EMMA SALVIOLI-MARIANI

Degree in Geology in 1981 at the University of Milan.
Since 1983 Assistant Professor in Petrography and Petrology, Department of Earth Sciences, University of Parma.

TEACHING

Lectures for the Degree in Geology, Specialized Degree in Geological Sciences, Degree and Specialized Degree in Sciences and Technologies for the Preservation and Restoration of Cultural Heritage, Degree in Science of Nature and Environment.
Teachings: Optical mineralogy, Petrography, Petrology, Fluids and Petrogenesis, Clays and their applications, Electron Microscopy and Microanalysis Basics, Microthermometry and Vibrational Spectrometry Basics.
Currently Lectures of 'Ore Deposits' and 'Fluids and Petrogenesis' for the Master's Degree in Geological Sciences Applied to Environmental Sustainability.
Organization and participation to educational excursions of Petrography, Applied Petrography, Vulcanology, Geochemistry, Ore Deposits.
Supervisor and tutor of post-doctoral thesis.

RESEARCH

Petrography, petrology and geochemistry of magmatic rocks of several affinities (alkaline, ultrapotassic, calc-alkaline, carbonatitic rocks) and of magmatic and mantle xenoliths to characterize the fluids and the chemical and physical conditions during their genesis and evolution.
Writing programs for computing intensive thermodynamic variables, such as pressure, temperature, oxygen, and for the quantification and graphical representation of the mixing processes between magmas.
Study of fluid and melt inclusions in rocks of various geological contexts.
Installation, development and management of a Laboratory for the investigation on fluid and melt inclusions in minerals. Development and management of a Laboratory of scanning electron microscopy equipped with an energy dispersion microanalysis.
Organization of "6° Intenational Congress on the Application of Raman Spectroscopy in Art and Archeology (RAA 2011), Parma, 5-8 settembre 2011.
Organization of "Multinational Congress on Electron Microscopy", Parma, 13-17 settembre 1993.

MAIN RESEARCH THEMES

1. petrologic study of different types of rocks (ultrapotassic, alckaline, calcalkaline, carbonatitic rocks) with particular care to the fluids responsible for their formation and evolution
2. water-rock interactions in low T and low P alteration processes and hydrothermal alteration processes through characterization and origin of fluids
3. study of mineralization and ore deposits in alkaline rocks, ophiolites and rocks from orogenic environment, with particular reference to the composition, origin and role of fluids responsible for the mineralization
4. petrologic study of different types of crustal xenoliths
5. petrographic and mineralogical characterization of gems
6. petrographic and mineralogical characterization of artefacts in steatite stone and of ancient pottery fragments to trace the processing conditions and provenance of the artefacts
7. interactions between hydrothermal fluids and mafic/ultramafic rocks with rodingite formations, with particular attention to the geochemical and physical characteristics of the involved hydrothermal fluids through mass balances, study of fluid inclusions and geochemical modeling

8. study of asbestos and fibrous minerals to discriminate and characterize, with certainty, the different varieties of the asbestiform phases for the establishment of an environmental monitoring system.

PUBLICATIONS

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Lucca A., Storti F., Molli G., Muchez P., Schito A., Artoni A., Balsamo F., Corrado S., **Salvioli-Mariani E**. (2019) - Seismically enhanced hydrothermal plume advection through the process zone of the Compione extensional Fault, Northern Apennines, Italy. *Geological Society of America Bulletin*, GSA Bulletin 131 (3-4): 547-571

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