

AUDITORIUM (09.00–10.45)

S05. EQUILIBRIUM/DISEQUILIBRIUM PROCESSES DURING MAGMA ASCENT: NEW INSIGHTS FROM LABORATORY AND MODELLING STUDIES AND OBSERVATIONS OF THE NATURAL SYSTEM

Conveners: *Giuseppe La Spina (INGV-OE), Paola Stabile (UniCAM), Michael R. Carroll (UniCAM), Margherita Polacci (UOM)*

09.00–09.15

The complex rheology of bubble-bearing magmas

Alessandro Frontoni, Alessandro Vona, Claudia Romano

09.15–09.30

Quantifying the influence of cooling rate and shear rate on the disequilibrium rheology of a basaltic melt from Mt. Etna (Italy)

Fabrizio Di Fiore, Alessandro Vona, Antonio Costa, Silvio Mollo, Claudia Romano

09.30–09.45

A comprehensive database of crystal-bearing magmas for the calibration of a rheological model

Alessandro Frontoni, Antonio Costa, Alessandro Vona, Claudia Romano

09.45–10.00

[INVITED] In situ 4D dendritic crystallization in hydrous basaltic magmas: implications for magma mobility within the Earth's crust

Fabio Arzilli, Margherita Polacci, Giuseppe La Spina, Nolwenn Le Gall, Edward W. Llewellyn, Richard A. Brooker, Danilo Di Genova, David A. Neave, Daniele Giordano, Mike R. Burton

10.00–10.15

Assessing the role of equilibrium thermodynamics in magma evolution by molecular dynamics and phase diagram calculations

Donato Belmonte, Giulio Ottonello, Francesca Menescardi

10.15–10.30

Shallow syn-eruptive carbonate assimilation and its effects on vesiculation and eruptive behaviour – insights from 3D reconstruction of experimental samples

Marco Knüver, Daniela Mele, Alessandro Pisello, Roberto Sulpizio, Diego Perugini, Antonio Costa, Francesco Vetere

10.30–10.45

Relationship between edifice collapse and eruptive activity on instant time scales: insights from the Pacaya 1 ka and Cumbre Vieja 2021 eruptions

Jorge E. Romero, Margherita Polacci, Fabio Arzilli, Shigeru Kitamura, Giuseppe La Spina, Francisco Cáceres, Mike Burton, Matthew Pankhurst

AULA 1 (09.00–10.45)

S06. LARGE ERUPTIONS MAGMA-CHAMBERS FORMATION AND EVOLUTION: IMPLICATIONS ON MAGMATIC PROCESSES, ERUPTION DYNAMICS AND ENVIRONMENTAL IMPACT

Conveners: *Sandro de Vita (INGV-OV), Claudia D'Orlando (INGV-PI), Ilenia Arienzo (INGV-OV), Domenico M. Doronzo (INGV-OV)*

09.00–09.15

Classification of ignimbrites and their eruptions

Guido Giordano, Ray Cas

09.15–09.30

Volcanological and petrological characterization of the Golja Ignimbrite (Main Ethiopian rift)

Federica Langone, Zara Franceschini, Francesca Forni, Bruno Scaillet, Gaëlle Prouteau, Stéphane Scaillet, Raffaello Cioni

09.30–09.45

From deposits to physical parameters of large-scale energetic pyroclastic density currents: the case of the 39.8 ka Campanian Ignimbrite, Italy

Aurora Silleni, Guido Giordano, Michael H. Ort, Roberto Isaia

09.45–10.00

Reconstructing pyroclastic currents' source and flow parameters from deposit characteristics and numerical modeling: The Pozzolane Rosse ignimbrite case study (Colli Albani, Italy)

Laura Calabrò, Tomaso Esposti Ongaro, Guido Giordano, Mattia de' Michieli Vitturi

10.00–10.15

The 79 CE eruption of Vesuvius - lesson from the past and future perspectives

Domenico Maria Doronzo, Mauro Antonio Di Vito, Ilenia Arienzo, Monica Bini, Benedetta Calusi, Matteo Cerminara, Stefano Corradini, Sandro de Vita, Biagio Giaccio, Lucia Gurioli, Giorgio Mannella, Giovanni Ricciardi, Ilaria Rucco, Domenico Sparice, Micol Todesco, Elisa Trasatti, Giovanni Zanchetta

10.15–10.30

Reconstructing the pre Campanian Ignimbrite (39 ka) activity of Neapolitan volcanoes: first stratigraphical results of boreholes drilling in proximal and intermediate-distal areas of the Campi Flegrei caldera

Domenico Sparice, Mauro Antonio Di Vito, Sandro de Vita, Carlo Pelullo

10.30–10.45

Timescales of mingling preceding the Zaro eruption at Ischia

Chiara P. Montagna, Carlo Pelullo, Ilenia Arienzo, Federico Brogi, Simone Colucci, Claudia D'Oriano, Sumit Chakraborty, Massimo D'Antonio, Lucia Pappalardo, Paola Petrosino

AUDITORIUM (11.15–13.30)

S12. THE 2021 UNREST OF VULCANO, AEOLIAN ISLANDS (SICILY): NEW INSIGHT FROM MONITORING DATA AND HAZARD ASSESSMENT

Conveners: *Mauro Coltelli (INGV-OE), Stefano Branca (INGV-OE), Francesco Italiano (INGV-PA), Augusto Neri (INGV-PI)*

11.15–11.30

The 2021 ongoing volcanic unrest at Vulcano island (Italy): clues from the INGV multidisciplinary surveillance network

Antonio Paonita, INGV-PA Monitoring Team, INGV-OE Monitoring Team

11.30–11.45

Variation of CO₂ emissions diffused from the soil during the 2021-2022 crisis of the La Fossa volcano (Vulcano, Aeolian Islands)

Cosimo Rubino, Luca Tarchini, Maria Luisa Carapezza, Domenico Granieri, Antonio Patera, Lucia Pruiti, Massimo Ranaldi, Francesco Sortino

11.45–12.00

Soil CO₂ flux surveys at Vulcano during 2021

Marco Camarda, Roberto M.R. Di Martino, Sergio Gurrieri, Giorgio Capasso, Vincenzo Prano

12.00–12.15

The effects of volcanic degassing on the air composition revealed by stable isotope surveys

Roberto M.R. Di Martino, Sergio Gurrieri

12.15–12.30

Three dimensional magnetotelluric modeling of Vulcano Island (Aeolian archipelago, Italy) and its implications for recent volcanic unrest

Maria Giulia Di Giuseppe, Roberto Isaia, Antonio Troiano

12.30–12.45

A deep learning approach to monitor the thermal anomalies associated with the 2000-2022 exhalation activity in Vulcano Island (Italy) using ASTER

Claudia Corradino, Michael Sean Ramsey, Eleonora Amato, Federica Torrisi, Ciro Del Negro

12.45–13.00

Detection of thermal unrest at La Fossa crater (Vulcano Island, Italy) using VIIRS imaging bands

Diego Coppola, Marco Laiolo, Adele Campus, Francesco Massimetti

13.00–13.15

Satellite time series analysis: a statistical approach. The Vulcano Island 2021 crisis

Federico Rabuffi, Malvina Silvestri, Massimo Musacchio, Vito Romaniello, Maria Fabrizia Buongiorno

13.15–13.30

Volcanic-related flank instability at Vulcano island

Roberto Gianardi, Marina Bisson, Mauro Antonio Di Vito, Paolo Madonia, Claudia Spinetti, Marco Polcari, Cristiano Tolomei, Gianfilippo De Astis

AULA 1 (11.15–13.15)

S09. VOLCANO-HYDROTHERMAL SYSTEMS AND RELATED HAZARDS: MULTI-DISCIPLINARY APPROACHES

Conveners: *Franco Tassi (UniFI), Manfredi Longo (INGV-PA), Dmitri Rouwet (INGV-BO)*

11.15–11.30

Hydrogeochemistry of the Turrialba and Irazú "twin volcanoes", Costa Rica

Dmitri Rouwet

11.30–11.45

Mount Etna volcanic emissions signature on the chemical composition of bulk atmospheric deposition in Sicily, Italy

Filippo Brugnone, Walter D'Alessandro, Francesco Parello, Filippo Saiano, Marcello Liotta, Sergio Bellomo, Lorenzo Brusca, Lorenza Li Vigni, Anna Maria Abita, Sergio Calabrese

11.45 – 12.00

The key-role of submarine calderas in the development of hydrothermal systems: new findings from Palinuro and Brothers seamounts

Luca Cocchi, Fabio Caratori Tontini, Filippo Muccini, Cornel E. J. De Ronde

12.00 – 12.15

Geochemistry of REE and trace elements in shallow hydrothermal vents at Panarea island (Italy)

Fabio Sposito, Francesco Italiano, Manfredi Longo, Lorenzo Brusca

12.15 – 12.30

The shallow hydrothermal brine of Panarea: preliminary characterisation of the acoustic signature

Gianluca Lazzaro, Manfredi Longo, Cinzia Caruso, Sergio Scirè, Agostino Semprebello, Francesco Italiano

12.30 – 12.45

Numerical simulations for the characterization of phreatic events on Vulcano Island

Santina Chiara Stissi, Gilda Currenti, Micol Todesco

12.45 – 13.00

Influence of vent geometry and grain size distribution on the dynamics of phreatic eruptions

Silvia Giansante, Tomaso Esposti Ongaro, Mattia de' Michieli Vitturi, Marco Pistolesi, Raffaello Cioni

13.00 – 13.15

General discussion