

Andrea Magli



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About me:

Researcher with four years of theoretical and practical skills in Paleomagnetism applied to Volcanology, especially in paleomagnetic dating of Holocene basaltic lava flows by using Paleo-Secular Variation (PSV) reference curves of the geomagnetic field. Fast in understanding theory and methods, and careful during laboratory measurements. Positive attitude to team work coupled with enthusiasm, capability and independence. Willing to work in the field of Applied Geology and Georesources and respond to needs and challenges of the modern society.

● EDUCATION

01/11/2020 – present: Roma Tre University – L.go S. L. Murialdo 1, 00146 – Rome, Italy
PhD in “Earth Science” – Curriculum: Geodynamics and Volcanology

Thesis: The contribution of paleomagnetism on refining the ages of Holocene basaltic eruptions from active volcanoes: the cases of Etna (Sicily) and Cumbre Vieja (Canary Islands) volcanoes.

Supervisor: prof. G. Giordano; co-Supervisors: dr. F. Speranza, and Dr. S. Branca

06/10/2017 – 27/03/2020: Roma Tre University – L.go S. L. Murialdo 1, 00146 – Rome, Italy
Master’s Degree in “Geology of Territory and Resources”
Curriculum: Geodynamics and Volcanology

Thesis: Paleomagnetic dating and correlation of prehistoric lava flows of Etna (Sicily) volcano from the urban district of Catania.

Supervisor: prof. G. Giordano; co-Supervisors: dr. F. Speranza, and Dr. S. Branca

Vote: 110/110 *cum laude*

24/09/2013 – 30/03/2017: Roma Tre University – L.go S. L. Murialdo 1, 00146 – Rome, Italy
Bachelor’s Degree in “Geological Sciences”

Thesis: Crystals influence on viscosity of Mount Fuji andesites and Vesuvius tephri-phonolites.
Supervisor: prof. C. Romano; co-Supervisors: Prof. A. Vona, and Dr. I. Garozzo

Vote: 107/110

● QUALIFICATION

12/2020 - present: Roma Tre University; La Sapienza University
Chartered “Geologist A” (Ordine dei Geologi del Lazio)

Vote State Exam: Eligible

● PUBLICATION

Magli, A., Branca, S., Speranza, F., Risica, G., Siravo, G., & Giordano, G. (2022). Paleomagnetic dating of prehistoric lava flows from the urban district of Catania (Etna volcano, Italy). *Bulletin*, 134(3-4), 616-628. <https://doi.org/10.1130/B36026.1>

Magli, A., Speranza, F., Branca, S., Corsaro, R. A., Coltelli, M., Malaguti, A. B., & Giordano, G. Testing paleomagnetic dating accuracy on pre-historic flank eruptions from SE slope of Etna volcano. *Under review on Journal of Geophysical Research: Solid Earth*.

Magli, A., Speranza, F., Pompilio, M., Meletlidis, S., Di Roberto, A., Del Carlo, P., & Giordano, G. Holocene eruptive history of the Cumbre Vieja (La Palma, Canary Islands) volcano: insights from paleomagnetic dating of lava flows. *In prep.*

Magli, A., Speranza, F., Pompilio, M., Meletlidis, S., Di Roberto, A., Del Carlo, P., & Giordano, G. New paleomagnetic evidence from Montaña Goteras phreato-magmatic eruption and La Cucaracha archaeological site (La Palma, Canary Islands). *In prep.*

Malaguti, A. B., Speranza, F., Pistolesi, M., Renzulli, A., Rosi, M., & **Magli, A.** Paleomagnetism of tuff matrix as a proxy for ignimbrite emplacement temperature: Evidence from the Latera volcanic complex (Italy). *In prep.*

● MAIN INTERESTS

Research interests: Paleomagnetism applied to Volcanology, Paleomagnetic dating and correlation of Holocene basaltic lava flows/scoria cones from active volcanoes, Magnetic Properties of volcanic products, Petrographic Analyses of phenocrysts and groundmass from basaltic pyroclasts / lava flows, GIS-based study of morphologic properties of basaltic lava flows and eruptive vents.

Main research lines:

- Paleomagnetic correlation of previously distinct volcanic units. Paleomagnetic dating of Holocene (i.e., <14 ka BP) basaltic lava flows / scoria cones to refine the eruptive history of active volcanoes (with important implications for future volcanic hazard studies). Analyses of magnetic properties (e.g., Magnetic Susceptibility k , Natural Remanent Magnetization [NRM], hysteresis parameters, and Q Königsberger ratio) to corroborate paleomagnetic dating results.
 - Petrographic analyses of textures of both phenocrysts (from core to rim) and groundmass to trace the mechanisms of magma rising and lava flows emplacement.
 - Morphometric analyses of basaltic lava flows and eruptive vents (e.g., lava flow length [L], width [W], W/L ratio, etc.).
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● TECHNICAL SKILLS

Paleomagnetic sampling with a petrol-powered portable drill cooled by water and *in situ* orientation of samples using both a magnetic and sun compass (Pomeroy orienter). 2G Enterprises direct current SQUID cryogenic magnetometer to measure the Natural Remanent Magnetization (NRM) of samples. AGICO MK1-FA Kappabridge coupled with a CS-3 furnace to measure the variation of magnetic susceptibility with the temperature, and to obtain the Curie Temperature (T_c). MicroMag alternating gradient magnetometer to measure hysteresis loops. Optical microscope to carry out petrographic analyses on thin sections. ArcGIS and QGIS softwares to acquire and manage morphological data from DEMs and shapefiles. Field investigation: analysis of volcanic units at the macro-, meso-, and micro-scale and stratigraphic reconstructions.

● LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● TEACHING EXPERIENCE

09/2023 – **Science communicator** (Roma Tre University).

Topic: “European Night of Researchers” – Oral lessons to a non-specialized audience concerning igneous rocks and the related magmatic / volcanic processes.

11-12/2022 – **Science communicator** (Roma Tre University).

Topic: Presentation of Roma Tre Bachelor’s, Master’s Degrees, and PhD Course in Geology to high-school students in Rome (“Villa Flaminia” Institute and “Augusto Righi” High School).

06/2022 – **Teaching assistant** (Roma Tre University).

Topic: Field excursion on Colli Albani, Vesuvius and Stromboli volcanoes, focusing on lithofacies analysis and stratigraphic reconstructions of both effusive and explosive volcanic deposits, in the frame of the master’s degree course of Volcanology.

06/2021 – **Teaching assistant** (Roma Tre University).

Topic: Field excursion on Colli Albani and Bolsena volcanoes, focusing on lithofacies analysis and stratigraphic reconstructions of both effusive and explosive volcanic deposits, in the frame of the master’s degree course of Volcanology.

09/2019 – **Science communicator** (Roma Tre University).

Topic: “INGV Visitor Centre of Stromboli” – Exposure and illustration of scientific research activities and volcanic monitoring at Stromboli aimed at improving communication with a non-specialized audience.

● FIELD TRIPS, WORKSHOPS AND SHORT COURSES

01/2022 – **Short course – GIS Applications**

La Sapienza University, Rome, Italy.
Held by **Prof. Marta della Seta**.

10-12/2021 – **Short course (online) – Volcanoes: their formation, form, and function**

Royal Holloway University of London, London, UK.
Held by **Prof. Agust Gudmundsson**.

07/2021 – **Short course (online) – Melts, glasses and magmas**

Ludwing Maximilians Universität (LMU), Munich, Germany.
Held by **Prof. D. B. Dingwell**.

02/2021 – **Short course – Introduction to MatLab**

Roma Tre University, Rome, Italy
Held by **Dr. Valentina Magni**.

12/2020 - 01/2021 – **Short course (online) – Exploring volcanoes and their hazards: Iceland and New Zealand**

University of Canterbury, Christchurch, New Zealand
Held by **Prof. Ben Kennedy**.

12/2020 – **Workshop – 3D photogrammetry and virtual models of geological and anthropological structures.**

La Sapienza University, Rome, Italy.
Held by **Dr. Marco Mercuri**.

05-06/2020 – **Short course (online) – Monitoring Volcanoes and Magma Movements**

University of Iceland, Reykjavík, Iceland.
Held by **Dr. Freysteinn Sigmundsson**.

09/2022 – **Field trip – Sicily, Italy**

Topic: Field work aimed at investigating outcrops and morphology of basaltic lava flows from prehistoric flank eruptions of Etna volcano for my PhD project.

06/2022 – **Field trip – Paleomagnetic applications to Volcanology: a tribute to Roberto Lanza**

Topic: Field trip aimed at investigating the possible applications of Paleomagnetism on volcanic deposits, with the examples of Lipari and Vulcano volcanoes (Eolian Islands, Italy).

Held by: **National Institute of Geophysical and Volcanology (INGV), Italian Association of Volcanology (AIV) and International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)** .

03-04/2022 – **Field trip – La Palma, Spain**

Topic: Field work aimed at collecting samples from lava flows and scoria cones of prehistoric basaltic eruptions of Cumbre Vieja volcano for paleomagnetic analyses of my PhD project.

In collaboration with: **Prof. Guido Giordano** (Roma Tre University), **Dr. Fabio Speranza** (INGV Rome), **Dr. Massimo Pompilio** (INGV Pisa), and **Dr. Stavros Meletlidis** (IGN).

09/2021 – **Field trip – Recent eruptive history of Lipari and Vulcano**

Topic: Field trip on the lithofacies analysis of the recent effusive and explosive products of Lipari and Vulcano volcanoes (Eolian Islands, Italy).

Held by: **Italian Association of Volcanology (AIV)**.

05/2021 – **Field trip – Sicily, Italy**

Topic: Field work aimed at collecting samples from lava flows and scoria cones of prehistoric flank basaltic eruptions of Etna volcano for paleomagnetic analyses of my PhD project.

In collaboration with: **Dr. Fabio Speranza** (INGV Rome), **Dr. Stefano Branca** (INGV Catania), **Dr. Arianna Beatrice Malaguti** (INGV Catania), and **Dr. Mauro Coltelli** (INGV Catania).

02/2021 – **Field trip – Lazio, Italy**

Topic: Field work aimed at collecting samples from pyroclastic deposits of ignimbrites eruptions of Latera volcano for paleomagnetic analyses of Dr. Arianna Beatrice Malaguti project.

In collaboration with: **Dr. Arianna Beatrice Malaguti** (INGV Catania).

08/2019 – **Field course – XII School of Volcanology “Bruno Capaccioni”, Lazio, Italy**

Topic: Field course on the eruptive mechanisms, transport and emplacement of explosive volcanic products deduced from the deposits of Bolsena and Latera volcanoes.

Held by: **Italian Association of Volcanology (AIV)**.

● **CONFERENCES AND SEMINARS**

09/2023 – **SIMP–SGI–SOGEI National Congress – Potenza, Italy**

Oral presentation – **Magli, A.**, Speranza, F., Branca, S., Corsaro, R. A., Coltelli M., Malaguti, A. B., & Giordano, G. – Paleomagnetic dating of prehistoric flank eruptions from the SE lower slopes of Etna volcano.

10/2022 – **5th Rittmann Conference – Catania, Italy**

Oral presentation – **Magli, A.**, Speranza, F., Branca, S., Corsaro, R. A., Coltelli M., Malaguti, A. B., & Giordano, G. – Paleomagnetic dating of prehistoric flank eruptions from the SE lower slopes of Etna volcano.

06/2022 – **Cities on Volcanoes 11 – Heraklion, Greece – Online**

Poster session – **Magli, A.**, Branca, S., Speranza, F., Risica, G., Siravo, G., & Giordano, G.– Paleomagnetic dating of prehistoric lava flows from the urban district of Catania (Etna volcano, Italy).

10/2021 – **BeGEO Scientists – Naples, Italy**

Poster session – **Magli, A.**, Branca, S., Speranza, F., Risica, G., Siravo, G., & Giordano, G.– Paleomagnetic dating of prehistoric lava flows from the urban district of Catania (Etna volcano, Italy).

04/2021 – **4th Rittmann Conference for young researchers – Online**

Oral presentation – **Magli, A.**, Branca, S., Speranza, F., Risica, G., Siravo, G., & Giordano, G.– Paleomagnetic dating of prehistoric lava flows from the urban district of Catania (Etna volcano, Italy).

02/2020 – **4th Rittmann Conference – Catania, Italy**

Oral presentation – **Magli, A.**, Branca, S., Speranza, F., Risica, G., Siravo, G., & Giordano, G.– Paleomagnetic dating of prehistoric lava flows from the urban district of Catania (Etna volcano, Italy).

Rome, 28/12/2023

