sintesi combustiva SHS.**

UNIGE Progetti di Ricerca di Ateneo per il Trasferimento Tecnologico (PRATT - Università di Genova) - IT  
Principal investigator

2010 - 2011

### **Nuovo sistema operativo ed interfaccia Microscopio Elettronico Tescan MicVega 3 LMU a pressione Variabile e Microanalisi TEAM EDS System con APOLLO X SDD.**

Fondazione CARIGE - IT  
Principal investigator

2008 - 2010

### **Dal Gondwana alla Mesoeuropa. Evidenze petrologiche nella ricostruzione geodinamica delle Variscidi Meridionali (Sardegna Alpi orientali e liguri). Coordinatore Nazionale Giacomo Oggiano.**

MIUR - IT  
Principal investigator

2008

### **Processi magmatici e metamorfici nella litosfera oceanica attuale e fossile in estensione.**

UNIGE Progetti di Ricerca di Ateneo - (Università di Genova) - IT  
Principal investigator

2007

**Petrogenesi rock- melt- e fluid-dominated nella litosfera della Tetide ligure giurassica.**

UNIGE Progetti di Ricerca di Ateneo - (Università di Genova) - IT  
Principal investigator

2006 - 2007

**Rilevamento e campionamento del dike swarm di El Jbilets e delle vulcaniti del bacino Permiano di Khenifra (Marocco).**

CNR Short Mobility - IT  
Principal investigator

2005 - 2006

**Evoluzione dei terreni gondwaniani e perigondwaniani nelle Variscidi delle Alpi Centro-Occidentali e del Massiccio Sardo-Corso.**

MIUR - IT  
Principal investigator

***Other professional activities***

1990-2000 Member of the Italian delegation to the CEN TC128 / SC8 commission for the drafting of the EUROPEAN NORM on technical characteristics and quality requirements for covering materials.

2000-2011 Member of the Asbestos Working Group of the Liguria Region. Implementation of the Asbestos Regional Plan on training of expert personnel, monitoring methods and analytical circuits of regional and national interlaborators.

2002 Organization of the course 'Asbestos and pathogenic fibers', COMPONENT of the Board of Advanced Course, and LECTURER (Department of Chemistry and Industrial Chemistry, Department for the Study of the Territory and its Resources, Perform- Center of Lifelong Learning-UNIGE).

2002 Author of the QUALITY MANUAL of the Laboratory of Analysis of the microstructural, chemical and physical properties of inorganic materials; qualitative and quantitative determinations of the mineralogical composition of natural materials and of the technical properties of lithic materials (DIPTERIS), according to ISO 9001/2000.

2003-2004 Lecturer in the 'Asbestos' professional training course; 2 editions (Department for the Study of the Territory and its Resources, Perform- Permanent Training Center-UNIGE, Client Region of Liguria).

from 2005 to today: Manager of the National Laboratory of Analysis of the microstructural, chemical and physical properties of inorganic materials;

qualitative and quantitative determinations of the mineralogical composition of natural materials and of the technical properties of lithic materials (DIPTERIS), accredited by the MIUR Laboratories Register.

from 2009 to today: Head of the Electronic Microscopy Laboratory of the Department for the Study of the Territory and its Resources (DIPTERIS), then Department of Earth, Environment and Life Sciences (DISTAV). In 2010-2011, the technical set-up and crowd funding of the renewed Microscopy Elettronica laboratory. From 2016, the laboratory is included among the RESEARCH INFRASTRUCTURE of the LIGURIA REGION.

2011-2013 SIMP Delegate at UNI mirror group (Stone floors) of WG 1 and 2 of CEN TC 246 (Natural stone test methods).

2011-2013 Component Working Groups 1 and 2 of the CEN Technical Committee 246 (Natural stone test methods), for the revision of the EN 12407 Natural Stone Test methods. Petrographic examination. EN12440: Natural stone: denomination criteria. EN 12670: Natural stone: terminology.

from 2011 to today. Scientific manager. Accreditation by the Ministry of Health of the Laboratory of Analysis of microstructural properties, ... mineralogical composition of natural materials and of the technical properties of lithic materials (DIPTERIS), for carrying out MOCF analytical activities in mass, SEM and DRX on materials containing asbestos, following adherence to the national circuit of interlaboratory tests.

2013-14 and 2015-2020. Scientific manager. Contract n. 6400009972 extended with Contract 6400009972/01 and n. 6400015810 for 'Laboratory tests for the assessment of the presence of asbestos in excavated earth and rocks'. Client COCIV- Third Genoa-Milan Pass.

2014-16 Scientific manager. Contract n. 6400012333 and 6400012333/01 n. 6400015810 for 'Analysis of the microstructural, chemical-physical properties of inorganic materials, quantitative determinations of the mineralogical composition of natural materials and of the technical properties of lithic materials, through SEM analysis'. The contract includes the acquisition of a second Scanning Electronic Microscope (included in contract No. 6400012333 and e 64000123) and of 1 QUORUM Q150T metallizer at the DISTAV Electronic Microscopy Laboratory. Client COCIV- Third Genoa-Milan Pass.

since 2015 Member of the 'Interdepartmental Center for Research and Technological Innovation for the reduction, recovery and reuse of waste' - RIT4Waste and Member of the Management Committee.