

## Curriculum Vitae

### Paola Stabile

Scuola di Scienze e Tecnologie, sez. Geologia  
Università di Camerino  
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Date and place of birth: 17.03.1987, Cosenza

Nationality: Italian

Status: single

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### Education

02/2015- present

**Research contract** to work on synthesis of silicate glasses, UNICAM (supervisor Gabriele Giuli).

01/02/2012-31/12/2014

**Ph.D.**, Science and Technology, Earth Sciences, University of Camerino (Italy) (2015).

Thesis on "Pantelleritic magmas: experimental study on the effect of  $[Na/(Na+K)]$  ratio and  $fO_2$  on iron redox and viscosity".

Synthesis of silicate glasses with the main aim of investigating the relative abundance of Fe species, since they can strongly affect chemical and physical properties of melts and glasses (e.g. density, viscosity) depending on the investigated experimental conditions (i.e. redox conditions, temperature, pressure).

The research project has been carried out in partnership with University of Hannover (D). Supervisors: Prof. G.Giuli, Prof.ssa E. Paris, Prof. H. Behrens

10/2013- 03/2014

Winner of a **DAAD award** for an internship at the Institute of Mineralogy/University of Hannover (Germany). Preparation of experimental samples in double capsules for hydrothermal glass synthesis in the CSPVs at HT and HP; analysis of experimental glasses using optical microscope and electron microprobe and determination of Fe redox state by colorimetric wet-chemical analyses and of water concentrations by Karl-Fischer titration (KFT) and Near-Infrared Spectroscopy.

- 06/2012- 10/2012      Winner of an **Erasmus Placement grant** for an internship at the Institute of Mineralogy /University of Hannover (Germany) to carry out synthesis of anhydrous Fe-bearing glasses under controlled oxygen fugacity using the atmosphere reduction furnace (or gas mixing).
- 12/2008- 07/2011      **Master degree** (laurea magistrale, LM-74) in Earth Sciences at University of Calabria (Italy). Grade 110/110, with honours.
- Experimental thesis in Petrology “Study of melt inclusions in basaltic magma (Mutnovsky volcano)”: quantitative determination of H<sub>2</sub>O of melt inclusions in olivine phenocryst and in tholeiitic basaltic glasses using Secondary Ion Mass Spectrometry (SIMS) and Raman Spectroscopy.
- Supervisors: Prof.ssa R. De Rosa, Prof. F. Vetere, Prof. H. Behrens
- 09/2010- 12/2010      Winner of an **Erasmus grant** for an internship at the Leibniz Universität Hannover-Institute of Mineralogy (Germany) to perform Raman Spectroscopic measurements for the determination of water in the natural silicate glasses.
- 09/2005-12/2008      **Bachelor degree** in Geological Sciences (classe L-34) at Università della Calabria (Italy).
- Experimental thesis in Petrology: “Distribution coefficients of trace elements in shoshonitic rocks of Vulcanello (Aeolian Islands)”: I have studied the volcanic glasses from Vulcanello by means of SEM in association with EDX microanalysis and ICP-MS, in order to investigate the global distribution coefficients of the crystalline phases in equilibrium with the melt within the studied sample.
- Supervisor: Prof.ssa P. Donato

### **Research experience abroad**

- 07/2014      Internship at the Institute of Mineralogy Hannover (D) to measure the iron redox ratio by means of the combined UV-Vis-NIR spectrometer on silicate glasses.
- 12/2013- 03/2014      Collaboration with the Mineralogy Dept. GZG Goettingen (D) for viscosity measurements on the silicate glasses by using the micropenetration technique.

- 11/2013 XANES measurements on silicate glasses at ESRF- Grenoble (F) where Fe K-edge X-ray Spectroscopy spectra have been collected at BM08, the Italian Bending Magnet beamline also called General purpose Italian Line for Diffraction and Absorption (GILDA).
- 11/2012-03/2013 Research period at the Institute for Mineralogy /University of Hannover (Germany): synthesis of sulfur-bearing glasses in hydrothermal vessels at temperature from 800 to 1000°C and 1500 bar and redox conditons ranging from air to IW buffer (-14 log fO<sub>2</sub>); characterization of the glasses by electron microscope and carbon-sulfur analyzer.
- 25-30/09/2012 XANES measurements at ESRF- Grenoble (F) at the Italian beamline GILDA to collect Fe K-edge XAS spectra on hydrous silicate glasses.
- 20-22/08/2012 Sulphur XAS spectra collection at SUL-X beamline at ANKA- Karlsruhe Institute of Technology (KIT)- Germany of natural silicate glasses for a project carried out by Dr. A. Fiege from University of Hannover.
- 29/02-06/03/2012 Raman Spectroscopy Measurements for water determination in silicate glasses at the Institut de Physique du Globe De Paris, IPGP (F).

### **Schools and conferences**

- 15-16/06/2015 Seminar: "I minerali e la luce"- Dipartimento di Fisica e Geologia, Univerity of Perugia.
- 21-24/09/2014 Conference: "ESG 2014" Glass conference organized by Stazione Sperimentale del vetro (SSV), Associazione tecnici italiani del vetro (ATIV) and University of Parma- Parma (Italy); *oral communication*  
Stabile P., Behrens H., Knipping J.-L., Webb S., Paris E., Giuli G. "*The influence of oxidation state of iron on melt viscosity*".
- 06/2014 Scientific day SST day 2014, University of Camerino; *poster contribution*  
**Stabile P.**, Cicconi M.R., Giuli G., Behrens H., Knipping J., Paris E, S. "*Effect of alkali on the structure and viscosity of iron-bearing glasses*".

12/06/2014	Course: "3D Raman Imaging and Correlative Scanning Microscopy techniques" course organized by LOT- Quantum Design s.r.l. at the Dipartimento di Scienze Biologiche, Geologiche e Ambientali- University of Bologna (Italy).
04/09-08/09/2013	International School: 1 <sup>st</sup> joint SIMP-AIC, Crystallography Beyond Diffraction 2 <sup>nd</sup> edition- University of Camerino (Italy). Satellite event the Goldschmidt Conference 2013.
25-30/08/2013	Helper student and participant at the Goldschmidt Conference 2013 (Florence-Italy).
22-24/08/2013	International Conference "5 <sup>th</sup> Natural Silicate Glasses: Glasses and melts from natural composition to industrial processes", Florence (Italy); <i>poster contribution</i> <b>Stabile P.</b> , Giuli G., Cicconi M.R., Behrens H., Knipping J., Paris E. " <i>Kinetics of iron reduction in anhydrous pantelleritic glasses</i> ".
21-24/07/2013	International School "ZFM Summer School 2013", Functional Solids- FERRUM in Goslar (D); <i>poster contribution</i> <b>Stabile P.</b> , Giuli G., Cicconi M.R., Behrens H., Knipping J., Paris E. " <i>Kinetics of iron reduction in anhydrous pantelleritic glasses</i> ".
08-13/07/2013	International Short Course "Melt, magmas and glasses" 2013- LMU- Munich (D) held by prof. D. Dingwell.
06/06/2013	Scientific day SST day 2013, University of Camerino (Italy).
15/09-21/09/2012	International School, AIC "Structure, microstructure, nanostructure - exploiting the potential of powder diffraction techniques"- University of Trento (Italy).
18/06/2012	Seminar: "Diffusion in geomaterials: mechanism and applications" held by Prof. Chakraborty- University of Hannover (D).
06/06/2012	Scientif day SST day 2012, University of Camerino (Italy).
08-09/05/2012	Seminar: "Il centenario della diffrazione dei Raggi-X"- Accademia dei Lincei- Roma.
22/04-28/04/2012	International school: "Structural state of minerals and applications": understanding crystal structure of minerals and applying the diffraction methods for their characterization, quantification in mixtures and analysis of behaviour under varying temperature and pressure. University of Copenhagen, GeoCenter (DK).

### **Experimental skills**

Synthesis of glasses and minerals analogue. Experiments on minerals and glasses for kinetic and element portioning study at variable T, P, fO<sub>2</sub> conditions. Handling and construction of reduction furnace (gas mixing) for synthesis at high temperatures and ambient pressure of glasses and minerals. Handling of cold-seal pressure vessels (CSPV) and internal heated pressure vessels (IHPV) for synthesis at elevated temperatures and pressures.  
Basic knowledge of piston cylinder apparatus  
Handling of high temperature chamber furnace  
Sample preparation for experiments at HT and HP.

### **Analytical skills**

Chemical and microchemical analysis of minerals, rocks, glasses, cements, metals, ceramics. Structural characterization of minerals and glasses by different spectroscopic techniques. Determination of physical properties. Practice of working in chemical laboratories from sample preparation and treatments.

#### **Techniques:**

Polarized optical microscope, electron microprobe (EMP), infrared spectroscopy, Raman spectroscopy, Karl-Fischer Titration, Sulfur analyzer, X-ray absorption Spectroscopy (XAS), UV-VIS spectrometry, X-ray Diffractometry, Scanning electron microscope (SEM), Micropenetration technique for viscosity measurements.

### **Teaching skills**

Laboratory course (both in Italian and English) of Petrography- UNICAM (summer semester 2013, 2014).

### **Language skills**

Italian

Native

English

Cambridge Certification- Oral: Excellent (level C2)  
Written: excellent (level C2)

German

Basic knowledge

### **Computing**

Good knowledge

MS Office, Kaleidagraph, Origin, IgPet, Match!,  
OS: Windows, Mac

Basic knowledge

Corel Draw, Table curve

### **Hobbies**

Sports, Music, travelling

### List of publications

**Stabile P.** (2012). *"Fe and S role in rhyolitic magmas: the effect of alkalis"*. In: 2nd scientific day, School of Science ad Technology, Camerino, 6/6/2012, vol. 2, p. 56-56, ISBN/ISSN: 9788890736308.

**Stabile P.** (2013). *"Kinetics of iron reduction in anhydrous pantelleritic glasses"*. In: 3rd scientific day, School of Science and technology, Camerino, 06/062013, vol. 3, p. 53-53, ISBN/ISSN: 9788867680122.

**Stabile P.** (2013). *"The structural role of iron in pantelleritic glasses"*. In: Goldschmidt Conference Abstracts 2013. Firenze, 25-30 Agosto 2013, vol. 77, ISBN/ISSN: 1471-8022.

**Stabile P., Giuli G., Behrens H., Knipping J., Webb S., Cicconi M.R. and Paris E.** (2015). *"Experimental study on the effect of alkali ratio and oxygen fugacity on Fe redox and viscosity in pantelleritic glasses"*. Rend. Online Sc. Geol. It., Suppl n.2 al Vol 35. Congresso SIMP-SGI-So.Ge.I.-AIV 2015.

### Papers published or in preparation

Knipping J.L., Behrens H., Wilke M., Gottlicher J., **Stabile P.** (2015) *"Effect of oxygen fugacity on the coordination and oxidation state of iron in alkali bearing silicate melts"*. **Chemical Geology Vol. 411**, pages. 143-154.

**Stabile P., Paris E., Cicconi M.R., Behrens H., Giuli G.** (2015). *"A XANES study of iron in hydrous silicate glasses"*, *in prep.*

**Stabile P., Paris E., Cicconi M.R., Behrens H., Giuli G.** (2015) *"XAS determination of Fe local environment and oxidation state in hanydrous peralkaline pantellerite glasses"*, *in prep.*

**Stabile P., Knipping J., Behrens H., Webb S., Giuli G.** (2015) *"Effect of iron oxidation state on viscosity in alumina silicates and alkali silicates"*, *in prep.*

*Paola Stabile*

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base art. 13 del D. Lgs. 196/2003.