

FIRST ITALIAN WORKSHOP ON FLUID AND MELT INCLUSIONS (*Primo Workshop Nazionale sulle Inclusioni fluide e vetrose, WNI 2023*)

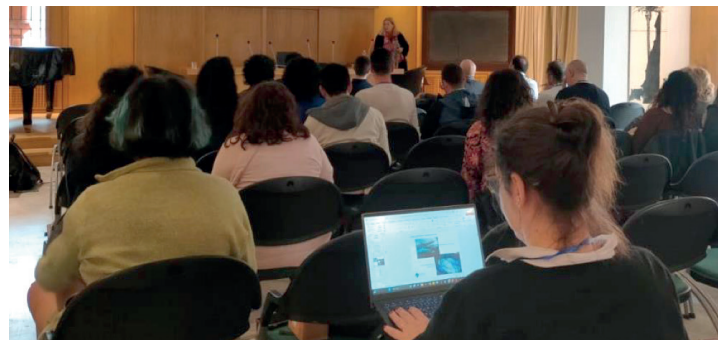
The “First Italian Workshop on Fluid and Melt Inclusions” took place in the beautiful location of the Botanical Garden of Palermo, Sicily, Italy, on May 10–11, 2023. The workshop was organized by Dr. Francesco Maria Lo Forte and Prof. Alessandro Aiuppa of the University of Palermo (Italy), and Dr. Simone Costa of the University of Pisa (Italy). The Department of Earth and Marine Sciences at the University of Palermo (DiSTeM) acted as the main sponsor for the event. The workshop received significant financial support and sponsorship from several organizations, including the Italian Society of Mineralogy and Petrography (SIMP), the Italian Association of Volcanology (AIV), the Italian Geochemical Society (So.Ge.I.), and the Italian Gemological Review (IGR). These organizations also served as media partners and sponsors. The workshop attracted a diverse range of participants, including researchers; PhD, master's, and bachelor's students; as well as individuals from national and international universities and research institutions, including the National Research Council (IGG-CNR) and the National Institute of Geophysics and Volcanology (INGV). The main objective of the workshop was to explore the identification, characterization, and application of fluid and melt inclusions in the field of Earth sciences. Additionally, it aimed to facilitate communication between academic researchers, young researchers, and the national and international business community. Notably, the workshop integrated the expertise of gemologists who approached the study of fluid and melt inclusions from a commercial standpoint, bridging the gap between academia and industry.



Group photo of the participants.

Spanning two days, the workshop comprised four thematic sessions, each featuring keynote speeches by experts in the field. Following the keynotes, participants had the opportunity to present their research through oral presentations. Lively and insightful scientific discussions took place during the various coffee breaks and the two lunches. The workshop commenced with a warm welcome from the Head of the DiSTeM and the organizers, followed by a pleasant ice-breaker activity.

The first day of the workshop focused on two scientific themes, one in the morning and another in the afternoon after lunch. The morning theme, titled “*Fluid inclusions, tracers of petrological and geodynamic processes*”, featured keynote speeches on “*Carbon fluxes in the lithospheric mantle recorded by fluid inclusions*” by Prof. Maria Luce Frezzotti (University of Milan Bicocca, Italy) and “*Noble gases isotopes in fluid inclu-*



Attendees during one of the scientific themes.



Guided tour of the Botanical Garden of Palermo.



Coffee break outdoors.

sions: methods and applications to Geosciences” by Dr. Andrea Rizzo (INGV section of Milan). The afternoon theme, titled “*Resources and reserves, fluid inclusions as a survey method for prospecting*”, began with a plenary lecture by Giovanni Ruggieri (National Research Council, IGG-CNR, Italy) on the “*Application of the synthetic fluid inclusion method for temperature measurements in super-hot geothermal reservoirs*”.

The second day of the workshop focused on the third scientific theme, titled “*Melt inclusions as tracers of deep and superficial magmatic processes*”, in the morning. The keynote speech during this session was delivered by Dr. Rosario Esposito (University of Milan Bicocca) on “*Selecting melt inclusions associated with volcanic systems and interpreting their volatile records: an integrated approach*”. The closing scientific session of the workshop was titled “*Fluid inclusions in materials of gemological interest*” and was introduced by Dr. Maya Musa (University of Milan Bicocca and University of Pavia, Italy) with a presentation entitled “*Fluid inclusions in gemstones: what information can they provide for gem lab applications?*” The workshop concluded with an interesting and captivating guided tour of the Botanical Garden, which hosts more than 12,000 different plant species from all continents. This pioneering event in the Italian community generated interest and enthusiasm among the participants, with hopes of continuity for future years.

The organizers, **Francesco Maria Lo Forte**, **Alessandro Aiuppa**, and **Simone Costa**