

Editorial

This special issue of *Catalysis Today* presents the majority of the papers presented at the symposium held at Havreholm Hall, Hornbæk, Denmark, 10–11 February 2005 to honor Jens Rostrup-Nielsen for his 40 years in catalysis and Henrik Topsøe on his 60th birthday. About 70 researchers, all invited, participated in the symposium.

The theme of the symposium is encompassed in the title: “Frontiers in Catalysis: A Molecular View of Industrial Catalysis”. The presentations were organized in four sessions: “Model Systems”, “The Working Catalyst”, “Bridging the Gap”, and “Future Directions”. The speakers were all acknowledged experts within their different fields. The aim of the symposium was to try to “look” into the future and thereby identify new avenues for catalyst and catalytic process development.

The topics were carefully selected especially in view of the specific contributions of Jens Rostrup-Nielsen’s and Henrik Topsøe’ to the different fields and also to illustrate the approach taken by Haldor Topsøe in bringing “Science to Dollars”. The presentations and discussions were first focused on understanding of catalytic model systems at the molecular level on the basis of both experimental results and electronic structure calculations. Subsequently, the relationship between preparation, structure and lifetime of the “working” catalyst was discussed. This was followed by a discussion of mechanisms, thermodynamics and reaction kinetics and in particular how we can bridge the gap between fundamental results and data measured for the industrial catalyst. Finally, the speakers and participants discussed ways of achieving novel processes leading to new business opportunities.

Haldor Topsøe A/S has already been deeply engaged in fundamental science within the field of heterogeneous catalysis for more than 60 years and the contributions of Jens Rostrup-

Nielsen and Henrik Topsøe to this field are outstanding, having had an impact far beyond the company. Basic science as a tool for creating technological progress has always been a guiding principle for the company, appoint which also expressed in Haldor Topsøe’s Foreword. To illustrate this approach, we are very pleased that we have been granted permission by the Danish Academy of Technical Sciences to reproduce in this volume the first two publications to have been written in 1948 by two Topsøe employees, Haldor Topsøe and Anders Nielsen. To the best of our knowledge, the papers were the first to introduce the concept of a supported liquid phase for the vanadium-based sulfuric acid catalyst.

We wish to thank our co-organizer of the symposium, Hans-Christian Dibbern, and we are also grateful to Gunhild Werther and Birgit Rossil for their assistance in both the practical handling of the meeting and the preparation of the manuscripts and review reports of the proceedings.

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