



# European Mineralogical Union

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## EMU MEDALS FOR RESEARCH EXCELLENCE – 2011 AND 2012

The European Mineralogical Union annually awards a silver medal to a scientist younger than 40 who has obtained excellent results while working in a European academic or research institution and has been active in strengthening scientific links in the geosciences community.

### 2011 Medal to Sébastien Merkel



By virtue of his contributions in both theory and experiment, Sébastien Merkel is a leader in the study of the strength, rheology, and texture of materials at very high pressures. After a pre-doctoral research fellowship at the Geophysical Laboratory, Carnegie Institution of Washington, DC, he obtained a PhD at the Ecole normale supérieure de Lyon (1999–2002). After a post-doctoral period at the University of Tokyo (2002–2004) and a Miller Research Fellowship in the Department of Earth and

Space Science, University of California at Berkeley (2004–2006), he was appointed a CNRS research associate at Lille University, France (2006–2010), where he has been a professor since 2010.

Sébastien Merkel began by doing theoretical calculations of the performance of diamond anvils, work that led to breakthroughs in the understanding of the very large deformations that diamond can experience in multi-megabar static-compression experiments. He then moved on to experiments where his theoretical and computational skills were matched by exceptional talent in the laboratory. At that time, the diamond anvil cell radial diffraction technique was just being developed to measure elasticity, strength and texture. Merkel carried out some of the first measurements, and he further extended the technique with elegant new approaches, such as testing novel gasketing methods. In addition, he helped to extend the method to high- $P$ - $T$  regimes. He also continued to develop the theory behind these measurements.

Sébastien Merkel is a generous, remarkably talented young scientist and a worthy recipient of the EMU Medal for Research Excellence, thereby showing that unselfishness and excellence can go well together in science. His medallist talk, "High-Pressure Plastic Behaviour of Deep-Earth Minerals," was held on 5 September 2012, during the First European Mineralogical Conference in Frankfurt/Main, Germany.

### 2012 Medal to Richard J. Harrison



Richard J. Harrison of the Department of Earth Sciences, University of Cambridge, UK, has been awarded the 2012 EMU Medal for Research Excellence in recognition of his significant contributions to understanding chemical and magnetic microstructures in minerals and their relationships with cation ordering and phase transitions. He uses experimental, theoretical and analytical approaches involving minerals important to geophysics and the materials sciences. Harrison's research demonstrates how nanoscale phenomena can affect the macroscopic properties of minerals and rocks. In addition, he has tackled significant challenges in the small-scale understanding of palaeomagnetic signals by using an innovative combination of experimental and computational techniques.

During his career, Richard Harrison has actively collaborated with numerous researchers around the world, particularly in several European countries, including Germany and Norway, and thus has helped to strengthen collaboration within the geosciences community. Harrison proposed and coordinated an international exercise to identify the 100 most important questions to be addressed by the mineral sciences in the next 10–20 years. The award ceremony and the 2012 EMU medallist's talk will receive a special slot in the program of next year's Goldschmidt Conference in Florence, 25–30 August 2013.

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## Uranium: Cradle to Grave

Mineralogical Association of  
Canada Short Course

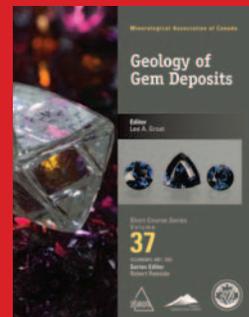
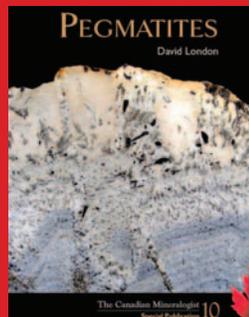
Winnipeg, Manitoba, Canada  
May 20–21, 2013

### ORGANIZERS

Peter C. Burns and Ginger E. Sigmon,  
University of Notre Dame

The focus of this short course, which will immediately precede the GAC-MAC meeting, will be the many aspects of uranium, an element that changed the course of the world like no other. Content will span the mineralogy, geochemistry, and ore deposits of uranium, and will include nuclear waste challenges and solutions, weapons proliferation, and nuclear forensics for attribution and nuclear security.

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