

Santiago Ramos Galarza, University of Illinois Chicago, Chicago, Illinois, USA for their project: *Tracking fertility of ore-forming magmas using apatite geochemistry in Sonora, Mexico*.

Santiago Ramos Galarza is a Ph.D. student in the Department of Earth and Environmental Sciences at the University of Illinois Chicago, working in the Hernandez-Urbe Lab. Before beginning his doctoral studies, Santiago completed his undergraduate degree at Escuela Politécnica Nacional in Ecuador, where he also gained teaching experience as an assistant lecturer

His current research sits at the intersection of petrology, thermodynamics, and geochemistry. By analyzing the chemical signatures of key accessory phases, particularly apatite and titanite, his investigation aims to identify the magmatic processes that mobilize trace elements and to establish links to the genesis of porphyry

copper deposits (PCDs). He integrates field-based observations and petrographic characterization with phase-equilibrium modeling to constrain pressure-temperature-compositional (P-T-X) paths and fluid-rock interactions in gold-related Archean orogens.

With generous support from the Lipman Student Research Grant, Santiago will carry out U-Pb geochronology and rare earth element (REE) geochemical analyses on intrusive suites from the Sonoran porphyry belt in northern Mexico. This analytical support is vital for constraining the timing, thermal evolution, and magmatic-hydrothermal transitions responsible for PCD fertility in the region.

