Preface

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The quality, range, and geographical spread of the papers contained in this issue of *Topics in Catalysis* is a testament to the growing importance of mesoporous solids not only in catalysis, but also in adjacent subjects such as gas storage and the preparation of nanoparticulate noble metals. So rapid has been the pace of application of mesoporous solids (especially mesoporous silica) since their introduction [1, 2] in the early 1990s, that it is almost impossible to do justice in one small issue such as this to the vast ramifying developments that have arisen from the existence of these fascinating solids.

Shortly after their discovery was announced and confirmed, it was clear to practitioners of heterogeneous catalysis that bulky organometallic species (both achiral and chiral) would be readily immobilized at the inner walls of mesoporous silica, thereby opening up novel methods of preparing high-performance (single-site) solid catalysts [3]. The production by Maschmeyer et al. [4] and by Abbenhuis et al. [5] of highly active Ti^{IV} centered epoxidation catalysts proved most effective. Soon the anchoring of minute bimetallic clusters inside mesoporous silica led to exceptionally active hydrogenation catalysts. There then followed [6] the practice of inserting chiral (immobilized) moieties into mesoporous silica, thus giving rise to a new approach to asymmetric catalysis, in which spatial confinement governed the performance of such catalysts. It is the ease with which the pore diameter of mesoporous solids may be readily controlled that allows one to subtly utilize their adjustable nanospaces for enantioselective conversions that confers upon them such attractive opportunities.

This volume is replete with exciting new surface chemical and catalytic possibilities that have been admirably collated by the two guest-editors who also organized the conference at Inha University, Korea, upon which the issue is based. It is hardly credible that so much progress has been achieved in this expanding field since the elegant tome on “*Mesoporous Crystals and Related Nano-structured Materials*” edited by Terasaki [7] was published a mere 5 years ago, and the even more recent monograph edited by Čejka, van Bekkum, Corma and Schüth “*Introduction to Zeolite Science and Practice, 3rd Revised Edition*” [8] only 2 years ago.

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