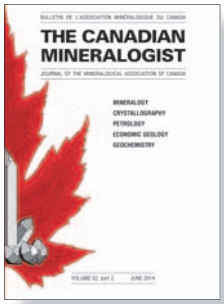
Mineralogical Association of Canada

www.mineralogicalassociation.ca

THE CANADIAN MINERALOGIST

Over the last two years, there have been significant changes in the way *The Canadian Mineralogist* is produced. These include the introduction of an online submission and tracking system, changing the first issue in a year to January from February, and introduction of "Online First."

Unfortunately, the introduction of Online First resulted in a major production delay due to unforeseen problems with one of the journal's subcontractors. The problem had been resolved and the first three 2015 issues were finally released. At that point, we expected subscribers would receive issues at the rate of one per month until we were caught up at the end of 2015. In December 2015, while the remaining three 2015 issues were with our typesetter, catastrophic flooding at their location effectively destroyed the production office and displaced much of the production team. After extensive recovery and retraining work, proofs went back into production in early February 2016. Regrettably, over the following weeks it became clear that the new production team was not capable of producing the quality of product that contributors to *The Canadian Mineralogist* expect and deserve.



In order to address this problem, and to recover as quickly and effectively as possible, we have engaged Allen Press. Allen Press is a highly regarded and flexible company and is already demonstrating their commitment to working with *The Canadian Mineralogist* staff and editors. The three remaining 2015 issues are expected to be in press by early June 2016. Articles scheduled for 2016 issues will follow shortly thereafter.

We at *The Canadian Mineralogist* thank you for your ongoing support.

Online First Articles

In the meantime, have a look at articles which will be published in upcoming issues that are already available online at www.canmin.org/content/early/recent, a Highwire website where the *The Canadian Mineralogist* is hosted. Online First is a feature offered through The Canadian Mineralogist. It enables journal articles to appear online soon after they have been accepted for publication and ahead of the printed issue. Articles appearing on this page have been accepted, edited, and prepared for publication. They will be removed from this page once they are published as part of an issue. The article's doi number will remain consistent.

Upcoming Issues

Upcoming issues include:

- A thematic issue in honor of John L. Jambor
- A thematic issue to accompany the 12th International Platinum Symposium

Check the complete list of articles that are expected in the July 2015 thru January 2016 issues at www.mineralogicalassociation.ca/doc/Upcoming_Issues.pdf

Call for Associate Editors

The Canadian Mineralogist is in need of associate editors, especially in the areas of economic geology and granitic rocks. The associate editors solicit reviews and make recommendations to the editor. This process is facilitated by the editorial manager web program and consequently the workload is quite reasonable. The normal term is three years, although we welcome associate editors interested in multiple terms. If you are interested please contact the editor, Lee A. Groat, at groat@mail.ubc.ca.

UPCOMING GAC–MAC MEETINGS

GAC–MAC Joint Meeting

14–18 May 2017; Queen's University, Kingston, ON, Canada

GAC-MAC 2017
Kingston, Ontario
BACK TO WHERE IT BEGAN

Six proposed themed sessions will run concurrently, as follows:

- Session 1: Environmental Issues
- Session 2: Quaternary Systems
- Session 3: Geochemical Systems
- Session 4: Tectonics
- Session 5: Earth Surface Systems Past and Present
- Session 6: Geological Engineering

More info at: www.kingstongacmac.ca

CIM-GAC-MAC Joint Meeting

Resources for Future Generations
16–21 June 2018; Vancouver, BC, Canada

Call for sessions opens in spring 2016, followed by the call for abstracts in June 2017. More info at: rfg2018.org

MAC TRAVEL AND RESEARCH GRANTS

In 2015, the Mineralogical Association of Canada (MAC) awarded several student travel and research grants. Congratulations to those deserving individuals! Excerpts of the reports from 12 awardees now follow.

Donnelly Archibald received a 2015 travel grant to attend the Geological Association of Canada–Mineralogical Association of Canada–American Geophysical Union (GAC–MAC–AGU) Joint Assembly in Montreal. At the meeting, he presented results from his PhD thesis, which he is working on at the University of Adelaide (Australia). He delivered a talk entitled "The Cryogenian Imorona-Itsindro Suite, Central Madagascar" and presented a poster entitled "Unravelling the Mozambique Ocean Conundrum Using a Triumvirate of Zircon Isotopic Proxies on the Ambatolampy Group, Central Madagascar." The meeting was an excellent opportunity to discuss the systematics of various isotope and lithogeochemical systems with specialists and to consider the tectonic implications of his research in Madagascar for global paleogeographic plate reconstructions.

Jaime Caplette received a research grant to conduct a sampling program in the smelter-impacted area of Trail, British Columbia. The work will help improve our understanding of the behavior of antimony and other toxic elements in soils. Preliminary results indicate that Sb concentrations are 50 times greater than allowed for in Canadian soil guidelines for residential areas in the region. Her MSc thesis at Laurentian University (Ontario) aims at a better understanding of the geochemical behavior of toxic elements in the soil profile and the phases and horizons responsible for sequestering anthropogenically derived metals and metalloids.

Anna Chanou, a PhD candidate at the University of Western Ontario, received a grant to use the micro-Raman facilities of the Royal Ontario Museum in Toronto. The analyses contributed to her investigation of the thermal origin and alternative formation mechanism of silica grains affected by "ballen"

microfracture networks in breccias formed in hypervelocity meteorite impact settings. The Raman analyses helped her determine the types of silica polymorphs in "ballen" grains and "ballen" grains with planar deformation features.

Peter Crockford's PhD at McGill University is focused on deciphering the composition of the Proterozoic atmosphere and the controls placed on it by the biosphere. He is measuring the triple oxygen and multiple sulfur isotope ratios in relatively pristine archives of sulfate in marine and lacustrine settings. The MAC travel grant allowed him to visit locations in Australia where such archives exist. He sampled evaporites and carbonates in a series of Neoproterozoic formations in South Australia. Next, he travelled to the Kimberley region, where questions still remain about some of the latest Neoproterozoic stratigraphy. He and colleagues investigated a series of sections and collected samples that may help to illuminate some of these issues.

Neva Fowler-Gerace, a PhD student at the University of Toronto, presented a talk in the special session "Phosphorus as a Geochemical Tracer of Petrogenetic Processes" at the European Geosciences Union meeting in Vienna (Austria). In her talk, she discussed a rarely documented phosphorus-rich olivine in the Springwater pallasite. This olivine is ubiquitous as partial overgrowths on the nominally phosphorus-free olivine crystals that comprise ~40% of the meteorite. The conference also gave her the chance to speak with the lead author of a recent study of pallasite paleomagnetism about some of the potential constraints his findings impose on the relative timing of phosphorus-rich olivine formation in pallasites.

Jessica Hamilton, a PhD candidate at Monash University (Australia), successfully deployed her field experiment at the Woodsreef chrysotile mine, New South Wales (Australia). The purpose of her research is to develop novel geochemical treatments to enhance CO_2 sequestration. She was also able to begin a comprehensive sampling program, which will allow her to establish a baseline for current CO_2 sequestration rates, to compare these rates with experimental rates, and to investigate the stability of Mg-carbonate minerals at this site over different seasons.

Mitchell Kerr received a travel grant to present his research at the 2015 GAC–MAC–AGU Joint Assembly in Montreal. Mitchell is a first-year PhD student at Laurentian University, where he is performing research, in conjunction with Saint Mary's University, on the influence of carbonic fluid phases (CO_2, CH_4, C_2H_6, etc.) on ore-metal mobilization/redistribution and the in situ mineral-/metal-mediated respeciation of these fluid components under hydrothermal conditions. He is researching the fluid geochemistry associated with gold mineralization in the Hope Bay Greenstone Belt (Nunavut) and the Meguma Terrane (Nova Scotia), in order to better constrain fluid origin and the application of carbonic fluid chemistry as a proxy for gold mineralization.

Donald J. Lake, an MSc student at the University of British Columbia, travelled to the Uinta Mountains in Utah (USA) to follow up on reports of Colombian-type emerald mineralization. His thesis explores occurrences of amagmatic hydrothermal emerald, traditionally thought to occur only in Colombia. He panned for heavy mineral concentrates in streams and springs, thoroughly explored all outcropping Red Pine Shale (the alleged emerald host rock) in the study area, and searched other plausibly emerald-bearing sandstones and carbonate formations. For further geochemical analysis he collected shale samples from a major fault that has been proposed as a conduit for mineralizing fluids.

Travis McCarron, a PhD candidate at the University of New Brunswick, used his research grant to offset the cost of mineral liberation analysis (MLA) at Memorial University, Newfoundland. MLA was used to determine the modal mineralogy of 10 metapelite samples from the garnet, staurolite, and staurolite–kyanite zones of the Jumping Brook Metamorphic Suite, western Cape Breton Highlands, Nova Scotia. These results will be integrated with whole-rock trace element data and mineral trace element data to calculate trace element budgets as a function of metamorphic grade. The goal of the study is to broadly understand how petrologically important trace elements are recycled during metamorphic reactions.

Julia McMillan, of the University of Alberta, attended the American Association of Petroleum Geologists Annual Convention and Exhibition (AAPG ACE) 2015 meeting in Denver, Colorado (USA). There, she took a two-day short course in sequence stratigraphy, which gave much needed context for her research project. The conference itself provided a wonderful opportunity to network with industry professionals, exchange ideas with other academics, and present her MSc thesis work to the research community. Her talk focused on the processes that control redox conditions and mudstone composition in the Duvernay Formation (Alberta), with an emphasis on spatiotemporal variation in bulk mineralogy.

Cedrick O'Shaughnessy, a PhD candidate at the University of Toronto, travelled to Paris (France) to conduct high-temperature Raman spectroscopy experiments on a variety of alkali silicate glasses. The experiments were carried out at the Laboratory of Geomaterials at the Institut de Physique du Globe de Paris. The setup at the lab allows one to perform experiments on room-temperature samples and then, gradually, increase the temperature and measure the same properties in the liquid state. The structural properties of high-temperature silicate liquids are imperative to our understanding of melts generated in the Earth's crust and upper mantle. These findings will also allow us to link macroscopic observables (such as density and viscosity) to the atomic structure of these glasses and melts.

Anežka Borčinová-Radková is a PhD candidate at Queen's University in Ontario. She received a bachelor's degree in geology (2010) and a master's degree in mineralogy and petrology (2012) at the Comenius University in Bratislava (Slovakia). For her PhD project she is investigating the influence of secondary-mineral crystallization on arsenic and antimony mobility in mine drainage and tailings. She attended the 3rd International Workshop on Antimony in the Environment in Leipzig, Germany (6–9 October 2015), where she presented a poster on the geochemical characterization of colloids from mine drainage waters and their role in Sb and As transport.