

Dr. Paola Stabile
Curriculum Vitae

Paola Stabile

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-Petrovolcanological 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 Postdoctoral position, Geology Division, University of Camerino-INGV sede di Camerino
Cinetica di cristallizzazione e dinamica eruttiva di Magmi alcalini evoluti: Implicazioni per l'industria del vetro
- 04/2018- 04/2020 Postdoctoral position, Geology Division, University of Camerino
Materiali di scarto vetrosi/ceramici e CDW per la produzione di materiali innovative per l'edilizia ecosostenibile

2017 – ongoing	Cultore della Materia GEO/07
10/2015-03/2018	Postdoctoral position, Geology Division, University of Camerino <i>Studio di geomateriali e materiali da recupero vetrosi e ceramici per la produzione di materiali innovativi per l'edilizia ecosostenibile</i>
02/2015-09/015	Research assistant, University of Camerino <i>Glass synthesis</i>
10/2013-03/2014	DAAD Award/ grant for an Internship at Institute of Mineralogy, University of Hannover
11/2012-03/2013	Visiting researcher at Institute of Mineralogy, University of Hannover
06/2012-09/2012	Erasmus Placement grant at Institute of Mineralogy, Hannover

Joined Research projects

2019-ongoing	POR Marche FESR 2014/20 NUOVA VITA project (PI: E. Paris) <i>Economia circolare post-sisma per costruzioni ed opere</i>
2017-ongoing	PRIN project <i>Time scales of solidification in magmas: Applications to Volcanic Eruptions, Silicate Melts, Glasses, Glass-Ceramics</i> (PI: M.R. Carroll)
2017-2019	CNRA PNRA project <i>Antarctic meteorites and microtektites</i> (PI: G. Giuli)
2015-2018	EULIFE Project LIFE14 ENV/ IT/000801 <i>Metodologie ECO-innovative per la valorizzazione di rifiuti edilizi ed urbani in terrazzo-TILES</i> (PI: E. Paris)
2015-2017	FAR project, University of Camerino <i>REE behaviour in minerals and glasses</i> (PI: G. Giuli)
2014-2015	CNR PNRA project <i>Antarctic meteorites and microtektites</i> (PI: G. Giuli)

Courses and certifications

12/2020	Workshop telematico <i>Bottom ashes, da problema a risorsa: analisi, gestione, riciclo</i> Intevento orale: <i>Vetrificazione delle ceneri pesanti da rifiuti solidi urbani</i>
06/2019	International short course, University of Perugia <i>Application of Laser Ablation Inductively Coupled Plasma Mass Spectrometry to Earth Sciences</i>

08/2018	Percorso Formativo Propedeutico al Tirocinio per l'Insegnamento (PF24 certification), University of Camerino <i>Discipline antropo-psico-pedagogiche e nelle metodologie e tecnologie didattiche</i>
06/2016	<i>Life Cycle Assessment</i> , 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 <i>Crystallography beyond diffraction</i>
08/2013	International Workshop in Florence (Goldschmidt satellite event) <i>5th conference on Natural Silicate Glasses</i>
07/2013	Summer school Goslar, Germany ZFM FERRUM on <i>Functional solids</i>
07/2013	Summer school, LMU Munich, Germany <i>Melt, magmas and glasses</i>
09/2012	AIC Crystallographic school, Trento <i>Structure, microstructure, nanostructure-exploiting the potential of powder diffraction techniques</i>
04/2012	Mineralogical Course at University of Copenhagen <i>Structural state of minerals and applications</i>
08/2011	Mineralogical Society of America Short course and Summer School, University of Hannover and TU Clausthal, Germany <i>Sulfur in Magmas and Melts and Its Importance for Natural and Technical Processes</i>

Peer Reviewed Publications

h-index: 5 Citations: 54 (via Scopus)

13. Stabile P., Arzilli F., Fabrizio A., Di Genova D., Carroll M.R., **2021.** Crystallization kinetics in hydrous evolved alkaline magmas (*in prep Frontiers*).

12. Stabile P., Abudurehman A., Carroll M.R., Paris E., **2021.** Glass-forming CDW system: mineralogical characterization prior to and after thermal treatments for waste potential reuse. *Detritus Journal (submitted)*.

11. Stabile P., Radica F., Carroll M.R., Santulli C., and Paris E. **2021.** Dimensional, mechanical and LCA characterisation of terrazzo tiles with glass and construction and demolition waste (CDW). *Recent progress in Materials (submitted)*.

10. **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.

9. **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).

8. 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).

7. **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).

6. **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).

5. **Stabile P.**, Radica F., Bello M., Behrens H., Carroll M.R., Paris E. and Giuli G., **2018**. H₂O solubility in pantelleritic glasses: pressure and alkali effect. *Journal of Mineralogy and Geochemistry* 195/1.

4. **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.

3. **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.

2. **Stabile P.**, **2016**. Pantelleritic magmas: experimental study on the effect of [Na/(Na+K)] ratio and fO₂ on iron redox and viscosity. *PLINIUS n.42* (10.19276/plinius.2016.01013).

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.

Non-Peer Reviewed Publications

Stabile P., Abudurehman 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 MAY 2020 / 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).

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>).

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*.

Abstracts and Presentations

Carroll M.R., Arzilli F., **Stabile P.**, Appiah H., **2020**. Oral presentation: Alkali feldspar crystallization kinetics in phonolites and peralkaline rhyolites. *Goldschmidt Conference*.

Stabile P., Appiah H. and Carroll M., **2020**. The role of syn-eruptive crystallization on pantelleritic eruptive dynamics. *EGU2020: Sharing Geoscience Online* (abstract).

Giuli G., Pratesi G., Radica F., **Stabile P.**, Paris E. and Cibin G, **2019**. Iron oxidation state in Fulgurite glass. *Congresso SIMP-SGI-SOGEI, Parma* (abstract, <https://doi.org/10.3301/ABSGI.2019.05>).

Paris E., Grandinetti V., Manzi S., **Stabile P.** and Bignozzi M.C., **2019**. Geopolymer-based Terrazzo tiles with a high-waste content: stepping forward from the laboratory phase to the industrial scale. *Congresso SIMP-SGI-SOGEI, Parma* (abstract, <https://doi.org/10.3301/ABSGI.2019.05>).

Stabile P., Abudureheman A., Bello M., Carroll M.R and Paris E., **2019**. Characterization and vitrification of combined waste materials and potential use for reutilization in eco-sustainable building. *Congresso SIMP-SGI-SOGEI, Parma* (abstract, <https://doi.org/10.3301/ABSGI.2019.05>).

Stabile P., Appiah H. and Carroll M.R., **2019**. Water solubility in pantelleritic melts. *Congresso SIMP-SGI-SOGEI, Parma* (abstract, <https://doi.org/10.3301/ABSGI.2019.05>).

Stabile P., Arzilli F., Paris E. and Carroll M.R, **2019**. Oral presentation: 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* (abstract).

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*.

Bello M., **Stabile P.**, Carroll M.R. **2018**. Chemical and Mineralogical characterization of BA combustion products. *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN: 9788867680368).

Paris E., Radica F. **Stabile P.**, Ansaloni F., Giuli G., Carroll M.R. **2018**. Waste Material Based “Terrazzo” Tiles: The Effect Of Curing Time And Extreme Environmental Conditions Over Glass Aggregate/Cement Matrix Boundary. *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN: 9788867680368).

Stabile P., Appiah E. Carroll M., Behrens H., Paris E., Giuli G. **2018**. Water in Pantelleritic glasses measured by FTIR and Raman spectroscopy. *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN: 9788867680368).

Stabile P., Appiah E., Carroll M.R. **2018**. Oral Presentation: Water solubility in pantelleritic glasses. *Goldschmidt Conference, Boston*.

Ansaloni F., Radica F., **Stabile P.**, Paris E. **2018**. Ecological tiles from Urban Waste Glass and Construction & Demolition Waste. *ISDRS conference* (abstract, ISBN 978-88-943228-1-1).

Paris E., Radica F., **Stabile P.**, Ansaloni F., Giuli G., and Carroll M.R. **2017**. Waste Material Based Terrazzo Tiles: The Effect of Curing Time and Extreme Environmental Conditions Over Glass Aggregate/Cement Matrix Boundary. *AGU Fall Meeting* (abstract).

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* (abstract).

Stabile P., Paris E., Ansaloni F., Radica F., Giuli G., Carroll M.R. **2017**. Raw Materials with Waste for New Eco-Sustainable Building Products (Ecotiles). *Geological Society of America (GSA) conference, Washington* (abstract).

Paris E., Radica F., **Stabile P.**, Maddala F., Ansaloni F., Giuli G., and Carroll M.R. **2017**. Construction and Demolition Waste (CDW) for eco-innovative building product. *Congresso SIMP-SGI-SOGEI-AIV, Pisa*. (abstract, ISSN 2038-1719).

Stabile P., Behrens H, Cestelli M., Radica F., Bello M., Carroll M.R., Paris E. and Giuli G. **2016**. Effect of temperature and composition on water solubility in pantellerites to 250 MPA. *European Mineralogical Conference, Rimini* (abstract).

Stabile P., Behrens H., Carroll M.R., Paris E., and Giuli G. **2016**. Oral presentation: H₂O solubility in pantelleritic glasses: temperature, pressure and compositional effects. *EMPG XV (Fifteenth Symposium on Experimental Mineralogy, Petrology and Geochemistry), Zurich*.

Paris E., Grandinetti V., **Stabile P.**, Radica F., Bello M., Giuli G., Ansaloni F., Strina R., De Simone S., Carroll M.R. **2016**. ECO innovative methodologies for the valorization of construction and urban waste into high grade tiles (ECOTILES). *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN: 9788867680269).

Stabile P., Behrens H., Cestelli M., Radica F., Bello M., Carroll M.R., Paris E. and Giuli G. **2016**. A water solubility study in pantelleritic glasses to 250 MPa. *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN: 9788867680269).

Stabile P., Giuli G., Behrens H., Knipping J., Webb S., Cicconi M.R., Paris E. **2015**. Experimental study on the effect of alkali ratio and oxygen fugacity on Fe redox and viscosity in pantelleritic glasses. *Conferenza SIMP- SGI- So.Ge.I.- AIV, Florence* (abstract).

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*.

Stabile P., Cicconi M.R., Giuli G, Knipping J., Behrens H., Paris E. **2013**. The structural role of iron in pantelleritic glasses. *Goldschmidt Conference, Florence* (abstract, ISBN/ISSN: 1471-8022).

Stabile P., Giuli G., Cicconi M.R., Behrens H., Knipping J., Paris E. **2013**. Kinetics of iron reduction in anhydrous pantelleritic glasses. *5th Natural Silicate Glasses, Florence* (abstract).

Stabile P., Giuli G., Cicconi M.R., Knipping J., Behrens H. and Paris E. **2013**. Kinetics of iron reduction in anhydrous pantelleritic glasses. *ZFM Summer School on Functional Solids, Goslar* (abstract).

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*.

Stabile P., Cicconi M.R., Behrens H., Knipping J., Giuli G., and Paris E. **2013**. Kinetics of iron reduction in anhydrous pantelleritic glasses. *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN:9788867680122).

Stabile P., Paris E., Cicconi M.R. and Giuli G. **2012**. Fe and S role in rhyolitic magmas: the effect of alkalis. *Scientific day of School of Science and Technology, University of Camerino* (abstract, ISBN/ISSN: 9788890736308).

Stabile P., De Rosa R., Behrens H., and Vetere F. **2011**. Melt inclusions in basaltic magma (Mutnovsky Volcano). *Summer school "Sulfur in melts", Hannover-Goslar*.

Invited Talks

2020 Cities on Volcanoes 11, Crete, *Invited Lecture*, Crystallization kinetics in peralkaline rhyolitic melts simulating magma ascent toward Earth's surface.

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.

2018 Final conference of LIFE ECOTILES, University of Camerino, *Invited Speaker*, Il progetto LIFE Ecotiles.

Teaching Experience at UNICAM

Adjunct professor (docente a contratto)

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)

2015 Geochemistry and Petrography - Geochimica e Petrografia

2014 Geochemistry and Petrography – Geochimica e Petrografia

Student Supervision

Ongoing *Co-supervisor* MSci student Dominique Nintidem (University of Camerino-LM-74)

Ongoing *Co-supervisor* Bachelor student Michael Amankwah (University of Camerino-L-34)

Ongoing *Co-supervisor* PhD student Ababekri Abdurahman (University of Camerino)

Ongoing *Co-supervisor* PhD student Ernestina Appiah (University of Camerino)

Ongoing *Co-supervisor* PhD student Francesco Volpintesta (University of Camerino)

2020 *Co-supervisor* Bachelor student Giulio Sciarroni (University of Camerino- L-43)

2019 *Co-supervisor* MSci student Emmanuel Eshemele (University of Camerino- LM-74)

2018 *Co-supervisor* MSci student Ernestina Appiah (University of Camerino- LM-74)

2016 *Co-supervisor* MSci student Kailibinuer Abuduaini (University of Camerino- LM-74)

2016 Tutor MSci 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

Member of Scientific Societies SIMP, EAG, IAVCEI, AIV, EGU

Experimental Skills

Handling and construction of reduction furnace (gas mixing) for synthesis at elevated temperatures and ambient pressure.

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.

Handling of high temperature chamber furnace.

Sample preparation for experimental work.

Analytical Competences

Optical petrographic microscope (or Light Microscope, LM)

Scanning Electron Microscope (SEM)

Electron MicroProbe (EMP)

Fourier-transform Infrared spectroscopy (FTIR)

Raman spectroscopy (RM)

X-ray absorption spectroscopy (XAS)

Ultraviolet-visible (UV-VIS) spectrometry

X-ray Powder Diffractometry (XRPD)

Laser-ablation inductively-coupled-plasma mass- (LA-ICP-MS) spectrometry

CS (Carbon-sulphur) analyzer

KFT (Karl-Fisher Titration) analyzer.

Computing

MS Office, Kaleidagraph, Origin, IgPet, Melts, VolatileCalc, Corel Draw, Table curve, Graphpad, GraphClick

Others: ECDL certification