CURRICULUM VITAE

FOR

MARA MURRI

(Last update October 2016)

I. PERSONAL DETAILS AND CONTACTS

Date of birth:	February 4th 1992
City of birth:	Milan, Italy
Nationality:	Italian
E-mail:	mara.murri01@universitadipavia.it
Present address:	Via XXV Aprile, 54, Landriano, PV, Italy
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ResearchGate:	https://www.researchgate.net/profile/Mara_Murri
Google scholar:	https://scholar.google.it/citations?user=PIviHOUAAAAJ&hl=en

II. ACADEMIC RECORD AND CAREER

2016-2019 *PhD research*
Dissertation: Elastic geobarometry methods: calibration of the Raman shifts in terms of deviatoric stresses and test on synthetic host-inclusion pairs
Place: Department of Earth and Environmental Sciences, University of Pavia, Italy.
Advisors: B. Mihailova, M. Alvaro and R.J. Angel

July 2016 *(Master degree - Applied Geological Sciences, 110/110 cum laude)*
Dissertation: The role of Fe content on the Fe-Mg exchange reaction in augite
Place: Department of Earth and Environmental Sciences, University of Pavia, Italy.
Advisors: Prof.ssa M.C. Domeneghetti, M. Alvaro

2016
High-Pressure Short Course (2 ECTS) Bayerisches Geoinstitut Universität Bayreuth D-95440 Bayreuth/Germany. February 22nd -26th 2016.

2015-2016
Student teaching assistance for the course of Mineralogy at the University of Pavia (a.y. 2015-2016).

2015
Elasticity course, within the framework of the PhD programme of the University of Pavia (3 CFU).

2015
International Diamond School "The nature of diamonds and their use in Earth's study". Bressanone-Brixen, 27-31st January 2015. (http://www.indimedea.eu/diamond_school_2015.htm)

July 2014 (*Bachelor degree – Geology, 110/110 cum laude*)

Dissertation: Critical reassessment of the thermoelastic properties for diamond.
Place: Department of Earth and Environmental Sciences, University of Pavia, Italy.
Advisors: Prof.ssa M.C. Domeneghetti, M. Alvaro

2011 (*High school degree, 80/100*)
Place: Liceo scientifico N. Copernico, Pavia

III. AWARDS

2016
The Barringer Family Fund for Meteorite Impact Research to support the research project titled: *"Stacking Disorder in Diamonds as a Tool for Investigating Impact Craters*." ($5000, PI: Mara Murri)

2016
Student Helper at the European Mineralogical Conference, 11th -15th September 2016, Rimini, I.

IV. SCIENTIFIC ACTIVITY

A. Main research topics:

My research is mainly focused on the investigation of terrestrial and extraterrestrial crystalline material relevant for the Earth and Planetary Science mainly using crystallographic and mineral physics tools.

Diamond: During my bachelor degree thesis I have been working on the critical reassessment of the thermoelastic properties for diamonds. Beside the relevance for the use of diamond as tool (e.g. cutting and polishing applications) it has been shown that knowledge of its elastic properties and structure modification constitute the basis to use diamond for elastic geobarometric applications and impact cratering processes thus sheading lights on diamond formation processes in the Earth and Planetary bodies. Furthermore, the investigation of inclusions still entrapped in diamonds can provide crucial information on Earth's mantle state and processes.

Meteorites: During the master degree (MSc) thesis I've been involved in a project aimed to study to the Fe-Mg exchange reaction of crystalline material at high temperature conditions '*ex situ*' (i.e. high-temperature annealing and quenching experiments) by means of single-crystal X-ray diffraction using both point detector and area detector diffractometers (e.g. publication #1). These experiment are extremely relevant for geothermometric and geospeedometric investigation of Earth and planetary materials (e.g. publication #1,2). Determination of the closure temperature and cooling rate from mineral phases occurring in terrestrial and extraterrestrial minerals can be used to infer the thermal history of their host rocks.

B. Main collaborations

National:
Fabrizio Nestola (University of Padua, Italy)
Matteo Alvaro (University of Pavia)
M. Chiara Domeneghetti (University of Pavia, Italy)
Ross J. Angel (Visiting professor, University of Padua, Italy)
International:

Adrian Jones (UCL, London)

C. Publications on peer reviewed journals

1. **M. Murri**, L. Scandolo, A. Fioretti, F. Nestola, M.C. Domeneghetti and M. Alvaro (2016). The role of Fe content on the Fe-Mg exchange reaction in augite. *American mineralogist* (in press).
2. **M. Murri**, L. Scandolo, A. Fioretti, F. Nestola, M.C. Domeneghetti and M. Alvaro (2017) New insights on Theo's Flow lava using intracrystalline thermometry on augites. Geochimica et Cosmochimica acta (in prep.)

D. National and international conferences and meetings

2015

1. **Murri M.**, Scandolo L., Alvaro M., Domeneghetti M.C., Fioretti A.M. Clinopyroxene Fe-Mg exchange reaction applied to Martian nakhlites. Congresso congiunto SIMP-AIV-SoGeI-SGI. September 2nd - 4th 2015. Florence, I

2016

2. **M. Murri**, L. Scandolo, A.M. Fioretti, M.C. Domeneghetti, M. Alvaro**.** Fe-Mg exchange reaction in clinopyroxene and its application to the thermal history of planetary bodies. Lunar and Planetary Science Conference 21st -25th March, Houston, Texas (USA).
3. **Murri M.**, Scandolo L., Fioretti A.M., Nestola F., Domeneghetti M.C., Alvaro M. New insights on Theo's Flow Lava using intracrystalline thermometry on augites. European Mineralogical Conference 11th -15th September 2016, Rimini, I

Pavia, 28/07/2016
Mara Murri