



# Mineralogical Association of Canada

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## MAC FOUNDATION SCHOLARSHIP WINNERS

We congratulate David Turner and Amy Ryan, recipients of the 2013 MAC Foundation scholarships.



**David Turner** completed his BSc at the University of Victoria in 2003 and then followed his childhood passion for gemstones into Yukon Territory exploring for emeralds. That venture led to studying, with Dr. Lee Groat at the University of British Columbia, the geological conditions that resulted in gem beryl mineralization at the True Blue aquamarine occurrence, and completing an MSc in 2006. The following 5 years were spent integrating mineralogical approaches to mineral exploration, with a particular focus on rare metals hosted in pegmatites, evolved granites, and carbonatites. David returned to academia in 2010 as a PhD student to study the reflectance spectroscopy of rare earth element-bearing minerals and rocks and is cosupervised by Drs. Lee Groat (UBC) and Benoit Rivard (University of Alberta).

His PhD research involves documenting variations of the sharp and diagnostic absorption bands of lanthanides hosted in various minerals, with the broader goal of applying the knowledge to other aspects of hyperspectral imaging spectroscopy in geoscience, such as diamond drill core logging. David's fascination with gemstones still continues, as he sneaks various gems into the corners of the imaging spectroscopy scenes for fun—one can never have enough pet projects!



**Amy Ryan** was born in Berkeley, California. She completed her BA at Colorado College in Colorado Springs, Colorado, in 2010, studying lava-flow morphology and rheology at Volcán de Colima in Colima, Mexico, as a part of her senior thesis. In 2011 she began a one-year stint as a contractor at the Office of the Massachusetts State Geologist, before starting her MSc at the University of British Columbia with Dr. Kelly Russell in the fall of 2012.

Upon her arrival at UBC, Amy began experimentally studying water solubility and bubble growth dynamics in silicate melts at atmospheric pressure. The presence of dissolved or exsolved water within a silicate melt can have important implications for volcanic systems, especially

considering the effects of dissolved water and bubble fractions on viscosity and the fragmentation process. Amy's work seeks to explore previously understudied pressure regimes, with the ultimate aim of thoroughly characterizing water solubility limits at a range of temperatures, quantifying bubble growth rates, and developing thermodynamic and kinetic models to describe these relationships at atmospheric pressure. Her work will be used to refine current solubility models and to explore how the temperature dependence of water solubility can change the physical properties of a cooling magma body at the surface.

## Interested in Metamorphism? We have publications for you!



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Abstract Submission deadline is February 1.