

Preface

This issue of *Catalysis Today* focuses on the advances in environmental catalysis and eco-materials for the removal of pollutants from air and water. Most of the papers were originally presented at the first China–Japan Workshop on Environmental Catalysis and Eco-materials, which was held on 7–10 October 2003, Beijing, China. This workshop was organized by Professor Hong He of Research Center for Eco-Environmental Sciences (RCEES), Chinese Academy of Sciences and Professor Ken-ichi Tanaka of Saitama Institute of Technology (Emeritus Professor of University of Tokyo), and was sponsored by National Natural Science Foundation of China and Chinese Academy of Sciences.

The purpose of this issue is to bring together some leading researchers working on environmental catalysis and materials and to contribute to the understanding between catalysis and environmental sciences. The first review paper, by B.E. Nieuwenhuys et al. (Leiden University), summarizes their recent studies concerning reactions relevant to air pollution abatement over gold based catalysts. The second review paper is by S. Matsumoto (Toyota Motor Corporation), who discusses the recent advances in automobile exhaust catalysts from a high performance three-way catalyst (TWC) to a novel TWC catalyst named the NO_x storage reduction catalyst (NSR). Twenty two of the total 24 papers in this issue are original research papers, dealing with the selective catalytic reduction of NO_x (SCR), the total oxidation of hydrocarbons, the CO oxidation and selective oxidation of CO in an atmosphere of hydrogen, the selective oxidation of NH₃, the photo-catalytic decomposition of pollutants in water, and

related material synthesis as well as fundamental studies. We also try to catch the recent technological trend of environmental catalysis, such as non-photo heterogeneous catalysis in water. For example, J. Qu et al. (RCEES, Chinese Academy of Science) show that Cu/Al₂O₃ is a very effective catalyst for ozonation of an endocrine disruptor (alachlor) in water.

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