

GMPV Seminar:

Wednesday 1 October 2025 at 4:30 pm, room U1-07 Marchetti

Martian Petrology and Volcanology from a Meteorite Perspective

Dr. Nicola Mari

University of Calabria

Martian meteorites are the only geological samples from Mars that are available for study on Earth. Most of them are volcanic rocks, and the most abundant types are the shergottites (basalts), nakhlites (clinopyroxenites), and chassignites (olivine cumulates). Mars is characterised by a stagnant-lid geodynamic regime, without evidence of homogenization of the mantle after the end of the last magma ocean phase (~4.5 billion years ago). These samples therefore carry invaluable information about the evolution of Mars' interior, as well as the planet's surface, atmosphere, and possibly also its hydrosphere. Combined studies on these exceptional extraterrestrial materials have implications for the formation and evolution of Mars, as well for the thermal state, internal composition, volcanism, interior evolution on terrestrial planets with a stagnant-lid regime.



A piece of the Martian meteorite 'Tissint', a lava coming from Mars (Credits: Natural History Museum, Vienna).

The seminars are open to students, PhD students, Postdocs, and all the interested colleagues.