

## MATTIA PISTONE – CURRICULUM VITAE



### Present contact

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Citation metrics: [Google Scholar](#) (16/01/2020): 561 citations, h-index: 12; [Mendeley](#) (ID: 54780522600):  
452 citations, h-index: 10; [Web of Science ResearcherID](#) (ID: Q-6142-2018): 426 citations, h-index: 11  
Researcher ORCID: <https://orcid.org/0000-0001-7560-3146>

11-year experienced laboratory and field geologist, petrologist, volcanologist, and magma physicist with a strong track record in international collaborative partnerships in Europe and North America. Enthusiastic communicator, team player, and project manager. Skilful in high-pressure and high-temperature experimentation and tomographic microscopy to address chemical and physical aspects of: 1) multiphase magma rheology; 2) fluid migration in magmas; 3) magma degassing, transport, unrest, and eruption.

### Language proficiency

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Italian (native), English (C2), French (B2/C1), German (B1 – improving to B2).

### Education

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September 2012: **Doctoral Degree in Earth Science**, ETH-Zurich, Switzerland, on *Physical properties of crystal- and bubble-bearing magmas* (Advisors: Prof. Peter Ulmer, Prof. Luca Caricchi, Dr. Luigi Burlini)

July 2008: **Master Degree in Geodynamics, Geophysics, Volcanology (110/110 cum laude)**, Università La Sapienza, Rome, Italy, on *Petrological and physical properties of the Avellino Eruption magma chamber of Somma-Vesuvius* (in Italian) (Advisors: Prof. Raffaello Trigila, Dr. Luca Caricchi, Dr. Luigi Burlini)

October 2006: **Bachelor Degree in Geological Sciences (110/110 cum laude)**, Università G. D'Annunzio, Chieti, Italy, on *Investigation on dynamic crystallization of an andesite from Panarea Island, Aeolian Islands, Italy* (in Italian) (Advisors: Dr. Gianluca Iezzi, Dr. Silvio Mollo, Dr. Tonino Traini)

### Professional experience

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Since August 2019: **Assistant Professor**, University of Georgia, GA, US, on *Petrology and Volcanology*

January 2017-July 2019: **SNSF-Ambizione Maître Assistant (Lecturer)**, University of Lausanne, Switzerland, on *Petrophysics of the Melt Connectivity Transition: Petrological, Rheological, and Seismic Characterisation of the Continental Moho* (PI: Dr. Mattia Pistone) [483,238 CHF]

November 2014-November 2016: **NSF-GeoPRISMS Research Fellow**, National Museum of Natural History, Smithsonian Institution, Washington DC, US, on *The role of oxygen fugacity in calc-alkaline differentiation and the creation of continental crust at the Aleutian arc* (PIs: Dr. Elizabeth Cottrell and Prof. Katherine A. Kelley)

July-August 2014: **NERC Research Fellow**, Camborne School of Mines, Exeter University, and University of Bristol, UK, on *Critical metals in nature: crystal-melt partitioning of indium at high temperature and pressure conditions* (PIs: Prof. Jonathan D. Blundy and Dr. Jens Andersen)

June 2014: **Advanced Career SNSF Research Fellow**, University of Bristol, UK, and University of Missouri-Columbia, US, on *The influence of volatiles on the interaction of mafic and felsic magmas* (PI: Dr. Mattia Pistone; renounced for the NSF-GeoPRISMS Fellowship) [98,000 CHF]

January-June 2014: **ERC Research Fellow**, University of Bristol, UK, on *The influence of volatiles on the interaction of mafic and felsic magmas* (PI: Prof. Jonathan D. Blundy)

January-December 2013: **Early Career SNSF Research Fellow**, University of Bristol, UK, on *The influence of volatiles on the interaction of mafic and felsic magmas* (PI: Dr. Mattia Pistone) [43,000 CHF]

October-November 2012: **SAPHYR Postdoc**, ETH-Zurich, Switzerland, on *Seismic anisotropy of the Finero Peridotite (Ivrea Zone, Italy)* (PIs: Prof. Eduard Kissling, Dr. Alba S. Zappone)

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## Teaching and mentoring

### Assistant Professor:

2020 GEOL 1121 52971 Earth Processes and Environment  
GEOL 4020 22495 Internal Processes

### Lecturer:

2018 Practical Training in Magmatic Petrology (*Travaux Pratique de Petrologie Magmatique*)

### Italian National Scientific Habilitation (Abilitazione Scientifica Nazionale):

2018 Eligible for Associate Professorship: <https://asn16.cineca.it/pubblico/miur/esito/04%252FA1/2/4>

### Lecture Assistant:

2008-2012 Optical Microscopy of Metamorphic and Igneous Rocks  
2009-2012 Volcanology

### Field Instructor:

2017-2019 Petrology and Volcanology  
2013-2014 Geology I  
2008-2012 Volcanology

### Supervision and co-supervision of students:

2019 Hüseyin Demir (*Mineral, elemental, and isotopic evidence for the provenance of clay deposits in Sile, NW Turkey*) [Master; University of Georgia; Supervisor: Paul Schroeder]  
Russell Cutts (*Mineralogical and textural alteration of heated tool-stones: advances in understanding fire-cracked rock*) [PhD; University of Georgia; Supervisor: Ervan Garrison]  
Alexia Secretan (*Magma Cannibalism in Volcanic and Plutonic Rocks*) [Bachelor; UNIL, Switzerland; Supervisors: M. Pistone, P. Jarvis, L.P. Baumgartner]

2018-2019 Thomas Herbst (*Degassing and outgassing of crystal-bearing dacite*) [Master; University of Missouri, Columbia, US; Supervisor: A.G. Whittington]

2017-2018 Selena Galdini (*Petrological, geochemical and rheological modelling of alkaline magma ascent at Fogo Volcano, Cape Verde*) [Master; UNIL, Switzerland; Supervisor: S. Pilet]

2015 Katherine Sheppard (UC Santa Barbara) and Elizabeth Grant (University of Rhode Island) (fieldwork in the Western Aleutians) [Undergraduates; Supervisors: E. Cottrell, K.A. Kelley]

2013-2014 Paul Jarvis (*Phenomena at the interface between two magmas*) [PhD; University of Bristol, UK; Supervisors: J.D. Blundy, K.V. Cashman, H.M. Mader]

2012-2014 Jessica Shields (*Mobilisation of highly viscous flows: Insights from field and laboratory experiments*) [PhD; University of Bristol, UK; Supervisor: H.M. Mader]

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## Service

- Peer-reviewed Journal Reviewer for 26 original scientific contributions (2013-2019), as reported in my Publons profile: <https://publons.com/author/1417956/mattia-pistone#profile>
- Reviewer for funding agencies of NERC (UK) and NSF (US) (2014-2018)

- Guest Editor of two Research Topics / Special Volumes in *Frontiers in Earth Science* (2017-2019): *Volumes, Timescales, and Frequency of Magmatic Processes in the Earth's Lithosphere and Deep Carbon Science*
- Associate Editor of *Frontiers in Earth Science* – Section Petrology.
- Primary convener and co-convener of scientific sessions at AGU (2013, 2015-2018), EGU (2015-2018), IAVCEI (2017), and Centennial Symposium of MSA (2019)
- Primary organiser (out of 3) of the 2017 ICDP Workshop DIVE (Drilling the Ivrea-Verbano zone) in Baveno, Italy (1<sup>st</sup>–4<sup>th</sup> May 2017)
- Department seminar organiser at the School of Earth Sciences, University of Bristol, UK (2013-2014)

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### Professional memberships

European (EGU) and American Geophysical Union (AGU), Mineralogical Society of America (MSA).

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### Engagement in science communication and outreach

2016 **Expert scientist** at Q&A of the Museum of Natural History of the Smithsonian Institution

2013 News from Cabot Institute, University of Bristol: <http://www.bristol.ac.uk/cabot/news/2013/278.html>

2011-2012 **Museum guide** at Focus Terra Museum of ETH-Zurich

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### Participation to selected schools and workshops

2017 Mt Etna – Deep Carbon Observatory (DCO) Early Career Scientist Workshop (Nicolosi, Italy)

2009-2013 4D-Adamello Pro-School (Swiss National Science Foundation)

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### Awards

2017 Outstanding Contribution in Reviewing Award by the Editorial Board of the *Journal of Volcanology and Geothermal Research*, Elsevier, Amsterdam, The Netherlands

2014 EU Transnational Access Programme CALIPSO Award

2012 Outstanding Young Scientist Award by the Earth Magnetism and Rock Physics Division of the EGU (<https://www.egu.eu/awards-medals/ospp-award/2012/mattia-pistone/>)

2008 Excellence Award for Master Students of Earth Sciences, La Sapienza University, Rome, Italy

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### Research funding

2020 *COOLEST VOLCANO: CO<sub>2</sub> storage and release at Stromboli VOLCANO*, Office of Research and the Office of Global Engagement, University of Georgia, US [US\$ 4,000]

2019 *Fluids, melts and pressure changes during fracturing of the lower crust*, Terrestrial Magmatic System Research Platform, University of Mainz, Germany (co-PI) [€ 8,800]

2019 *Bulk seismic properties of mantle wedge peridotites*, Terrestrial Magmatic System Research Platform, University of Mainz, Germany (co-PI) [€ 5,000]

2019 *DE BELLO VULCANICO or The Volcanic War: Forecasting Magma Permeability versus Compressibility and Eruption Magnitude*, Swiss National Science Foundation – Eccellenza Professorial Fellowship (PCEFP2\_186904) [CHF 999,988] {renounced for the tenure-track Assistant Professorship at the University of Georgia}

2017 *The Deep Carbon Cycle (DCC) through geological time: An interdisciplinary synthesis of the carbon cycle in the Earth's lithosphere-biosphere system*, Alfred P. Sloan Foundation – Deep Carbon Observatory – DCO Synthesis Proposal (co-PI) [US\$ 130,000]

2017 *Geophysical site characterization (campaign 1) for ICDP drilling proposal*, FINV – UNIL (Research collaborator) [CHF 24,157]

2016 *Petrophysics of the Melt Connectivity Transition: Petrological, Rheological, and Seismic*

*Characterisation of the Continental Moho*, Swiss National Science Foundation – Ambizione Fellowship (PZ00P2\_168166) [CHF 483,238]

- 2014 *Drilling the continental crust to the Moho transition zone (Ivrea-Verbano Zone, Italy)*, Inter-Continental Drilling Project Workshop (number 17-2016) [US\$ 50,000]
- 2014 *The Influence of Volatiles on the Interaction of Mafic and Felsic Magmas*, Swiss National Science Foundation – Advanced Postdoc Mobility Fellowship (P300P2\_154574) [CHF 98,000] {renounced for the NSF-GeoPRISMS Fellowship at the Smithsonian Institution, Washington, DC, US}
- 2014 *Understanding the dynamics of explosive eruptions triggered by mafic intrusions into felsic reservoirs using 4D in situ tomographic microscopy*, European Union Transnational Access Programme CALIPSO (number 312284; FP7/2007-2013) [CHF 1,000]
- 2012 *The Influence of Volatiles on the Interaction of Mafic and Felsic Magmas*, Swiss National Science Foundation – Early Postdoc Mobility Fellowship (PBEZP2\_142922) [CHF 43,000]

Granted research proposals for free-of-cost access to synchrotron and nuclear facilities:

- 2017 One for NEUTRA beamline, SINQ, PSI (Villigen, Switzerland)  
One for SYRMEP beamline, Elettra (Basovizza, Italy)
- 2016 Two for GSECARS beamline, APS, (Argonne, IL, US)
- 2009-2018 Eight for TOMCAT beamline, SLS, PSI (Villigen, Switzerland)

#### Peer-reviewed Publication list

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- Kudrna-Prašek M, **Pistone M**, Baker DR, Sodini N, Marinoni N, Lanzafame G, Mancini L (2018). A compact and flexible induction furnace for in-situ X-ray microradiography and computed microtomography at Elettra: characterisation and first tests. *Journal of Synchrotron Radiation*, 25, doi:10.1107/S1600577518005970
- Pistone M**, Müntener O, Ziberna L, Hetényi G, Zanetti A (2017) Report on the ICDP Workshop DIVE (Drilling the Ivrea-Verbano zone). *Scientific Drilling*, 23, 47-56, <https://doi.org/10.5194/sd-23-47-2017>
- Pistone M**, Whittington AG, Andrews BJ, Cottrell E (2017) Crystal-rich lava dome extrusion during vesiculation: an experimental study. *Journal of Volcanology and Geothermal Research*, 347, 1-14, <https://doi.org/10.1016/j.jvolgeores.2017.06.018>
- Morrison S, **Pistone M**, Kohl L (2017) Studying Yellowstone by integrating deep carbon science. *EOS*, 98, <https://doi.org/10.1029/2017EO076209>
- Pistone M**, Blundy JD, Brooker RA, EIMF (2017). Water transfer during magma mixing events: insights into melt segregation from felsic crystal mushes. *American Mineralogist*, 102, 766-776 <http://dx.doi.org/10.2138/am-2017-5793>
- Zellmer GF, **Pistone M**, Iizuka Y, Andrews BJ, Gomez-Tuena A, Straub SM, Cottrell E (2016). Petrogenesis of antecryst-bearing arc basalts from the Trans-Mexican Volcanic Belt: insights into along-arc variations in magma ponding depths, H<sub>2</sub>O contents, and surface heat flux. *American Mineralogist*, 101, 2405-2422, <https://doi.org/10.2138/am-2016-5701>
- Pistone M**, Cordonnier B, Ulmer P, Caricchi L (2016). Rheological flow laws for multiphase magmas: an empirical approach. *Journal of Volcanology and Geothermal Research*, 321, 158-170, <https://doi.org/10.1016/j.jvolgeores.2016.04.029>
- Shields J, Mader HM, Caricchi L, Tuffen H, Mueller S, **Pistone M**, Baumgartner L (2016). Unravelling textural heterogeneity in obsidian: shear-induced outgassing in the Rocche Rosse flow. *Journal of Volcanology and Geothermal Research*, 310, 137-158, <https://doi.org/10.1016/j.jvolgeores.2015.12.003>
- Pistone M**, Blundy JD, Brooker RA, EIMF (2016). Textural and chemical consequences of interaction between hydrous mafic and felsic magmas: an experimental study. *Contributions to Mineralogy and Petrology*, 171, doi:10.1007/s00410-015-1218-4

- Pistone M**, Caricchi L, Fife JL, Mader K, Ulmer P (2015). In situ X-ray tomographic microscopy observations of vesiculation of bubble-free and bubble-bearing magmas. *Bulletin of Volcanology*, 77, doi:10.1007/s00445-015-0992-1
- Pistone M**, Caricchi L, Cordonnier B, Ulmer P, Marone F (2015). The viscous to brittle transition in bubble- and crystal-bearing magmas. *Frontiers in Earth Sciences*, 3, doi:10.3389/feart.2015.00071
- Pistone M**, Arzilli F, Dobson KJ, Cordonnier B, Reusser E, Ulmer P, Marone F, Whittington AG, Mancini L, Fife JL, Blundy JD (2015). Gas-driven filter pressing in magmas: insights into in situ melt segregation from crystal mushes. *Geology*, 43, 699-702, <https://doi.org/10.1130/G36766.1>
- Shields J, Mader HM, **Pistone M**, Floess D, Caricchi L, Putlitz B (2014). Strain-induced outgassing of crystal- and bubble-bearing magmas. *Journal of Geophysical Research*, 119, doi:10.1002/2014JB011111
- Pistone M**, Caricchi L, Ulmer P, Reusser E, Ardia P (2013). Rheology of volatile-bearing crystal mushes: mobilization vs. viscous death. *Chemical Geology*, 345, 16-39, <https://doi.org/10.1016/j.chemgeo.2013.02.007>
- Madonna C, Quintal B, Frehner M, Almqvist BSG, Tisato N, **Pistone M**, Marone F, Saenger E (2013), Synchrotron-based X-ray tomographic microscopy for rock microstructure investigations, *Geophysics*, 78, D53-D64, doi: 10.1190/geo2012-0113.1
- Pistone M**, Caricchi L, Ulmer P, Burlini L, Ardia P, Reusser E, Marone F, Arbaret L (2012). Deformation experiments of bubble- and crystal-bearing magmas: rheological and microstructural analysis. *Journal of Geophysical Research*, 117, doi:10.1029/2011JB008986
- Cordonnier B, Caricchi L, **Pistone M**, Castro J, Hess K-U, Gottschaller S, Manga M, Dingwell DB, Burlini L (2012). Direct observation of magma rupture and healing. *Geology*, 40, 611-615, <https://doi.org/10.1130/G3914.1>
- Fife JL, Rappaz M, **Pistone M**, Celcer T, Mikuljan G, Stampanoni M (2012). Development of a laser-based heating system for in-situ synchrotron-based X-ray tomographic microscopy. *Journal of Synchrotron Radiation*, 19, 352-358, doi:10.1107/S0909049512003287 [This study on volume cover]
- Caricchi L, Pommier A, **Pistone M**, Castro J, Burgisser A, Perugini D (2011). Strain-induced magma degassing: insights from simple-shear experiments on bubble bearing melts. *Bulletin of Volcanology*, 73, 1245-1257, doi:10.1007/s00445-011-0471-2

*Under review:*

- Pistone M**, Ziberna L, Hetényi G, Scarponi M, Zanetti A, Müntener O. A hydrous mantle source for Ivrea mafic magmas derived from joint geophysical-petrologic data. *Geology*
- Pistone M**, Caricchi L, Ulmer P. CO<sub>2</sub> favor the accumulation of excess magmatic fluids. *Geology*
- Jarvis PA, **Pistone M**, Secretan A, Blundy JD, Cashman KV, Mader HM, Baumgartner LP. Crystal and volatile controls on the mixing and mingling of magmas. *AGU-Wiley Book Chapter*
- Pistone M**, Caricchi L, Ulmer P. CO<sub>2</sub> favour the accumulation of excess magmatic fluids. *Geology*
- Petri B, Almqvist BSG, **Pistone M**. 3D rock fabric analysis using micro-tomography: an introduction to the open source TomoFab Matlab code. *Computers & Geosciences*
- Pistone M**, Racek M, Štípska P. Effects of diffusion of water and migration of melts in crustal rocks: an experimental study. *Chemical Geology*

**Invited seminars (\*) and oral presentations (\*\*)** —————

- Pistone M\*** (Nov 2019) *DE BELLO VULCANICO: Constraining gas storage versus release in magmas and eruption magnitude of active volcanoes*, Department of Geological Sciences, University of Florida, US.
- Pistone M\*\*** (Oct 2019) *ICDP Proposal on Drilling the Ivrea-Verbano zone (DIVE)*, International School “Structure and Composition of the Lower Continental Crust”, University of Pavia, Italy.
- Pistone M\*** (Oct 2019) *DE BELLO VULCANICO: Constraining rheology, permeability, and compressibility of magmas and eruption magnitude of active volcanoes*, Institute of Geosciences, University of Mainz,

Germany.

**Pistone M\*** (Apr 2019) *Melt, volatile, and magma transport in the Earth's crust: A petrological trilogy*, Department of Geology, University of Georgia, US.

**Pistone M\*** (Feb 2019) *DE BELLO VULCANICO: Constraining rheology, permeability, and compressibility of magmas and eruption magnitude of active volcanoes*, Department of Geology, University at Buffalo, US.

**Pistone M\*** (Nov 2018) *Magmatic fluid extraction from the Earth's crust to volcanoes*, Bayerisches Geoinstitut, University of Bayreuth, Germany.

**Pistone M\*** (Oct 2018) *DIVE into the pillars of Earth: Drilling into the Ivrea-Verbano zone*, Deep Carbon Observatory Executive Committee Meeting, Department of Earth Sciences, ETH-Zurich, Switzerland.

**Pistone M\*\*** (Apr 2018) *Geochemical cycles and carbon fluxes from Large Igneous Provinces*, Deep Carbon Observatory Workshop, Department of Earth Sciences, University of Cambridge, UK.

**Pistone M\*\*** (Jan 2018) *Melt extraction during heating and cooling of felsic crystal mushes: an experimental study*, Journée Magmatique, Department of Earth Sciences, ETH-Zurich, Switzerland.

**Pistone M\*** (Dec 2017) *Yet it moves: melt migration processes during magma solidification*, Department of Earth Sciences, University of Geneva, Switzerland.

**Pistone M\*** (Nov 2017) *Melt extraction processes in multiphase magmas: from the Earth's crust to volcanoes*, Department of Earth Sciences, University of Milan, Italy.

**Pistone M\*** (Mar 2017) *Chemistry and physics of multiphase magmas: insights into melt extraction processes*, Department of Earth Sciences, University of Uppsala, Sweden.

**Pistone M\*** (Mar 2017) *Chemistry and physics of multiphase magmas: insights into melt extraction processes*, Department of Earth Sciences, University of Toronto, Canada.

**Pistone M\*** (Feb 2016) *Chemistry and physics of multiphase magmas: insights into magma transport, storage, and eruption*, University of Chapel Hill, NC, US.

**Pistone M\*\*** (Jan 2016) *3D and 4D insights into geological samples and processes using X-ray tomographic microscopy*, Geological Society of Washington, Cosmos Club, Washington, DC, US.

**Pistone M\*** (Nov 2015) *Chemistry and physics of multiphase magmas: insights into magma transport, storage, and eruption*, Carnegie Institution, Geophysical Laboratory, Washington, DC, US.

**Pistone M\*** (Oct 2015) *Chemistry and physics of multiphase magmas: insights into magma transport, storage, and eruption*, University of Maryland, College Park, MD, US.

**Pistone M\*** (Jul 2015) *3D and 4D insights into geological samples and processes using X-ray tomographic microscopy*, Air and Space Museum, Smithsonian, Washington, DC, US.

**Pistone M\*** (Apr 2015) *Water-driven undercooling during the interaction between mafic and felsic hydrous magmas*, Centre of Lithosphere of Geological Survey, Prague, Czech Republic.

**Pistone M\*** (Mar 2015) *Water-driven undercooling during the interaction between mafic and felsic hydrous magmas*, Department of Geosciences, Virginia Tech, Blacksburg, VA, US.

**Pistone M\*** (Sep 2014) *4D Experiments with Synchrotron-based X-ray Tomographic Microscopy: The New Frontier of the Experimental Volcanology*, Elettra Synchrotron, Basovizza, Italy.

**Pistone M\*** (Jun 2014) *The influence of volatiles during mafic and felsic magma interaction*, Department of Geochemistry, Georg-August-Universität, Göttingen, Germany.

**Pistone M\*** (Apr 2014) *The influence of volatiles during mafic and felsic magma interaction*, Department of Geological Sciences, Washington University in St Louis, MO, US.

**Pistone M\*** (Apr 2014) *The influence of volatiles during mafic and felsic magma interaction*, Department of Geological Sciences, University of Missouri, Columbia, MO, US.

**Pistone M\*\*** (Apr 2013) *Rheology of crystal- and bubble-bearing magmas: insights into volcanic conduit dynamics*, European Geophysical Union Conference, Vienna, Austria.

**Conference and workshop poster [@], PICO [\*], and talk presentations [#]** —————

1. Greenwood A., Baron L., Hetényi G., **Pistone M.**, Holliger K., Ziberna L., Zanetti A., Müntener O. (2019). *Active seismic surveys at project DIVE's three drilling target sites, Ivrea Zone, Northern Italian Alps*. Swiss Geoscience Meeting 2019 (Fribourg, Switzerland) [@]
2. **Pistone M.**, Caricchi L., Ulmer P. (2019). *Carbonic fluids favor excess gas accumulation and increase eruption magnitude*. DCO 2019 (Washington, DC) [@]
3. **Pistone M.**, Ziberna L., Hetényi G., Zanetti A., Müntener O. (2019). *Predicting the chemical composition of the Ivrea geophysical body: A petrophysical and petrological analysis*. EGU Spring Meeting 2019 (Vienna, Austria) [#]
4. Müntener O., **Pistone M.** (2019). *Bulk crustal composition and modulations by magmatic additions*. EGU Spring Meeting 2019 (Vienna, Austria) [#]
5. Jollands M., **Pistone M.**, Müntener O., Tollan P., (2019). *Hydrogen diffusion in quartz: a new tool to unravel the last instants of unrest of felsic volcanism*. EGU Spring Meeting 2019 (Vienna, Austria) [@]
6. Petri B., Almqvist B.S.G., **Pistone M.**, Müntener O. (2019). *3D rock fabric analysis with X-ray computed microtomography and application to the Ivrea mafic complex (N Italy)*. EGU Spring Meeting 2019 (Vienna, Austria) [\*]
7. **Pistone M.**, Petri B., Müntener O., Almqvist B.S.G., Zappone A.S., Hetényi G., Zanetti A., Baumgartner L.P. (2018). *Unravelling magma emplacement mechanism in the lower crust: a forensic investigation of the Mafic Complex, Ivrea-Verbano Zone (Italy)*. AGU Fall Meeting 2018 (Washington, DC, US) [@]
8. Jollands M., **Pistone M.**, Müntener O. (2018). *Unravelling the eruptive timescales of a Permian supervolcano with quartz diffusion chronometry*. AGU Fall Meeting 2018 (Washington, DC, US) [@]
9. Almqvist B.S.G., Piazzolo S., **Pistone M.** (2018). *Evaluating compositional layering as a source for elastic anisotropy in the lithosphere*. AGU Fall Meeting 2018 (Washington, DC, US) [#]
10. Whittington A.G., Herbst T., **Pistone M.**, Schiffbauer J., Selly T. (2018). *Degassing and outgassing of crystal-bearing dacite*. AGU Fall Meeting 2018 (Washington, DC, US) [#]
11. **Pistone M.**, Petri B., Müntener O., Almqvist B.S.G., Zappone A.S., Hetényi G., Zanetti A., Baumgartner L.P. (2018). *Unravelling magma emplacement mechanism in the lower crust: a forensic investigation of the Mafic Complex, Ivrea-Verbano Zone (Italy)*. AGU Fall Meeting 2018 (Washington, DC, US) [@]
12. **Pistone M.**, Petri B., Müntener O., Almqvist B.S.G., Zappone A.S., Hetényi G., Zanetti A., Baumgartner L.P. (2018). *Unravelling magma emplacement mechanism in the lower crust: a forensic investigation of the Mafic Complex, Ivrea-Verbano Zone (Italy)*. Swiss Geoscience Meeting 2018 (Bern, Switzerland) [@]
13. Herbst T., Whittington A.G., **Pistone M.**, Schiffbauer J., Selly T. (2018). *Experimental vesiculation and outgassing of crystal-bearing dacite*. GSA 2018 Annual Meeting (Indianapolis, IN, US) [#]
14. Whittington A.G., Herbst T., **Pistone M.**, Schiffbauer J., Selly T. (2018). *Experimental vesiculation and outgassing of crystal-bearing dacite*. CoV 2018 (Naples, Italy) [#]
15. Greenwood A., Baron L., Merz K., Langone A., Petri P., Kard A.O., Zanetti A., **Pistone M.**, Hetényi G., Weber M., Müntener O., Holliger K. (2018). *High-resolution active seismic survey across the Insubric Line*. EGU Spring Meeting 2018 (Vienna, Austria) [@]
16. **Pistone M.**, Petri B., Müntener O., Almqvist B.S.G., Zappone A.S., Hetényi G., Ziberna L., Zanetti A., Baumgartner L.P. (2018). *Petro-rheological and geophysical characterisation of the Mafic Complex, Ivrea-Verbano Zone (Italy): A work-in-progress on the correlation of crustal lithostratigraphy and geophysical structures of the Earth's lower crust*. EGU Spring Meeting 2018 (Vienna, Austria) [@]
17. **Pistone M.**, Caricchi L., Ulmer P., Reusser E. (2018). *Volatiles in excess in crystallising magmas: Consequences of crystal mush degassing, outgassing, and pressurisation in the Earth's crust*. EGU Spring Meeting 2018 (Vienna, Austria) [#]

18. **Pistone M.**, Baumgartner L.P., Sisson T.W., Bloch E. (2017). *Melt extraction during heating and cooling of felsic crystal mushes in shallow volcanic systems: An experimental study*. AGU Fall Meeting 2017 (New Orleans, LO, US) [#]
19. Hetényi G., **Pistone M.**, Nabelek P., Baumgartner L.P. (2017). *Partial melting during high-grade metamorphism: Implications for orogenic systems*. AGU Fall Meeting 2017 (New Orleans, LO, USA) [#]
20. **Pistone M.** (2017). *Chemical and physical aspects of fluid extraction from the Earth's crust*. DCO Early Career Scientist Workshop 2017 (Catania, Italy) [#]
21. **Pistone M.**, Baumgartner L., Sisson T.W., Bloch E. (2017). *Heating or cooling felsic crystal mushes to extract melt? An experimental evaluation of melt extraction efficiency in shallow volcanic systems*. IAVCEI 2017 (Portland, OR, USA) [#]
22. **Pistone M.**, Whittington A.G., Andrews B.J., Cottrell E. (2016). *Crystal-rich lava dome extrusion during vesiculation: an experimental study*. AGU Fall Meeting 2016 (San Francisco, USA) [#]
23. **Pistone M.**, Arzilli F., Cordonnier B., Dobson K.J., Reusser E., Ulmer P., Marone F., Whittington A.G., Mancini L., Fife J.L., Blundy J.D. (2015). *Gas-driven filter pressing: insights into melt segregation from crystal mushes*. AGU Fall Meeting 2015 (San Francisco, USA) [#]
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### Experimental, analytical, and computational experience

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#### *Experimental Facilities:*

HT-HP Paterson-type rock deformation apparatus; HIP large capacity apparatus; Permeameter; HT Muffle; End-Loaded Piston-Cylinder; Cold-seal Vessel; TZM and HMC vessel.

#### *Analytical Facilities:*

EPMA; SEM; FEG-SEM; FEG-EPMA; SIMS; Mössbauer Spectroscopy; XRF; XRD; KFT; CO<sub>2</sub>-Coulometry; FTIR; Raman Spectroscopy; micro-XANES; synchrotron X-ray microtomography and laser and induction heating systems for in-situ, time-resolved HT experiments; neutron tomography.

#### *Computational Codes:*

Operative Systems: Windows; Macintosh; Linux. Public domain software: ImageJ; JMicroVision; ParaView; Blob3D; Quant3D; Perple\_X; MELTS. Other codes: MATLAB; Avizo<sup>®</sup> Fire; Adobe.

### Fieldwork experience

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- 2018 Sondalo and Val Malenco (Italy): lower to middle crust and mantle rocks, mantle serpentinization
- 2017 Ivrea-Verbano Zone (Italy): lower to middle crust and mantle rocks  
Cascade Volcanoes (OR and WA, US): andesite to dacite volcanoes (Mt St Helens, Mt Hood, Newberry), large igneous province of Columbia River
- 2015 Western Aleutians (AK, US): tholeiitic and calc-alkaline volcanic tephra and lava rocks  
St Leonhard (Austria): mid-crustal granulites and eclogites
- 2013 Guernsey (Channel Islands): granite and diorite mixing and mingling  
Cornwall (UK): porphyry ore deposits
- 2012 Torres del Paine (Chile) and Fitz Roy (Argentina): pluton mechanics and contact aureole
- 2012 Lipari, Aeolian Islands (Italy): Rocche Rosse obsidian lava flow
- 2010 Mono Crater, Onion Valley, Sawmill Creek, Big and Little Glass Mountain, Mount Shasta, Sierra Nevada (CA, US): mid- and upper crustal granitoid plutons to silica-rich volcanic domes
- 2009 Tenerife and La Palma, Canary Islands (Spain): caldera-forming ignimbrite and lava flow deposits  
Adamello Massif (Italy): pluton emplacement, magma mingling, and contact aureole
- 2007 Somma-Vesuvius (Italy): fallout pumice deposits of Avellino Plinian Eruption  
Monte Nuovo, Phlegrean Fields (Italy): phreatomagmatic to magmatic eruption style deposits