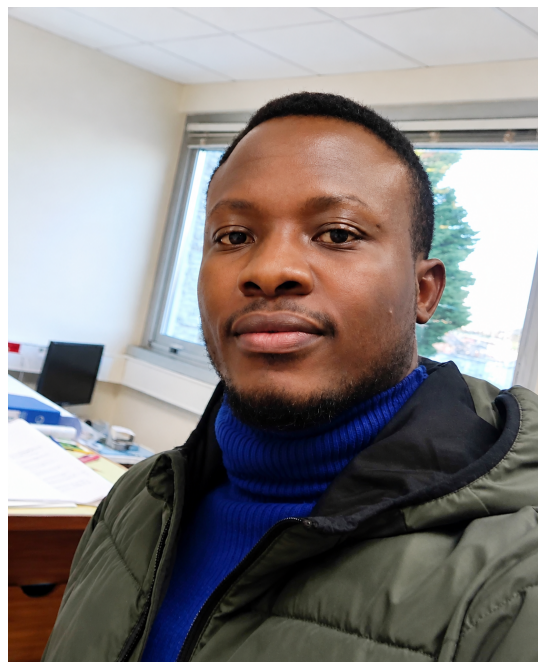


Emmanuel Nyavor, University of Florida, Gainesville, Florida, USA for his project: *Agronomic and Economic Potential of the Kpong Carbonatite: A Mineralogical and Geochemical Study*.

Emmanuel Nyavor is a Ph.D. student in the Department of Geological Sciences at the University of Florida. His research focuses on enhanced rock weathering using basaltic rocks and basalt–carbonatite composites to improve soil health, enhance nutrient availability, and support carbon cycling (contribute to climate solutions) while also examining critical mineral potential of carbonatites. Originally from Ghana, West Africa, he earned his undergraduate and master's degrees in Earth Science and Geology, respectively, from the Department of Earth Science at the University of Ghana. With a background in farming, he brings a strong appreciation for agricultural challenges to his geoscience research. His professional expertise is grounded in economic geology and spans more than 8 years in the mineral exploration industry, particularly in gold, lithium, and rare earth element exploration. This



combination of agricultural experience, economic geology, and geochemical research informs his interdisciplinary approach to evaluating geological materials for agronomic and resource-development applications.

Under the supervision of Dr. David Foster, this project investigates the agronomic and rare earth element (REE) potential of the Kpong Carbonatite (KC) in Ghana through integrated mineralogical and geochemical characterization. Carbonatite samples will be collected from the Kpong complex and analyzed using X-ray fluorescence (XRF), X-ray diffraction (XRD), and inductively coupled plasma mass spectrometry (ICP-MS) to determine mineral assemblages, major-element compositions, trace-element concentrations, and REE abundances. The agronomic suitability of the carbonatite will be assessed by measuring its calcium carbonate equivalent (CCE) and effective calcium carbonate equivalent (ECCE). Additionally, geochemical simulations will evaluate nutrient release and alkalinity production in acidic tropical soils. By integrating mineralogy, geochemistry, and modeled weathering behavior, the study aims to identify carbonatite samples with the greatest potential to improve soil fertility and pH, and to support possible critical-mineral exploration. The project therefore links agrogeology and economic geology by evaluating the Kpong Carbonatite as a potential dual-purpose resource for sustainable agriculture and REE exploration

In addition to his passion for research, Emmanuel enjoys reading, writing, swimming, farming. He is grateful to the Howard and Jean Lipman Foundation and the Geological Society of America for supporting his project.