

Eshmael Enwia, University of Illinois Chicago, Chicago, Illinois, USA for their project: *Using titanite and magnetite to constrain the fertility of PCD forming magmas in Sonora, Mexico.*

Mr. Enwia is a master's student in the Earth and Environmental Sciences program at the University of Illinois Chicago (UIC), where he also earned his bachelor's degree. Working under the guidance of David Hernandez Uribe, he studies copper deposits in Sonora, Mexico. His broader research interests center on economic geology, igneous processes, and the geological controls responsible for forming and concentrating economically important metals. Through this work, he is developing experience in geological research and interpreting mineral-based records of magmatic systems. He hopes to build a career investigating mineral deposits and contributing to a better understanding of the processes that generate critical mineral resources.

His Lipman Research Award project, "*Using titanite and magnetite to constrain the fertility of Porphyry copper deposits (PCD) forming magmas in Sonora, Mexico,*" examines the magmatic processes associated with porphyry copper deposit formation. PCDs are among the world's most important sources of copper, yet distinguishing magmas capable of producing mineralization from unproductive magmas remains a major challenge in economic geology. His research uses titanite and magnetite accessory



minerals that preserve chemical information about the magmas in which they crystallized to investigate the conditions linked to fertile magmatic systems. By comparing the mineral records of potentially fertile and less fertile magmas, the project seeks to identify characteristics associated with copper mineralization in Sonora. The results could improve understanding of the region's ore-forming systems and help refine mineral-based tools for evaluating the potential of magmatic rocks to host porphyry copper deposits.