## *MAC Sponsored Short Courses*

**Novel Applications of Isotope Geochemistry**—organized by Kurt Kyser (Queen's University)

Isotope geochemistry is an integral part of the Earth sciences, particularly in revealing the fourth dimension of our science (time). Isotopic data can reveal the processes involved in natural systems and trace the flux of elements between the geosphere and biosphere. As such, isotope geochemistry is built on a platform of pure and theoretical science, but is primarily an applied science that adds value to mineral exploration, environmental stewardship, whole earth ecology, timing and causes of evolution, palaeoclimates and even food authentication. As an applied science, isotope geochemistry has expanded from traditional light stable isotopes and long-lived decay systems studied by a few experts into studies involving most elements in the periodic table, additional geochronometers and enhanced integration with other aspects of Earth science by a broad range of users. This course addresses the recent applications of isotope geochemistry in the Earth sciences and how integration with other disciplines represents a paradigm shift in our understanding of the processes that operate in natural systems. Those involved in the course include the top isotope geochemists in Canada. The course will last for two days and will start two days prior to the GAC–MAC 2017 meeting.

**Geometallurgy**—organized by Gema R. Olivo (Queen's University)

Environmental and socio-economic demands in the exploitation of future mineral resources require a comprehensive collection and evaluation of a given ore bodies' mineralogical, geochemical, lithological, physical and metallurgical attributes and variability. The evaluation process must start during the exploration phase and continue into the ore processing phase and the later remediation of mine waste phase because the information accumulated has a direct impact on all aspects of mine development. Geometallurgy is the scientific discipline that integrates all of the mineralogical, geological, mining and processing data into an accurate ore-body model, one that can form the basis for optimizing production and environmental management during the entire life of the project. Geometallurgy reduces operational risks, optimizes recovery efficiency, and minimizes environmental impact within the framework of a sound financial model. The relationship between geometallurgical input variables and their processing responses is usually complex. This course will address: (1) The principles of geometallurgy and critical evaluation of sampling, mineralogical and geochemical methods; (2) Case studies of geometallurgy applications involving: innovative evaluation of mineral deposits; mineral exploration; resource estimation; applications and implementation of quantitative mineralogical and geochemical data; mining and ore processing; energy use; treatment of tailings and waste rock and their remediation; implementing geometallurgical models in mining and plant operations. The course will last for two days and will start two days prior to the GAC–MAC 2017 meeting.

## NOW AVAILABLE


***Understanding the Gem Minerals: A Practical Guide***
Special Publication 12
of *The Canadian Mineralogist*

Gemstones have fascinated people for thousands of years because of their beauty, rarity, and monetary value. However, a true understanding of gemstones and their properties has only come about in the past two centuries resulting from the developing science of geology and mineralogy and an increasing need to distinguish natural gemstones from those that are treated or grown in the laboratory. Numerous books describe minerals, and a number of them report on the distinctive properties of gemstones, but there are almost no books that present a more detailed mineralogical description of the gem minerals, along with a clear explanation of basic concepts of interest from both mineralogy and geology. Written by William Revell Phillips and James Shigley, *Understanding the Gem Minerals: A Practical Guide* bridge this gap.

## Société Française de Minéralogie et de Cristallographie

www.sfmc-fr.org

## SFMC GENERAL ASSEMBLY REPORT

The SFMC's annual general assembly was held in Rimini (Italy) during the 2nd European Mineralogical Conference (emc2016, held 11–15 September 2016). Bertrand Devouard, SFMC president, welcomed the members; Marc Blanchard, SFMC secretary, then summarised two significant one-day meetings, with lectures and discussions, that the SFMC had organised. The first of these meetings was held 25 June 2015 in Strasbourg (France) and focused on the issues of access to energy and raw materials, particularly industrial glasses, shale gas and geothermal exploitation. The second meeting was held 30 September 2015 in Paris (France) and was jointly organized with the Geological Society of France on the theme of natural hydrogen, its geological context and how it can be produced on an industrial scale. In addition, Marc gave a summary of the society's input into conferences and workshops, such as the 11th Rayons X & Matière [X-rays and Materials], and the society's contributions to the *European Journal of Mineralogy* and *Elements*. Finally, Christian Chopin, SFMC treasurer, presented the 2015 budget, which was approved.

Boris Chauviré (LEFT) and Julien Amalberti (RIGHT) receiving the 2016 Haüy–Lacroix award from Bertrand Devouard (President of the SFMC).

After the SFMC's general assembly, Boris Chauviré, a PhD student from Nantes University (supervised by N. Mangold and B. Rondeau), received one of two 2016 Haüy–Lacroix awards for his work on the genesis of supergene silica and its implications for Mars. The second Haüy–Lacroix laureate, Julien Amalberti, a PhD student from Lorraine University (supervised by D. Laporte and the late P. Burnard), could not attend emc2016 and received his award three weeks later in Paris for his experimental study of volcanic degassing.

The Rimini meeting was also an opportunity to meet the six students from different French laboratories who enjoyed the emc2016conference thanks to grants from the SFMC.


SFMC President B. Devouard and the students who attended emc2016 thanks to SFMC grants: Ahmed Abd Elmola, Diane Bonnemains, Maxime Clément, Camille Crouzet (missing from the photo), Carlotta Ferrando, and Jules Goethals.