

Megan Koch, Syracuse University, Syracuse, NY, for her project: *Determining intrusion depths of peraluminous granites through elastic thermobarometry*

Megan Koch is a current PhD candidate at Syracuse University working with Dr. Jay Thomas. In part, her dissertation research is focused on evaluating the application of elastic thermobarometry to the pressure-temperature-time (P-T-t) path of rocks. Elastic thermobarometry uses the elastic properties of mineral inclusions to determine the P-T conditions at which they were entrapped within rigid host minerals such as garnet. Megan uses piston-cylinder experiments growing garnets with inclusions as well as natural samples to understand the conditions under which zircon-in-garnet and quartz-in-garnet host-inclusion systems can be applied effectively to understand deep Earth processes.



With the support of the Lipman Student Research Grant, Megan will conduct a field campaign to investigate garnet-bearing peraluminous intrusions associated with the Idaho Batholith in Idaho, USA. This project aims to evaluate the viability of using elastic thermobarometry in magmatic rocks to determine their depth of intrusion and crystallization. At present, there are relatively few robust methods available to determine the depth of emplacement of granitic intrusions, which can often host critical mineral deposits relevant for societal needs.

Megan completed her B.S. and M.S. in Geosciences at the University of Iowa before working as a researcher for a year in Kraków, Poland on a Fulbright student research grant. She is very grateful for financial support from the Lipman Research Fund for her dissertation research at Syracuse University.