

## Forward

This special issue of Catalysis Today was inspired by the increasing number of important contributions that oxide materials have made to the field of heterogeneous catalysis over the past several years. Even though oxide catalysts have been used industrially for many decades, fundamental understanding of these systems was elusive. Indeed, many of the sophisticated techniques used to analyze heterogeneous catalysts were developed for, and applied to, metallic systems. Some of these techniques have since been adapted to the study of oxide materials. Thus, the combination of advanced analytical tools and many new technological problems provides a significant driving force for fundamental studies of metal oxides. Papers in this issue examine some of the special features of oxide catalysts such as the type and nature of active sites, adsorption properties, surface acidity and basicity, redox behavior, and selective

oxidation functionality. In addition, many of the contributions discuss sophisticated techniques for the characterization of oxide materials, including temperature-programmed techniques, scanning electron microscopy (SEM), and vibrational (laser Raman and infrared), nuclear magnetic resonance (NMR), and high resolution electron energy loss (HREELS) spectroscopies.

We would like to thank the authors and the reviewers for their valuable contributions. We hope that this volume will be a useful tool for the people working in this important subfield of catalysis.

Michael D. Amiridis  
University of South Carolina

Robert J. Davis  
University of Virginia