

Venerdì 20 settembre 2024
AUDITORIUM (09.00 – 10.30)

S13 - LINKING SURFACE OBSERVABLES TO SUB-VOLCANIC PLUMBING SYSTEMS AT ACTIVE CALDERAS

Conveners: Lucia Pappalardo (INGV, OV), Stefano Caliro (INGV, OV), Anna Tramelli (INGV, OV), Elisa Trasatti (INGV, RM)*

09.00 – 09.15

The dynamics of bradiseism: the recent unrest of Campi Flegrei, 1950-2024

Roberto Scandone, Lisetta Giacomelli

09.15 – 09.30

Investigating the ongoing unrest dynamics of Campi Flegrei caldera (Italy) by mathematical analysis of geophysical monitoring data

Andrea Bevilacqua, Augusto Neri, Prospero De Martino, Flora Giudicepietro, Giovanni Macedonio, Patrizia Ricciolino

09.30 – 09.45

Seismic sequences with very short earthquake intervals at Campi Flegrei during the ongoing unrest

Flora Giudicepietro and the INGV-CNR Team

09.45 – 10.00

Tracking transient changes in the plumbing system at Campi Flegrei Caldera

Genny Giacomuzzi, Claudio Chiarabba, Francesca Bianco, Pasquale De Gori, Nicola Piana Agostinetti

10.00 – 10.15

Exploring architecture and dynamics of caldera systems during volcanic unrest: The example of the Campi Flegrei caldera (Italy)

Gianmarco Buono, Francesco Maccaferri, Lucia Pappalardo, Anna Tramelli, Stefano Caliro, Virginie Pinel, Eleonora Rivalta, Elena Spagnuolo, Elisa Trasatti, Mauro Antonio Di Vito

10.15 – 10.30

[INVITED] Current status of the Campi Flegrei caldera: Can monitoring fluid migrations using shear wave splitting parameters and seismic interferometry help in adding constraints? Some results and perspectives

Francesca Bianco, Lucia Zaccarelli

Venerdì 20 settembre 2024

AULA 1 (09.00 - 10.30)

S05 - VOLCANOLOGY AND ARCHAEOLOGY: BRINGING THE WORLD OF PHYSICAL SCIENCES CLOSER TO THE HUMANITIES

Conveners: Stefano Branca (INGV, OE), Sandro de Vita (INGV, OV), Franco Foresta Martin (INGV, PA), Daniele Musumeci (UniCT)*

09.00 - 09.15

“On volcanoes, or ignivomous mountains” of Giovanni Targioni Tozzetti (1779)

Paolo Sammuri

09.15 - 09.30

Science and iconography in Der Aetna by Sartorius von Waltershausen

Stefano Branca, Luigi Ingaliso

09.30 - 09.45

Pompeii before the “Pompeii” eruption: insights into the pre-79 CE volcanic chrono-stratigraphy for geo-archaeological studies in one of the world's most famous archaeological sites

Domenico Sparice, Mauro Antonio Di Vito, Vincenzo Amato, Valeria Amoretti, Gabriel Zuchtriegel

09.45 - 10.00

The impact of the eruptive phases during the 79 AD Vesuvian eruption on Pompeii: insights from the recent excavations in Regio IX, insula 10

Claudio Scarpati, Annamaria Perrotta

10.00 - 10.15

An updated multidisciplinary review of the manner of death in Pompeii during the 79 CE eruption of Vesuvius

Valeria Amoretti, Domenico Sparice, Fabrizio Galadini, Mauro Antonio Di Vito, Gabriel Zuchtriegel

10.15 - 10.30

The casts of the victims of Pompeii

Lisetta Giacomelli, Roberto Scandone

Venerdì 20 settembre 2024

AULA 2 (09.00 - 10.30)

**S06 - STROMBOLI VOLCANO AND ITS VARIABILITY IN ERUPTIVE INTENSITY:
ADVANCES IN UNDERSTANDING ORIGINS AND IMPLICATIONS**

Conveners: Federico Di Traglia (INGV, OV), Marco Pistolesi (UniPI), Giuseppe Salerno (INGV, OE),
Alessandro Aiuppa (UniPA)*

09.00 - 09.15

**Sudden changes in pre-eruptive dynamics controlled the highly explosive ancient eruptive cycle
of Petrazza (77-75 ka, Paleostromboli I) at Stromboli**

Marta Minniti, Federico Lucchi, Eugenio Nicotra, Filippo Ridolfi, Roberto Sulpizio, Claudio Antonio Tranne

09.15 - 09.30

**Evolution of the eruptive activity at Stromboli (Aeolian Islands - Italy) during the last 4 millennia.
A tephrostratigraphic investigation on the early-phase of Recent Stromboli Eruptive Epoch**

Giuseppe Re, Alessio Di Roberto, Paola Del Carlo, Massimo Pompilio

09.30 - 09.45

**Morphological evolution of the subaerial and submarine Sciara del Fuoco slope in response to
eruptive and reworking processes**

*Claudia Romagnoli, Daniele Casalbore, Federico Di Traglia, Sonia Calvari, Nicola Casagli, Francesco Latino
Chiocci, Riccardo Civico, Flora Giudicepietro, Massimiliano Favalli, Alessandro Fornaciai, Teresa Gracchi,
Giovanni Macedonio, Teresa Nolesini, Tullio Ricci*

09.45 - 10.00

Can Vulcanian eruptions occur at open conduit Basaltic Volcanoes?

*Teresa Oreade Grillo, Guido Giordano, Alessandro Frontoni, Riccardo Russo, Gerardo Carrasco-Núñez,
Gianfilippo De Astis, Marco Viccaro, Luca Caricchi, Alessandro Vona*

10.00 - 10.15

**Constraints on magma source, pre-eruptive dynamics and timescales of the 2009 major explosions
at Stromboli volcano (Italy)**

*Laura Insinga, Marija Voloschina, Paola Marianelli, Erika Bartolomeo, Antonella Bertagnini, Nicole Métrich,
Silvio Giuseppe Rotolo, Alessandro Aiuppa, Marco Pistolesi*

10.15 - 10.30

**The monitoring of the submarine portion of Sciara del Fuoco (Stromboli) by using a USV
(Unmanned Surface Vehicle)**

Danilo Cavallaro, Mauro Coltelli

**Venerdì 20 settembre 2024
AUDITORIUM (11.00 – 13.00)**

[Continua] S13 - LINKING SURFACE OBSERVABLES TO SUB-VOLCANIC PLUMBING SYSTEMS AT ACTIVE CALDERAS

Conveners: Lucia Pappalardo (INGV, OV), Stefano Caliro (INGV, OV), Anna Tramelli (INGV, OV), Elisa Trasatti (INGV, RM)*

11.00 – 11.15

[INVITED] Geochemical monitoring at Solfatara, Campi Flegrei, during 2000-2024

Giovanni Chiodini, Team Solfatara

11.15 – 11.30

Defining deformation scenarios anticipating a future eruption at Campi Flegrei caldera, Italy

Eleonora Rivalta, Agnese Spina

11.30 – 11.45

Evolution of the plumbing system at Campi Flegrei caldera (Italy) during 2007-2023 from geodetic data inversions and petrological simulations

Ana Astort, Elisa Trasatti, Luca Caricchi, Marco Polcari, Prospero De Martino, Valerio Acocella, Mauro Antonio Di Vito

11.45 – 12.00

Time-lapse gravity observations during the current unrest at Campi Flegrei caldera

Tommaso Pivetta, Elisa Trasatti, Stefano Carlino, Prospero De Martino, Mauro Antonio Di Vito

12.00 – 12.15

b value enlightens different rheological behaviour in Campi Flegrei caldera

Anna Tramelli, Vincenzo Convertito, Cataldo Godano

12.15 – 12.30

Machine Learning Based Earthquake Catalog in Campi Flegrei

Xing Tan, Greg Beroza, Anna Tramelli, Sergio Gammaldi, Francesca Bianco, Warner Marzocchi

12.30 – 12.45

Real-time seismo-acoustic observations of the hydrothermal outgassing at the Pisciarelli active field in the Campi Flegrei caldera (Italy)

Rebecca Sveva Morelli, Dario Delle Donne, Stefano Caliro, Aldo Benincasa, Ciro Buonocunto, Antonella Bobbio, Antonio Caputo, Sergio Gammaldi, Lucia Nardone, Massimo Orazi

12.45 – 13.00

Fifteen years evolution in the experts' opinion on the current unrest of Campi Flegrei: where are we now?

Salvatore Ferrara, Jacopo Selva, Laura Sandri, Warner Marzocchi

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AULA 1 (11.00 – 13.00)

[Continua] **S05 - VOLCANOLOGY AND ARCHAEOLOGY: BRINGING THE WORLD OF PHYSICAL SCIENCES CLOSER TO THE HUMANITIES**

Conveners: Stefano Branca (INGV, OE), Sandro de Vita (INGV, OV), Franco Foresta Martin (INGV, PA), Daniele Musumeci (UniCT)*

11.00 – 11.15

New geophysical and archaeological investigations at the “Nunziatella” site in Mascali, Mount Etna (Italy)

Stefano Branca, Maria Rosaria Grasso, Valerio Materni, Angela Merendino, Vincenzo Sapia, Leonardo Vaccaro

11.15 – 11.30

New age determinations of the prehistoric human presence on Mount Etna

Stefano Branca, Orazio Palio, Francesco Privitera, Maria Turco

11.30 – 11.45

A multidisciplinary study in the Archaeological Park of Valle dell’Aci: exploring ancient settlements, hot springs, and fluid emissions to reconstruct its geological-structural framework

Alessandro Luppino, Carla Bottari, Francesca Forni, Salvatore Giammanco, Gianluca Groppelli

11.45 – 12.00

The advancements in the studies on Serracozzo Cave I (1971 Etna eruption)

Daniele Musumeci, Giuseppe Puglisi, Stefano Branca, Luigi Ingaliso

12.00 – 12.15

Geochemical and petrochemical characterization of the Breccia Museo obsidian fragments for archaeometrics purposes

Franco Foresta Martin, Sandro De Vita, Ilenia Arienzo, Bruna Cariddi, Lisetta Giacomelli, Anna Russolillo

12.15 – 12.30

The obsidian prehistoric tools of the anthropic occupation in Tulul al Baqarat (Iraq - IV Millennium): a machine learning approach on microanalytical non-invasive geochemical data

Gloria Vaggelli, Roberto Cossio, Alessandro Borghi, Stefano Ghignone, Carlo Lippolis

12.30 – 12.45

Puteoli and the ripa Puteolana: archaeological and geological insights on a Roman submerged waterfront

Maria Luisa Tardugno, Michele Stefanile, Michele Silani, Marco Anzidei, Mauro Antonio Di Vito, Sandro De Vita

12.45 – 13.00

Chronicles of announcements eruptions in Poás volcano, Costa Rica

Gino González, Willy Salazar-Chacón, Adolfo García, Roberto Isaia, Sveva Morelli, Dmitri Rouwet, Katherine Araya, Nadia Morera, Daniela Mele, Roberto Sulpizio

Venerdì 20 settembre 2024

AULA 2 (11.00 - 13.00)

[Continua] **S06 - STROMBOLI VOLCANO AND ITS VARIABILITY IN ERUPTIVE INTENSITY:
ADVANCES IN UNDERSTANDING ORIGINS AND IMPLICATIONS**

Conveners: Federico Di Traglia* (INGV, OV), Marco Pistolesi (UniPI), Giuseppe Salerno (INGV, OE),
Alessandro Aiuppa (UniPA)

11.00 - 11.15

**Joint exploitation of multi-frequency and multi-platform DInSAR data to monitor ground
displacements in volcanic areas: the Stromboli case study**

Claudio De Luca, Yenni Lorena Belen Roa, Manuela Bonano, Nicola Casagli, Federico Di Traglia, Marianna
Franzese, Teresa Gracchi, Michele Manunta, Fernando Monterroso, Teresa Nolesini, Giovanni Onorato,
Pasquale Striano, Muhammad Yasir, Riccardo Lanari and Francesco Casu

11.15 - 11.30

Monitoring and modelling of repeated crater-rim failures of the Stromboli volcano (Italy)

Teresa Nolesini, Tommaso Carlà, Teresa Gracchi, Guglielmo Rossi, Carlo Tacconi Stefanelli, Federico Di
Traglia, Nicola Casagli

11.30 - 11.45

**The transport behaviour of the Stromboli's volcanic plume inferred from combined scanning-
DOAS and UV Camera observations**

Giovanni Lo Bue Trisciuzzi, The Stromboli SO₂ Project Team

11.45 - 12.00

**Joint Analysis of Distributed Acoustic Sensing (DAS), Seismic, and Infrasonic Observations of
Volcanic Tremor, Explosions, and Pyroclastic Density Currents at Stromboli Volcano (Italy)**

Francesco Biagioli, Jean-Philippe Métaxian, Maurizio Ripepe, Eléonore Stutzmann, Pascal Bernard, Giorgio
Lacanna, Alister Trabattoni, Anne Mangeney, Gilda Risica, DAS working group

12.00 - 12.15

**Thermal emissions of active craters at Stromboli volcano: spatio-temporal insights from ten years
of satellite observations**

Francesco Massimetti and MIROVA Team UniTO, Team LGS UniFI, Team UniPA, Team UniPI, Team
INGV Osservatorio Etno, Team INGV Osservatorio Vesuviano

12.15 - 12.30

**Effusive events at Stromboli volcano and their correlations with major explosions and paroxysms
with uncertainty quantification**

Alessandro Tadini, Andrea Bevilacqua, Antonella Bertagnini, Massimo Pompilio, Patrizia Landi, Paola Del
Carlo, Alessio Di Roberto, Augusto Neri

12.30 - 12.45

**Toward a real-time analysis of Stromboli explosive activity using Artificial intelligence methods
on thermal images from monitoring camera**

Jose Francisco Guerrero Tello, Mauro Coltelli, Danilo Cavallaro, Marco Firetto Carlino

12.45 – 13.00

Anomalies detection in Stromboli's pre-paroxysm activity during November 2018 - September 2019

Fabrizio Ambrosino and Team Paroxysm_Precursors

**Venerdì 20 settembre 2024
AUDITORIUM (14.30 - 16.15)**

**S01 - GEOFLUIDS FROM MANTLE TO VOLCANIC AND GEOTHERMAL SYSTEMS:
SAMPLING, ANALYTICAL TECHNIQUES, AND INTERPRETATION OF DEEP AND
SHALLOW MAGMATIC PROCESSES**

Conveners: Franco Tassi (UniFI), Francesco Maria Lo Forte (UniPA), Orlando Vaselli (UniFI), Andres Libardo Sandoval-Velasquez (UniPA), Sergio Calabrese (UniPA; INGV, PA), Giulia Marras (UniRMSap)*

14.30 - 14.45

Mount Etna volcanic emissions signature on chemical and isotopic composition of rainwater

Filippo Brugnone and the Atmospheric Deposition Team

14.45 - 15.00

Satellite and in-situ measurements of the 2022 degassing unrest at Levante bay (Vulcano island, Italy)

Giancarlo Tamburello, Giovannella Pecoraino, Dmitri Rouwet, Sergio Calabrese, Giulio Bini

15.00 - 15.15

The geochemical monitoring of volatiles outgassing, soil CO₂ and plume SO₂, from Vulcano Island: 18 years of observations

Salvatore Inguaggiato, Fabio Vita, Claudio Inguaggiato, Marianna Cangemi

15.15 - 15.30

Magma degassing processes tracked from daily OP-FTIR gas survey throughout the 2021 explosive-effusive Tajogaite eruption (La Palma, Canary Islands)

Maria Asensio-Ramos, Ana Pardo Cofrades, Mike Burton, Alessandro La Spina, Patrick Allard, and the TAJOGAITE GAS TEAM

15.30 - 15.45

Evaluation of gas data variability from low-temperature fumaroles in the Azores archipelago, 2015 - 2023

Daniela Matias, Mathis Antlauf, Fátima Viveiros, Lucía Moreno, Catarina Silva, Sérgio Oliveira

15.45 - 16.00

The plumbing system of Fogo volcano (Cape Verde archipelago) inferred from Carbon and Helium isotopes

Francesco Maria Lo Forte, Guillaume Boudoire, Maria Luce Frezzotti, Silvio Giuseppe Rotolo, Andres Sandoval-Velasquez, Fátima Viveiros, Vittorio Zanon, Alessandro Aiuppa, Andrea Luca Rizzo

16.00 - 16.15

The relationship between the geochemistry of light hydrocarbons and the redox conditions of hydrothermal systems: new clues from fumarolic gases of Vulcano Island, Southern Italy

Andrea Ricci, Jens Fiebig, Franco Tassi, Sven Hofmann, Francesco Capecchiacci, Orlando Vaselli

Venerdì 20 settembre 2024
AULA 1 (14.30 - 16.15)

S09 - PLUMBING SYSTEM AND VOLCANO DYNAMICS: PETROLOGIC TOOLS FOR TRACKING MAGMAS FROM STORAGE TO ERUPTION

Conveners: Gabriele Lanzafame (UniCT), Federico Casetta (UniWIEN), Marisa Giuffrida (UniCT), Nicolò Nardini (UniFE)*

14.30 - 14.45

The magma storage capacity of Etna plumbing system: constraints from 3 decades of lava compositional change and magma degassing budget since the early 1970s

Patrick Allard, Rosa Anna Corsaro, Nicole Mètrich

14.45 - 15.00

Geochemistry and volatile contents of olivine hosted melt inclusions from Mt. Etna tholeiitic and alkaline magmatism

Pier Paolo Giacomoni, Matteo Masotta, Guillaume Delpech, Gabriele Lanzafame, Carmelo Ferlito, Johan Villeneuve, Massimo Coltorti

15.00 - 15.15

Cryptic amphibole at Mt. Etna (Sicily, Italy): insights from the 2001 lava and an amphibole-rich cumulitic xenolith

Pier Paolo Giacomoni, Simone Costa, Fabio Colle, Matteo Masotta, Gabriele Lanzafame

15.15 - 15.30

Amp-TB2 protocol: how to use amphibole for tracking the storage and movement of magma into the crust and upper mantle

Filippo Ridolfi, Renat R. Almeev, Alexey Yu Ozerov, Francois Holtz

15.30 - 15.45

Evidence of magma mixing within the clinopyroxene populations in volcanic and plutonic rocks from the Dolomites (Southern Alps; Italy): how to enhance plumbing system investigations untangling the volcano-plutonic link

Nicolò Nardini, Federico Casetta, Chiara Maria Petrone, Theodoros Ntaflos, Massimo Coltorti

15.45 - 16.00

Petrological evolution of the trans-crustal plumbing system of Marsili volcano (Tyrrhenian Sea, Italy): insights into crystal mush heterogeneity from glomerocrysts variability.

Fabio Colle, Matteo Masotta, Simone Costa, Pier Paolo Giacomoni, Michael Marani, Teresa Trua

16.00 - 16.15

Thermobarometric and microthermometric insights into the Monte Amiata magmatic reservoir

Simone Paternostro