

Sofía Jiménez Barranco, National Autonomous University of Mexico, Ciudad de México, México, for her project: *Sr and O Isotopes in Epidote: Tracing Fluid-Rock Interaction in Subduction Zones*.



Sofía Jiménez Barranco is a Mexican M.Sc. student who graduated from the Faculty of Engineering at the National Autonomous University of Mexico (UNAM), where she earned her degree in Geological Engineering in 2023 with a thesis evaluating the effects of fluid–rock interaction processes (FRIP), particularly the geochemical variations in trace elements (LILE, Pb) that occurred during the high-pressure, low-

temperature (HP-LT) metamorphism of rocks from the Acatlán Complex (AC)—a Paleozoic subduction zone in southern Mexico. This research has been presented at national and international conferences since 2022 and was published in 2025 in a scientific article in Scientific Reports.

However, aside from this study, no further projects in Mexico—and specifically in the AC—have explored the geochemical and mineralogical effects of FRIP. This prompted Sofía to pursue a Master's degree in Earth Sciences at the Institute of Geology, UNAM, beginning in 2024. Her current research focuses on highlighting the potential of epidotes as tracer minerals of FRIP through in-situ geochemical analyses (EMPA, LA-ICP-MS) of various epidote microstructures—including veins, bands, inclusions, and zoned porphyroblasts—formed during the release of fluids derived from the dehydration of metasediments interacting with subducted oceanic crustal rocks, throughout metamorphism under blueschist and eclogite facies conditions in rocks from the AC, under the supervision of Dr. Anthony Ramírez Salazar.

Thanks to the Lincoln S. and Sarah W. Hollister Graduate Student Research Awards Fund, her master's project will incorporate Sr and O isotope analyses in epidote separates, a methodology still scarcely explored in the field of metamorphic petrology and being applied for the first time in Mexico.

Outside of her academic research, Sofía has also worked professionally in the field of geotechnical engineering. She is passionate about cooking, reading, cats, dancing and visiting museums.