Dr. Paola Stabile
Curriculum Vitae

Education

2015 **PhD in Earth Sciences, Experimental Mineralogy and Petrology, University of Camerino.** *Pantelleritic magmas: experimental study on the effect of [Na/(Na+K)] ratio and fO_2 on iron redox and viscosity.* Supervisors: Prof. G. Giuli, Prof. E. Paris, prof. H. Behrens (Institute of Mineralogy, University of Hannover)

2011 **MSc, with merits (110/110 cum laude) in Geology (Minero-petro-volcanological course (Laurea specialistica classe 86/S), University of Calabria.** *Study of melt inclusions in basaltic magma (Mutnovsky volcano)***.** Supervisors: Dr. F. Vetere, Prof. R. De Rosa, prof. H. Behrens

2008 **BSc (108/110) in Geology, (laurea L-34), University of Calabria.** *Distribution coefficients of trace elements in shoshonitic rocks of Vulcanello-Aeolian Islands***.** Supervisors: Dr. P. Donato, Prof. R. De Rosa

Academic and work experience

10/2020-**ongoing** **Post-doctoral position**, Geology Division-University of Camerino
Cinetica di cristallizzazione e dinamica eruttiva di magmi alcalini evoluti: implicazioni per l'industria del vetro – PRIN 2017 (prof. Carroll) and INGV grant
"We focuses on two topics: volcano-petrology and design of glass and glass-ceramic materials: the former issue is to discriminate textures and crystal-chemical features of phases solidified during main eruptions of Etna and Stromboli rocks; the second one results to be a green process in order to offer new alternatives for the extraction of strategic elements from natural rocks or from industrial wastes".

04/2018- 04/2020 **Post-doctoral position**, Geology Division, University of Camerino
Materiali di scarto vetrosi/ceramici e CDW per la produzione di materiali innovative per l'edilizia ecosostenibile - EU-LIFE Project Ecotiles (prof. E.Paris)
"The project' s aim was to fully characterize ceramics ang glass wastes in order to be reused for the production of new eco-sustainable materials. I was particularly involved in the CDW chemical and petro-mineralogical characterization along with different sets of vitrification experiments, useful to immobilize potentially hazardous components of the waste materials and for further studying their potential to be reused in new recycled building products".

2017 – **ongoing** **Cultore della Materia** GEO/07 – University of Camerino

10/2015-03/2018 **Post-doctoral position**, Geology Division, University of Camerino
Studio di geomateriali e materiali da recupero vetrosi e ceramici per la

	produzione di materiali innovativi per l'edilizia ecosostenibile –EU LIFE Project Ecotiles (prof. E.Paris) "The European Life ECOTILES project had the objective of studying and producing high-grade cement-based tiles using glass, ceramics, and construction and demolition waste. At the end of the work, we fully demonstrated its feasibility producing fully recycled (up to 77 %) products with a substantial less (-20%) environmental impact than traditional tiles".
02/2015-09/015	**Research assistant**, University of Camerino *Glass synthesis of different peralkaline composition with varying alkali ratio for various P-T- fO2 conditions.*
10/2013-03/2014	**DAAD Award/ grant** for an Internship at Institute of Mineralogy, University of Hannover (D) – Fe redox in pantelleritic glasses
11/2012-03/2013	**Visiting researcher** at Institute of Mineralogy, University of Hannover (D) for high- pressure and high-temperature experiments
06/2012-09/2012	**Erasmus Placement** grant at Institute of Mineralogy, Hannover (D) for high-T experiments under controlled redox conditions

Joined Research projects

2020	Mineralogical characterization of agricultural soils in the Marche Region - (Regione Marche-ASSM, PI: E.Paris)
2019-ongoing	POR Marche FESR 2014/20 NUOVA VITA project (PI: E. Paris) *Economia circolare post-sisma per costruzioni ed opere*
2018	Mineralogy and petrography of cultural heritage – S. Urbano Abbey (Loccioni Industries, PI: E.Paris)
2017-ongoing	PRIN17 project *Time scales of solidification in magmas: Applications to Volcanic Eruptions, Silicate Melts, Glasses, Glass-Ceramics* (PI: M.R. Carroll)
2017-2019	CNRA PNRA project *Antarctic meteorites and microtektites* (PI: G. Giuli)
2015-2018	EU-LIFE Project LIFE14 ENV/ IT/000801 *Metodologie ECO-innovative per la valorizzazione di rifiuti edilizi ed urbani in terrazzo-TILES* (PI: E. Paris)
2015-2017	FAR project, University of Camerino *REE behaviour in minerals and glasses* (PI: G. Giuli)
2014-2015	FAR project, University of Camerino REEWARE: Rare Earth Elements: from resource to waste, from waste to resource (PI: G. Giuli)
2014-2015	CNR PNRA project *Antarctic meteorites and microtektites* (PI: G. Giuli)

Publications

*h-index:**6** Citations:**95** (via Scopus)*

19. Stabile P., Abudurehman A., Paris E. **2021**. Vitrification of CDW for up-cycling applications (*to be submitted*)

18. Appiah E., **Stabile P.,** Arzilli F., Fabbrizio A., Carroll M.R., **2021**. Pre-Eruptive Conditions of Explosive Eruption in Pantelleria Volcanic Systems (*to be submitted)*

17. Koeberl, C., Glass B.P., Schulz T., Wegner W., Giuli G., Cicconi M.R., Trapananti A., **Stabile P.,** et al. , **2021** Tektite-like glasses from Belize, Central America: Petrography, geochemistry, and search for a possible meteoritic component, *Geochim. Cosmochim Acta (in press)*

16. Zucchini A., Gavryushkin P. V., Golovin A. V., Bolotina N.B., **Stabile P**., Carroll M., et al. **2021.** New insights into the nyerereite crystal structure: a link to the stability of alkali carbonates. *American Mineralogist (in press).*

15. Stabile P., Radica F., Ranza L., Carroll M.R., Santulli C., and Paris E. **2021**. Dimensional, Mechanical and LCA Characterization of Terrazzo Tiles along with Glass and Construction and Demolition Waste (CDW). *Recent Progress in Materials*, 3(1).

14. Abudurehman A., **Stabile P.,** Carroll M.R., Santulli C., Paris E., **2021.** Mineralogical and chemical characterization of CDW as function of particle size and thermal treatments for potential recycling. *Detritus J., 15 (40-50).*

13. Stabile P., Sicola S., Giuli G., Paris E., Carroll M.R., Deubener J., Di Genova D., **2021.** The effect of iron and alkali on the nanocrystal-free viscosity of volcanic melts: A combined Raman spectroscopy and DSC study. *Chemical geology, 559,119991.*

12. Stabile P., Arzilli F., Carroll M.R., **2021.** Crystallization of peralkaline rhyolitic magmas: Pre- And syn-eruptive conditions of the Pantelleria system. *Comptes Rendus-Geoscience,* 353(S2).

11. Stabile P., Appiah E., Bello M., Giuli G., Paris E. and Carroll M.R., **2020.** New IR spectroscopic data for determination of water abundances in hydrous pantelleritic glasses. *American Mineralogist 105, 1060-1068* (10.2138/am-2020-7363).

10. Arzilli F., **Stabile P.**, Fabbrizio A., Landi P., Scaillet B., Paris E. and Carroll M.R., **2020**. Crystallization kinetics of alkali feldspar in peralkaline rhyolitic melts: implications for Pantelleria volcano. *Frontiers in Earth Sciences 8* (10.3389/feart.2020.00177).

9. Stabile P., Bello M., Petrelli M., Paris E. and and Carroll M., **2019**. Vitrification treatment of Municipal Solid Waste Bottom Ash. *Waste Management 95, 250-258* (10.1016/j.wasman.2019.06.021).

8. Stabile P. and Carroll M.R., **2019.** Petrologic Experimental Data on Vesuvius And Campi Flegrei Magmatism: A Review. *Chapter in Book "Vesuvius, Campi Flegrei, and Campanian Volcanism"* (edited by De Vivo B., Belkin H. E. and Rolandi G.), *Elsevier* (10.1016/B978-0-12-816454-9.00013-4).

7. Ansaloni F., Radica F., **Stabile P.**, Paris E. **2018**. Ecological tiles from Urban Waste Glass and Construction & Demolition Waste. The 24th International Sustainable development research society conference. *ISDRS conference* (Messina, ISBN 978-88-943228-1-1; edited by the Organizing Committee of the ISDRS 2018).

6. Stabile P., Radica F., Bello M., Behrens H., Carroll M.R., Paris E. and Giuli G., **2018**. H_2O solubility in pantelleritic glasses: pressure and alkali effect. *Journal of Mineralogy and Geochemistry 195/1*.

5. Stabile P., Giuli G., Cicconi M.R, Paris E., Trapanati A. and Behrens H., **2017**. The effect of oxygen fugacity and Na/(Na+K) ratio on iron speciation in pantelleritic glasses. *Journal of Non-Crystalline Solids 478, 65-74.*

4. Stabile P., Webb S., Knipping J., Behrens H., Paris E., and Giuli G., **2016**. Viscosity of pantelleritic and alkali silicate melts: effect of Fe redox state and Na/(Na+K) ratio. *Chemical Geology 422,73-82.*

3. Stabile P., 2016. Pantelleritic magmas: experimental study on the effect of [Na/(Na+K)] ratio and fO_2 on iron redox and viscosity. *PLINIUS n.42* (10.19276/plinius.2016.01013).

2. 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. *Rendiconti Online della Società Geologica Italiana, Suppl. 2, Vol 35* (https://doi.org/10.3301/ROL.2015.131).

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

Conference proceedings

- **Stabile P.,** Sicola S., Giuli G., Paris E., Carroll M.R., Deubener J., Di Genova D., **2021.** A combined Raman spectroscopy and DSC study on the nanocrystal-free viscosity of volcanic melts. *EMPG – XVII -17th International Symposium on Experimental Mineralogy, Petrology and Geochemistry.*
- **Stabile P.**, Arzilli F., Carroll M.R., **2021**. Crystallization of peralkaline rhyolitic magmas: Rheological implications for the Pantelleria system. *Rittmann Giovani Ricercatori, Miscellanea INGV 59 (*ISSN 1590-2595).
- **Stabile P.,** Abudureheman A., Bello M., Carroll M.R and Paris E., **2020.** Characteristics of c&d waste prior to and after thermal treatments. *SUM2020 / 5th Symposium on Urban Mining and Circular Economy, 18-20/52020, Bologna, Italy.*
- **Stabile P.**, Appiah E., Behrens H., Giuli G., Paris E., and Carroll M.R. **2019**. Experimental petrology data on pantelleritic melts/glasses. *Rittmann Giovani Ricercatori, Miscellanea INGV 45* (ISSN 1590-2595).
- Giuli G., Cicconi, M.R., **Stabile P.,** Trapananti A., Pratesi G., Cestelli-Guidi M. and Koeberl C. **2014**. New Data on the Fe Oxidation State and Water Content of Belize Tektites. *45th Lunar and Planetary Science Conference, Vol. 2322.*

Invited Talks

2021 Workshop telematico "*Bottom ashes, da problema a risorsa: analisi, gestione, riciclo"*, **Invited speaker,** Vetrificazione delle ceneri pesanti da rifiuti solidi urbani.
2020 Cities on Volcanoes 11, Crete, ***Invited Lecture***, Crystallization kinetics in peralkaline rhyolitic melts simulating magma ascent toward Earth's surface (postponed to 2022).
2019 "REMAKE: Zero Waste: vademecum per le PMI nel mondo dell'economia circolare (Fondazione Cluster Marche- Camera di Commercio Marche), Fabriano, ***Invited Speaker***, The LIFE ECOTILES Project.

Presentations to main national and international conferences

Stabile P., Appiah H. and Carroll M., **2020**. The role of syn-eruptive crystallization on pantelleritic eruptive dynamics. *EGU2020: Sharing Geoscience Online*.
Stabile P., Arzilli F., Paris E. and Carroll M.R, **2019**. Role of kinetics of nucleation and crystal growth of alkali feldspar in a peralkaline pantelleritic melt. *Congresso SIMP-SGI-SOGEI, Parma.*
Stabile P., Arzilli F., Carroll MR., **2019**. Crystallisation Kinetics of Alkali Feldspar in a Peralkaline Melt of Pantelleritic Composition. *Goldschmidt Conference, Barcellona*.
Zucchini A., Morgavi D., **Stabile P.,** Carroll M.R., Comodi P., Frondini F., Perugini D., Cherin M., Fastelli M., and Arzilli F. **2019**. Oral presentation: The Hydrothermal Synthesis of Alkali-Carbonates: A Hypothetical Equivalent of the Ceres Bright Spots. *Goldschmidt Conference, Barcellona.*
Stabile P., Appiah E., Carroll M.R. **2018.** Water solubility in pantelleritic glasses. *Goldschmidt Conference, Boston.*

Carroll M.R., **Stabile P.**, Appiah E., Behrens H., Giuli G., Paris E. **2017.** Water solubility in Pantelleritic glasses: New experiments with Karl-Fischer, FTIR and Raman spectroscopic measurements. *AGU Fall Meeting*.
Stabile P., Behrens H., Carroll M.R., Paris E., and Giuli G. **2016.** Oral presentation: H_2O solubility in pantelleritic glasses: temperature, pressure and compositional effects. *EMPG XV (Fifteenth Symposium on Experimental Mineralogy, Petrology and Geochemistry), Zurich.*
Stabile P., Giuli G., Behrens H., Knipping J., Webb S. **2014.** Oral presentation: The influence of oxidation state of iron on melt viscosity. *Glass Conference- ESG2014 Conference*, Parma.
Knipping J., Behrens H., **Stabile P.,** Giuli G. **2013.** Effect of fO_2 on the coordination and oxidation state of iron in silicate. *DMG Conference, Germany*.
Goslar.

Courses and certifications

05/2021	Eight seminars on "Practical examples on heritage stones research" David Martin Freire-Lista_*Geosciences Center (CGeo) – University of Coimbra (UC), Geology Department - University of Trás-os-Montes e Alto Douro (UTAD)*_organized by University of Padova.
12/2020	Workshop telematico *Bottom ashes, da problema a risorsa: analisi, gestione, riciclo* Oral contribution: *Vetrificazione delle ceneri pesanti da rifiuti solidi urbani"*
06/2019	International short course, University of Perugia *Application of Laser Ablation Inductively Coupled Plasma Mass Spectrometry to Earth Sciences*
08/2018	Percorso Formativo Propedeutico al Tirocinio per l'Insegnamento (PF24 certification), University of Camerino *Discipline antropo-psico-pedagogiche e nelle metodologie e tecnologie didattiche*
06/2016	*Life Cycle Assessment*, Course, Centro Ricerca ENEA, Bologna
10/2015-02/2016	Cambridge English Assessment class CAE (Certificate in Advanced English)
09/2013	AIC Crystallographic School, University of Camerino *Crystallography beyond diffraction*
08/2013	International Workshop in Florence (Goldschmidt satellite event) *5th conference on Natural Silicate Glasses*
07/2013	Summer school Goslar, Germany ZFM FERRUM on *Functional solids*
07/2013	Summer school, LMU Munich, Germany *Melt, magmas and glasses*

09/2012 AIC Crystallographic school, Trento
Structure, microstructure, nanostructure-exploiting the potential of powder diffraction techniques

04/2012 Mineralogical Course at University of Copenhagen
Structural state of minerals and applications

08/2011 Mineralogical Society of America Short course and Summer School, University of Hannover and TU Clausthal, Germany
Sulfur in Magmas and Melts and Its Importance for Natural and Technical Processes

Teaching (L-32, 34 and LM74 classes at UNICAM)

Adjunct professor (docente a contratto)

2021-22 SYNTHESIS AND CHARACTERIZATION OF GEOMATERIALS, (DOCSM017), 3 CFU (corso di dottorato in "Physics, Earth and Materials Sciences")
2020-21 Petrography, 8 ECTS
2018-19 Geochemistry and Petrogenesis, Petrography module 6 ECTS
2017-18 Geochemistry and Petrogenesis, Petrography module 4 ECTS
2016-17 Geochemistry and Petrogenesis, Petrography module 4 ECTS

Teaching Assistant (English and Italian classes)

2014-15 Geochemistry and Petrography - Geochimica e Petrografia
2013-14 Geochemistry and Petrography – Geochimica e Petrografia

Research supervision

Ongoing *Co-supervisor* of 1 Bachelor, 1 MSc., and 2 PhD students
2021 MSc. student Dominique Nintidem (University of Camerino-LM-74)
2020 *Co-supervisor* Bachelor student Giulio Sciarroni (University of Camerino- L-43)
2019 *Co-supervisor* MSc. student Emmanuel Eshemele (University of Camerino- LM-74)
2018 *Co-supervisor* MSc. student Ernestina Appiah (University of Camerino- LM-74)
2016 *Co-supervisor* MSc. student Kailibinuer Abuduaini (University of Camerino- LM-74)
2016 Tutor MSc. student Roberto Ercoli (University of Camerino)
2014 *Co-supervisor Forschungspraktikum* MSci student Marius Stranghöner (University of Hannover)

Professional Services

***Convener** of the session* "Experimental and theoretical studies of magmatic processes" at *Congresso nazionale SIMP-SGI-SOGEI, Parma 2019*, with Michael R. Carroll and Fabio Arzilli
Reviewer for Lithos, Waste Management, Materials, Sustainability, Comptes Rendus - Geoscience, Frontiers in Earth Sciences
***Member** of Scientific Societies* SIMP, EAG, IAVCEI, AIV, EGU, GNP

Experimental and analytical skills

Sample and rock preparation for experimental and analytical work. Image analysis.

Handling and construction of reduction furnace (gas mixing) for synthesis at elevated temperatures and ambient pressure. Handling of high temperature chamber furnace.
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. Good knowledge of micropenetration technique for viscosity experiments.

Optical petrographic microscope (or Light Microscope, LM). Scanning Electron Microscope (SEM); Electron MicroProbe (EMP). Laser-ablation inductively-coupled-plasma mass-(LA-ICP-MS) spectrometry. CS (Carbon-sulphur) analyzer. KFT (Karl-Fisher Titration) analyzer. Fourier-transform Infrared spectroscopy (FTIR). Raman spectroscopy (RM). X-ray absorption spectroscopy (XAS). Ultraviolet-visible (UV-VIS) spectrometry. X-ray Powder Diffractometry (XRPD).

ICT and language competences

MS Office, Kaleidagraph, Origin, ECDL certification. IgPet, Melts, VolatileCalc, Corel Draw, Table curve, Graphpad, GraphClick.
Languages: Italian (mother tongue), English (C1 certification), German (basic)

03/03/2022