

Preface

The Eighth International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG VIII) was organised by the University of Milan and was held at the Congress Center Giovanni XXIII in Bergamo, on April 16–19, 2000. Abstracts were published in Journal of Conference Abstracts, volume 5, number 1 (<http://www.campublic.co.uk/science/publications/JConfAbs/5/>). The symposium continued the themes and success of the previous EMPG meetings, held on a biennial basis in Nancy, Bochum, Edinburgh, Clermont-Ferrand, London, Bayreuth and Orleans. Since the first edition in 1986, EMPG symposia have shown a constant and exciting increase in the number of participants, exceeding 320 in Bergamo for a total of 310 scientific contributions. These were subdivided in eight thematic sessions, including one devoted to recent methodological developments. Even though most participants came from Europe, a worldwide audience was guaranteed by a large representation from U.S.A., Australia, Canada, South-Africa and Japan. The attendance of twenty scientists from Eastern Europe and of five young researchers from farther countries was made possible by financial support from the Organising Committee, also as a result of generous contributions from most European mineralogical societies and the European Mineralogical Union.

The scientific programme of EMPG meetings reflects the strong belief in the importance of a careful experimental investigation for unravelling the extraordinary complexity of natural phenomena. Nowadays experimentalists are able to reproduce in the laboratory a variety of conditions which range from aggressive hydrothermal systems to fragmenting magmas, to ultra-high pressures typical of the Earth's lower mantle and core, profiting by the continuous advance of high-temperature and high-pressure technology. An increasing amount of experimental studies on the chemical and physical, including rheological, properties of minerals, rocks, melts and fluids provides powerful tools for understanding the Earth's dynamics.

The plenary lecture at EMPG VIII was given by Prof. D.H. Green of the Research School in Earth Sciences at Australian National University in Canberra, on the subject "Primary magmas and mantle temperatures". This presentation emphasised direct relationships between experimental studies on model systems and global-scale dynamics; actually, the link from the microscopic to the macroscopic world has always been a logical thread in EMPG symposia.

Continuing the tradition dating back to the launching of the journal (see E.J.M. vol. 1/2, vol. 4/2, vol. 5/3, vol. 7/4 and vol. 9/2), we encouraged the submission of papers presented at the meeting for publication in a special issue of the European Journal of Mineralogy. Again, the success and significance of this initiative is demonstrated by the large number of manuscripts received, which forced us to schedule the EMPG VIII contributions over two separate issues of E.J.M. This first collection is opened by the review paper of D.H. Green and coauthors. The experimental analysis of igneous systems is further discussed in the article of Baker & Freda. The contributions by Lattard & Partzsch and Molin et al. stem from the session devoted to Methodological Developments. High-pressure experiments relevant for our understanding of the Earth's mantle and subducting slabs are illustrated by the papers of Dubrovinskaia et al. and Wunder et al. A variety of structural and crystal-chemical problems is investigated in the mineralogical papers by Comodi et al., Goryainov & Smirnov, Wodara & Schreyer, Fuchs et al. and Mookherjee et al.

We hope that these papers will stimulate further experimental research in Earth Sciences as well as copious participation in future EMPG symposia. EMPG IX will be hosted by the Institut für Mineralogie und Petrographie, ETH Zürich, Switzerland, on March 24–27, 2002 (for more information: <http://www.erdw.ethz.ch/EMPG>)