

THE 5th RUSSIAN CONFERENCE ON THE SCIENTIFIC FOUNDATIONS OF  
CATALYST PREPARATION AND TECHNOLOGY AND THE 4th RUSSIAN  
CONFERENCE ON PROBLEMS  
OF CATALYST DEACTIVATION (OMSK, SEPTEMBER 6–9, 2004)

## Preface

The 5th Russian Conference on the Scientific Foundations of Catalyst Preparation and Technology and the 4th Russian Conference on Problems of Catalyst Deactivation, in which researchers from other CIS countries took part, were held in Omsk, on September 6–9, 2004, along with meetings of the Metal Complex Catalysis in Organic and Organometallic Syntheses section.

These forums were organized by the Boreskov Institute of Catalysis, Siberian Division, Russian Academy of Sciences (RAS), Novosibirsk, and by the Institute of Hydrocarbon Conversion, Siberian Division, RAS, Omsk, supported by the RF Ministry of Education and Science, the Council for Catalysis at the Division of Chemistry and Materials Science of the RAS, the Omsk oblast government, the Omsk Scientific Center at the Siberian Division of the RAS, the Russian Foundation for Basic Research. Furthermore, the forums welcomed participants from Russia, Ukraine, Kazakhstan, Hungary, Germany, and Serbia and Montenegro.

There were altogether 15 plenary lectures, 63 oral reports, and 23 poster reports. Among the plenary lecturers, there were acknowledged experts in catalysis, including B.S. Bal'zhinimaev, R.A. Buyanov, V.N. Parmon, V.A. Sadykov (all from the Boreskov Institute of Catalysis, Novosibirsk), V.A. Likholobov, A.V. Lavrenov (both from the Institute of Hydrocarbon Conversion, Omsk), E.V. Slivinskii (Topchiev Institute of Petrochemical Synthesis, RAS, Moscow), U.M. Dzhemilev, S.I. Spivak (both from the Institute of Petrochemistry and Catalysis, Academy of Sciences of Bashkortostan, Ufa), E.Z. Golosman (Novomoskovsk Institute of Nitrogen Industry), and N.M. Ostrovskii (HIPOL, Serbia and Montenegro).

The resolution adopted by the conferences states that, due to the employment of modern physical and chemical methods, there has been marked progress in the improvement of existing methods of catalyst synthesis and in the search for new ones. The following unconventional catalyst preparation methods were noted:

decomposition of alcoholic dispersions of higher acids on a substrate,  
chemical metallization yielding films on dielectric materials,  
deposition of various ions through a certain number of chemisorption cycles,  
metal electrodeposition,  
self-propagating high-temperature synthesis,  
synthesis under supercritical conditions,  
mechanochemical synthesis,  
plasma chemistry,  
ultrasonic techniques (sonochemistry),  
electron- and ion-beam techniques,  
laser or cathode evaporation followed by metal condensation,  
microarc oxidation of alloys for metal condensation,  
synthesis in subcritical and supercritical aqueous media.

The great attention given to the problems of catalyst deactivation (i.e., to increasing the stability of catalysts and to extending their lifetimes) is explained by the fact that, in the former Soviet Union, the annual expenditures on the replacement of dead catalysts far exceeded \$1 billion. Therefore, fundamental research in catalyst deactivation has a significant applied aspect.

The participants of the forums noted the following favorable trends in the Russian catalyst industry: the catalyst output has grown and the catalyst line has been diversified in recent years. At the same time, they expressed concern about some negative facts, primarily the marked mismatch between the high level of fundamental research in catalysis and the insufficient interest in applied research in this field shown by potential customers. As a consequence, most of the work in the development and commercialization of catalysts falls on RAS research institutes.

In this issue, we publish the plenary lectures and oral reports made at these forums.