



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DES SCIENCES
Département des sciences
de la Terre

Seminar of the Department of Earth Sciences, UNIGE
March 6, 11h15 in Room 001
Rue des Maraîchers 13, CH-1205 Genève or via [Zoom](#)

Petrological monitoring of active volcanoes one crystal at a time

Dr. Chiara Petrone

Natural History Museum, London

Volcanic eruptions are spectacular displays of nature's incredible power, but they put local communities at risk. Approximately 800 million people worldwide live within 100 km of a volcano that is currently erupting or has the potential to erupt in the future. Our ability to mitigate their hazard relies on empirical analyses of monitoring data, with large uncertainties in estimating the probability of an eruption and its impact.

Forecasting the size, duration and hazards of eruptions requires a deep understanding of magma transport and storage and quantifying the timescales of the processes occurring beneath the surface. The relationship between these sub-surficial processes and geophysical and geochemical observations made at the surface is key to understand volcanoes behaviour.

The minerals within the rocks erupted during volcanic eruptions are an incredible archive of information. They act like a probe into the volcano's interior, allowing us to decode its behaviour and inform volcanic hazards assessment. Drawing from examples of some of the most active volcanoes in the world – such as Popocatepetl and Colima in Mexico, and Stromboli and Etna in Italy – this talk will take you on a journey inside the volcano factory, exploring the hidden processes that drive eruptions.

The Mineralogical Society of the UK
and Ireland Distinguished Lecturer for
2025–26

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