



Marco Scambelluri

Full professor

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Education and training

1989

PhD in Earth Sciences

Metamorphic evolution of eclogitic Fe-Ti-metagabbros Voltri Massi (Ligurian Alps)

University of Genova - Genova - IT

Academic experience

2019 - ONGOING

Full professor in Petrology

University of Genova - Genova - IT

Coordinator of the Doctorate Course in Science and Technology of the Earth and Environment (STAT) University of Genova

Work experience

1990 - ONGOING

Permanent researcher to full professor of petrology

University of Genova - Genova - IT

Language skills

English

Proficient

Teaching activity

My teaching activity is in the frame of the Bachelor and Master Courses in Earth Sciences at the University of Genova.

Academic years 1990-1995:

- Lectures and practical training in Petrography;
- Seminars and field training in Petrology.

Academic years 1995-2002:

- Lectures and training on the Geology of Crystalline Basements.

Academic years 2002/2008:

- Lectures and training on the Geology of Crystalline Basements.
- Lectures and training on Petrography, Textural and Compositional Analysis of Rocks, Solid State Crystallization of Rocks, Applied Petrography

Academic years 2008-2019:

- Practical training for Recognition and Classification of Rocks.
- Lectures and practical training in Petrography;
- Lectures and practical training on Analytical Methods applied to Minerals and Rocks;
- Lectures and practical training in Rock Petrogenesis

Academic years 2019-present

- Lectures and practical training in Petrography;
- Lectures and practical training on Analytical Methods applied to Minerals and Rocks;
- Lectures and practical training in Rock Petrogenesis

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

I have tutored and co-tutored the PhD Theses of Franca Vallis, Laura Federico (now Associate Professor at the Department of Earth, Environmental and Life Sciences, Genova University), Nadia Malaspina (now Associate Professor at the Milano-Bicocca University), Cristina Malatesta, Enrico Cannaò (now Post-doc at the Milano Statale University) and Mattia Gilio (now Post-doc at the Pavia University). I have tutored the 2 years Post-doc program of Enrico Cannaò at the Department of Earth, Environmental and Life Sciences, Genova University.

Today, I am tutoring the PhD Thesis of Nicola Campomenosi (Genova University) and I co-tutor the PhD Thesis of Hugo Van Schroyen Lantmann (University of Pavia) and the Post-Doc of Mattia Gilio (University of Pavia) in the frame of the ERC project True Depths coordinated by Prof. M. Alvaro (University of Pavia).

Since 2013, I have been officially part of the following research and training international networks involving mentoring and mobility of PhD students and Post-docs:

2013-2017 FP7 PEOPLE - Unione Europea – responsible for the Partner Genova University in the Marie Curie Initial Training Network Multipartner project entitled 'ZIP Zooming In between Plates: deciphering the nature of the plate interface in subduction zones', Grant Agreement N. 604713, Coordinator Prof. Philippe Agard (Sorbonne University, Paris); <http://www.zip-itn.eu>

2016-present: Advisory Board Member of the project PIRE entitled 'ExTerra Field Institute and Research Endeavor - E-FIRE', granted by National Science

Foundation, USA (Award Abstract #1545903; https://www.nsf.gov/awardsearch/showAward?AWD_ID=1545903), dealing with the petrology and tectonics of high and ultrahigh pressure rocks, <http://geoprisms.org/exterra/e-fire/>
2016-present: Responsible for the Work Package on the petrology of high and ultrahigh pressure rocks in the frame of the ERC – Starting Grant project entitled 'deTeRmine the trUe dEpth of DeEp subduction from PiezobaromeTry on Host –inclusions Systems' (TRUE DEPTHS, ERC-StG-#714936) granted by the European Research Council in the frame of Horizon 2020. Coordinator: Prof. M. Alvaro, University of Pavia. Overall, the project manages 7 PhDs and 3 Pos-docs, <https://www.mineralogylab.com/team/marco-scambelluri/>

PhD committees membership

2006 (XXII cycle) to 2012 (XXVIII cycle): Committee Member of the Earth Sciences Doctorate School, University of Genova.
2013 (XXIX ciclo) to present: Committee Member of the Doctorate School on Earth and Environmental Sciences (STAT), University of Genova.
2019 Coordinator of the XXXV cycle of the STAT Dottorato School, University of Genova.

Postgraduate (PhD) teaching activity

Metamorphic Fluids in the Lithosphere.

Research interests

Research activity in metamorphic petrology, the genesis of metamorphic fluids, the fluid/rock interactions and the petrology of eclogite-facies rocks. The research is focussed on the high- (HP) and ultrahigh-pressure (UHP) metamorphism of oceanic and continental lithosphere exposed in orogenic belts like the Alps, the Betic Cordillera (South-Eastern Spain), Dabie-Shan and Sulu (China), the Caledonides of Western Norway. The research is field-based and process-oriented, aimed to understand behaviour of rock and fluid systems in subduction environments.

Main goals:

- Tectonic and petrologic processes attending subduction and exhumation of HP and UHP rocks.
- Genesis, composition and role of fluids in subduction-zones; fluid migration, mass transfer and mantle metasomatism in subduction zones; genesis of arc magmas at convergent plate margins.
- Volatile (C-O-H) and incompatible element recycling in subduction zones.
- Elastic geobarometry of host-inclusion systems and its role in assessing the depths reached by ultrahigh pressure rocks.
- Seismic structures in HP-UHP rocks as monitors of fossil subduction earthquakes.

I published 93 in international magazines, 14 in national magazines, 10 as

proceedings of international meetings and excursion guidebooks, 2 as articles in books or in outreach magazines. Citations: ISI WOS: H Index 43, 4858 Citations. Scopus: H Index 44, 5010 Citations. Google Scholar: H Index 47, 6128 Citations.

Grants

2017 - ONGOING

Dynamic mass transfer from subduction zones to volcanic arcs - Dynastars

MIUR - PRIN Cofin program - IT

MIUR PRIN - Principal investigator

My research activity is in the frame of competitive projects funded by the Italian MIUR and by the European Community.

Granted PRIN-COFIN projects:

- 2003 Mass-transfer and role of fluids during peridotite emplacement in subducting continental crust: natural and experimental constraints;
- 2005 Multiphase inclusions in ultrahigh-pressure garnet peridotites and pyroxenites.
- 2007 Phase relations and interaction with COH fluid in carbonate peridotites from subduction settings: from nature to experiments;
- 2009 Light element and LILE budgets of subduction fluids released from COH-bearing natural ultramafic systems at high and ultrahigh pressure.
- 2012: Volatile transfer at convergent plate margins: understanding carbon-bearing fluid/melt composition as a function of lateral complexities in subduction zones.
- 2017: Dynamic mass transfer from subduction zones to volcanic arcs - Dynastars.
- 2020: High-stress earthquakes by faulting of deep dry rocks (Thales).

Partnership in European projects

- 2013-2017: Marie Curie Initial Training Network (Call FP7-People-2013-ITN) "ZIP Zooming in Between the plates: Deciphering the nature of the plate interface in subduction zones" (Coordinator: Philippe Agard, UPMC): Marco Scambelluri is the Chief scientist for the partner University of Genova and is responsible for the Working Package Outreach and dissemination within the project.
- 2016 Responsible for the Work Package on petrology of ultrahigh pressure rocks within the ERC – Starting Grant True Depths - subduction from Piezobarometry on Host –inclusions Systems, Coordinated by Dr. M. Alvaro, Pavia University.

2022 - ONGOING

High-stress earthquakes by faulting of deep dry rocks (Thales)

MIUR - PRIN Cofin program

Participant

Editorial activity

I have been the Chief Editor of *Lithos* (Elsevier, IF 3.677) from 2011 to 2020
I am member of the editorial boarding of the Italian Journal of Geoscience
and of the Journal Geological Field Trips and Maps
(<https://gftm.socgeol.it/285/editorial-board.html>).

I have been Guest editor of the Special Issue: "Subduction versus intraplate
lithospheric mantle: agents and processes" published on *Lithos*.

I am referee for funding agencies (Italian MIUR; NSF, USA; Australian ARC;
Swiss SNSF) and for national and international magazines.

Assignments abroad

- 01-11-1987 - 15-6-1988: Research stage at the ETH Zentrum, Zuerich, to develop a petrologic study of eclogites and fluids in the eclogitic metagabbros of the Ligurian Alps.
- 07-01-1999 - 15-02-1999: Research stage at the ETH Zentrum, Zuerich, for a study of fluid inclusion in metamorphic harzburgites of the Betic Cordillera (South Eastern Spain).
- september 2003: Research stage at the Research School of Earth Sciences, Australian National University, to study the variability of light elements and water in mantle minerals.
- september-october 2014: invited professor at the Institute of Earth Sciences (ISTeP), University Pierre et Marie Curie (UPMC), Paris.