

Luca Maule Penteado Sanches, Ohio University, Athens, Ohio, USA for their project: *Developing lawsonite as a petrochronometer for fluid processes in subduction zones*.

Luca Maule is a second-year master's student studying hydrothermal processes in subduction zones in the Earth and Environmental Geosciences Department at Ohio University, working with Dr. Katherine Fornash. He earned his Bachelor's in Geology at São Paulo State University in Brazil, where his undergraduate thesis focused on characterizing the hydrothermal event and the metallogeny of a gold deposit in central Brazil.

His master's project combines metamorphic petrology and geochronology and aims to investigate the timing of the subduction using unusually large lawsonite crystals in eclogites from the Sivrihisar Massif in Turkey. The study will use trace-element contents preserved in different zones within the crystals to determine the reaction history during subduction and exhumation. Lawsonite also incorporates amounts of Lu, a property that enables geochronology studies using the Lu-Hf isotopic system. Together, these two goals can help to clarify fluid-rock interactions and timing in this paleosubduction zone.



Resources from the Howard and Jean Lipman Foundation will be used to perform electron probe microanalysis (EPMA) of the lawsonite grains to investigate their zoning patterns and laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) to measure trace-element abundances in each zone. Other resources will support the *in situ* Lu-Hf geochronology.

Luca Maule is honored and grateful to be named a Howard and Jean Lipman Foundation Student Research Grant recipient and is thankful to the Geological Society of America for supporting his master's thesis research.