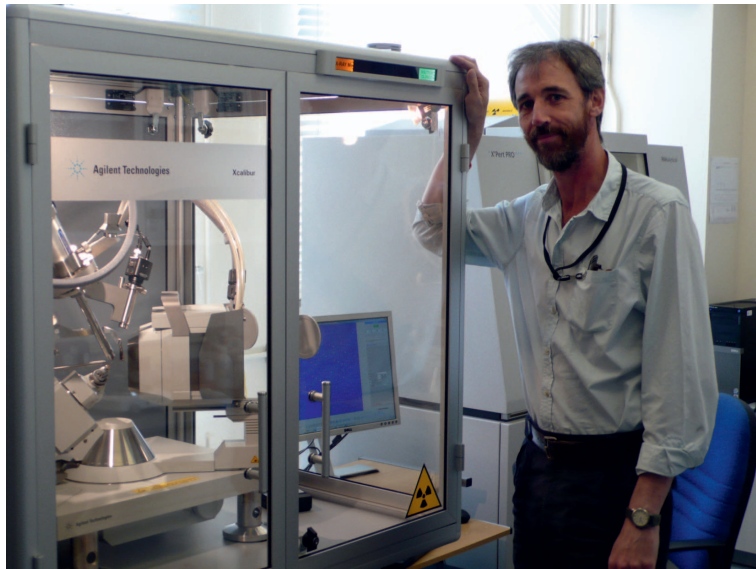


Special issue in honour of Mark D. Welch, Principal Editor of *Mineralogical Magazine* from 2007 to 2011



The Mineralogical Society is involved in many areas of activity: we organize conferences, provide awards and bursaries, publish books and journals and have seven special interest groups. The publication of journals is arguably the most important of our activities. The first issue of *Mineralogical Magazine* was produced in 1876. The journal has been published continuously since then and is highly regarded in its field. It generates much of the income that is required to support the Society's other activities. The appointment of a suitable Principal Editor (or Editors) guarantees high-quality content and is absolutely vital to the health and success of the Society. In the modern world, journals compete for the best papers. Their scientific content must be of the highest quality and must be cited frequently if they are to have a high impact factor

and improve authors' citation metrics. Securing rapid, informed and thoughtful reviews of work that is submitted has always been a key challenge. Principal Editors fight a constant battle to reduce review times (and resultant submission-to-publication times) while striving to secure and retain the best reviewers. In addition to their editorial duties, they also contribute to journal management (including planning, marketing and promotion), and to the overall running of the Society. Rewards are few. The gratitude of authors and Society members is often as much as can be offered and personal research commonly has to take a back seat. The dedication and selflessness required is extraordinary!

In late 2011, the Council of the Mineralogical Society agreed that a special issue of *Mineralogical Magazine* should be published in honour of Dr Mark Welch who served as Principal Editor between February 2007 and August 2011. The amount of work involved is reflected in the fact that Mark has been replaced

in this role by *two* highly respected academics: Prof. Roger Mitchell and Prof. Pete Williams. In 2007, when Mark took the reins as Principal Editor, *Mineralogical Magazine* was at something of a low point in terms of submissions and reputation. He made a huge effort to promote the journal to his peers in the mineral physics, crystallography and new-minerals communities and to broaden its base by appealing to the Society's special interest groups. These efforts have restored the journal's reputation. Mark's detailed attention to each paper; his regeneration, enhancement and diplomatic leadership of a hard-working and committed Editorial Board; and his careful management of the resources at his disposal, have left us with a journal that receives a healthy supply of high-quality papers. These are now published ahead of schedule in both online and paper form. The content is also much more varied as we receive contributions from a more diverse scientific community.

Dr G. Diego Gatta kindly acted as guest editor for the 16 papers in this issue and has co-authored the introduction. The fact that it has gone from conception to publication in only ten months is testament to Diego's hard work, the enthusiasm and dedication of the contributors, and their affection for Mark.

The Society is very grateful to Mark for his hard work in the five-year period in which he was Principal Editor. We look forward to his return to Council in due course in another role.

J. P. DAVIDSON
President

Mark Welch has established an enviable reputation in several overlapping fields of mineralogical study and these are reflected in the contributions to this *festschrift* in his honour. His interests include structural crystallography, new minerals, the thermo-elastic properties of solids, and the petrological implications of the stability of phases.

The first five contributions to this issue describe new minerals or the structure topology of mineral groups. Tazzoliite, a new mineral with a structure related to pyrochlore is described by Cámara *et al.* (2012); Cooper and Hawthorne (2012) report single-crystal X-ray structure refinements of zoned philipsbornite–hidalguito from the famous Tsumeb mine in Namibia; Kampf *et al.* (2012) describe the crystal structure of alcaparro-saite, a new and remarkable hydrophobic sulfate from Chile; Turner *et al.* (2012) describe two lead

oxychlorides, hereroite and vladkrivovichevite, with novel structures from the Kombat mine, Namibia; Sokolova (2012) summarizes developments in the structure topology of astrophyllite-group minerals.

The bulk of the remaining manuscripts are probably best described as mineral physics. Crichton *et al.* (2012) use synchrotron X-ray powder diffraction to investigate the elastic behaviour and structural stability of CaSeO_4 up to 42 GPa. Dobson *et al.* (2012) provide a description of the relative strengths of perovskite and post-perovskite in the system NaCoF_3 , based on deformation experiments in pure-shear geometry with X-radiographic monitoring of sample strain. Gatta *et al.* (2012) use *in situ* single-crystal X-ray diffraction to investigate the low-temperature structural behaviour of cancrinite. Kleppe *et al.* (2012) use Raman spectroscopy to shed light on phase transitions in stottite ($\text{FeGe}(\text{OH})_6$) at high pressure and low temperature. Lepore *et al.* (2012) use single-crystal X-ray diffraction and Raman spectroscopy to describe the high-pressure behaviour of $\beta\text{-As}_4\text{S}_4$, a molecular crystal held together by van der Waals interactions. Mills and Nestola (2012) use similar methodologies to investigate the elastic behaviour and pressure-induced structural changes in arsenoflorensite-(La) with a well defined and homogeneous chemical composition. Nestola *et al.* (2012) report the elastic behaviour of gedrite to 7 GPa, and compare it to orthorhombic amphiboles.

Several of the manuscripts have an environmental dimension. Redfern *et al.* (2012) describe the high-temperature breakdown of a synthetic iodine-bearing analogue of vanadinite, $\text{Pb}_5(\text{VO}_4)_3\text{I}$, and its potential to be a host for radioactive isotopes of iodine. A single-crystal Fourier-transform infrared study of CO_2 molecules in pollucite, a mineral which is of potential environmental importance as a carbon-capture compound or as a host for radioactive isotopes of caesium, is provided by Bellatreccia *et al.* (2012). In a paper on the stability of the oxides schafarzikite (FeSb_2O_4) and tripuliyite (FeSbO_4), Leverett *et al.* (2012) provide important new insights into the roles of supergene minerals in the dispersion of antimony in oxidizing environments.

At the end of the issue, a detailed paper by Henderson *et al.* (2012) revisits mineral fractionation trends and magmatic processes in the classic Highwood Mountains potassic igneous province in Montana, USA.

These papers are representative of the breadth of Mark's mineralogical interests and his friends, co-workers and colleagues are pleased to dedicate this issue of *Mineralogical Magazine* to him.

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