



Editorial

Fall 2001 Materials Research Society Symposium on Design, Characteristics and Properties of Cementitious Materials

Concrete and other cementitious systems now dominate the built environment having become the world's most widely used construction material. In response to the demands for increased concrete performance, the specifications for these materials have themselves become more demanding which means that the technology surrounding cement manufacture and its applications has had to become correspondingly more sophisticated. Furthermore, the application of cement-based materials has broadened. The use of cements in waste management is now well established and has further focussed cement research, particular in relation to the influence of the waste on hydration, setting and durability. Consequently, the interdisciplinary approach to optimising cement performance, which has been so successful in the past, is perhaps even more important today.

In recognition of the continuing advances being made in cement technology, the 2001 Fall Meeting of the Materials Research Society featured a symposium on the "Design, Characteristics and Properties of Cementitious Materials." Topics included microstructure, modelling and transport, characterisation techniques, durability, processing and environmental applications. Within this last theme, a joint session with the symposium on "The Scientific Basis for Nuclear Waste Management XXV" featured presentations on the use of cement-based materials in radioactive waste immobilisation.

The meeting was organised by D.E. Macphee (University of Aberdeen), D. Bonen (USG) and P.E. Stutzman (NIST).

Keynote lectures were delivered by S. Diamond (Purdue University), E. Garboczi (NIST), A. Kalinichev (University of Illinois), W.J. McCarter (Heriot-Watt University) and F.P. Glasser (University of Aberdeen). Around 40 papers, in total, were presented at the Symposium. This special issue of *Cement and Concrete Research* presents 15 of these papers reflecting latest advances across the range of featured topics.

It is significant to note that cementitious materials, having found application in construction since pre-Roman times, are still challenging the scientific and engineering communities today. There are many factors driving advances in cement and concrete technology but undoubtedly, the continuing scientific endeavours of international researchers such as those contributing to this special issue, ensures that cements and concretes will also be materials of the future. We hope that you will enjoy this special issue of *Cement and Concrete Research* and would remind you that each paper has been subject to the normal peer review process associated with this journal.

The organisers of the meeting.

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