UNIVERSITÄT BERN

Institute of Geological Sciences Kolloquium Seminar

Monday, 26th May 2025
at 16:15 Studer Auditorium, 2 OG

Mara Murri
Department of Earth and Environmental Sciences,
University of Pavia

"A Space journey from astronomical silicates to impact diamonds"

Silicate nanoparticles are common in the interstellar medium. During their lifetime they experience substantial chemical and structural modifications due to grain-grain collisions and irradiation. Understanding how space weathering processes affect these materials is of fundamental importance for interpreting remote sensing data of Solar System bodies (e.g., planets, asteroids). In addition to space weathering effects there are also those resulting from impact shock events that play an important role in shaping the surface of planetary bodies. Impact cratering is indeed one of the most common geological processes of the Solar System. Even though impact structures on Earth are not preserved forever due to tectonic activity, vegetation and erosion, there are some shock-induced changes occurring in rock-forming minerals that are irreversible and provide unique structural features such as those retained within the Popigai impact diamonds.