

Bridget A. Alex, Anthropology and Chemistry

University: Dartmouth College

Year in School: Senior

Hometown: Pittsburgh, Pennsylvania

Faculty Mentor: Dr. Michael D. Glascock, Research Reactor

Funding Source: U.S. Dept. of Energy Innovations in Nuclear Infrastructure and Education Summer MURR Undergraduate Research Scholarship

Chemical sourcing of prehistoric ceramics from Mesoamerica

Bridget A. Alex, Deborah L. Nichols (Dartmouth College), and Michael D. Glascock (University of Missouri)

For over 3000 years the Basin of Mexico has been a cultural core of Mesoamerica—the location of Teotihuacán, the Aztec capital, and modern Mexico City. Despite the region's enduring prominence, little is known about early interactions between its different cultures. This project investigates ceramic exchange in the Basin of Mexico during the Formative Period (1200-500 BC) by chemically sourcing ceramics from four sites in the northeastern corridor, the Teotihuacán Valley. Instrument Neutron Activation Analysis (INAA) was used to determine the elemental compositions of 105 pottery sherds. The concentrations of 33 elements were detected and ceramics were grouped according to elemental compositions. When the differences between groups were greater than differences within groups, the pottery within a group was assumed to have the same provenance. Thus the study determined the proportion of locally made pottery and identified samples that appear to be imports.