

Sophia Johnson, University of Washington, Seattle, Washington, USA for their project: *Constraining the P-T Conditions of a Fossil Brittle Ductile Transition*.

Sophia (Sophie) Johnson is a fourth year PhD candidate at the University of Washington advised by Dr. Cailey Condit. They are interested in the rheology and petrology of thermotectonically dynamic crustal systems from deep cordilleran arc roots to the brittle-ductile transition and deep seismogenic zone in strike-slip systems.

On the deep end, they use the geologically near-modern Mercaderes xenolith suite, which samples a complete lithospheric section through the Andean Northern Volcanic Zone in Colombia, to study evolving density and viscosity structures in dripping arc lithosphere.

On the mid-crustal side, they study the Great Common fault zone, a world-class exposure of an exhumed deep seismogenic zone localized in the Rye Complex, a distributed ductile shear zone developed in polymetamorphosed rocks. It is with the financial support provided by the MGPV Division and GSA that they are able to build on field work and preliminary Pressure-Temperature (P-T) estimates to better constrain the P-T conditions of this fossil brittle-ductile transition.

Sophie enjoys combining multiple data types, especially field data, petrographic microscopy, electron backscatter diffraction (EBSD), and electron probe microanalysis (EPMA). Collaboration is important to Sophie, and they are grateful to collaborate with Drs. Mauricio Ibañez-Mejia and Rachel Bernard on the Colombian xenolith project, Dr. Drew Levy on the Great Common fault zone project, and many other mentors.

Sophie received a bachelor's degree from Middlebury College in Geology. At Middlebury, Sophie completed a senior thesis on the geochronology, geochemistry, and tectonic setting of Ordovician metavolcanic rocks in the Liberty-Orrington belt, Maine, USA, advised by Dr. Dave West and co-advised by Dr. Emily Peterman at Bowdoin College. This work resulted in Sophie's first published paper.

Outside of research, Sophie served a two-year term as a graduate student coordinator for their department's K-12 outreach program, "Rockin' Out," sat on the departmental graduate student Research Gala committee, and is currently a departmental graduate student representative.

