PREFACE

This issue of "Vestnik of Moscow University" contains the presentations delivered at the International Symposium "BIOCATALYSIS-2000. Fundamentals and Applications." held at the Faculty of Chemistry of Lomonosov Moscow State University in Moscow, Russia, 10–15 June 2000.

The Symposium on biocatalysis problems is a traditional international scientific event organized by Chemical Enzymology Department (Faculty of Chemistry, Moscow State University) every 2-3 years at the territory of Russia. The Symposium brings together the researchers from various countries who are working in theoretical and applied aspects of enzymatic catalysis. The major objective of the Symposium is to combine the fundamental and applied investigations in biochemical catalysis. The organizers of the Symposium are persistently attracting the researchers both working in the field of molecular mechanisms of structural and physico-chemical grounds of biological catalysis and developing multiple, often non-traditional, applications of enzymes in industry, agriculture, ecology, quantitative analysis and medicine. At the Symposium, the participants have opportunity to discuss both the particular progress of researchers and the general fundamental problems. The subjects of the Symposium encompass the most interesting biases in development of biocatalysis. The program composed of the submitted reports and posters reflects a current interest of the world researchers working in fundamental and applied aspects of biocatalysis.

A total of 286 researchers from Russia, the United States of America, the Netherlands, Thailand, Korea, France, Poland, Great Britain, Japan, Denmark, Portugal, Czech Republic, Belgium, India, Israel, Turkey, Mexico, Italy, Ukraine and Byelorussia took part in the work of "Biocatalysis-2000" Symposium.

The participants delivered 77 oral reports including 11 plenary lectures and presented 170 posters. The major subjects of the reports concerned the aspects of general enzymology (molecular mechanisms, structure and functions of enzymes), the problems of enzyme stability and their stabilization, environmental biocatalysis, bioanalyt-ical application of enzymes and biosensors, enzymes in organic synthesis and in non-conventional media and application of enzymes in medicine. The plenary lectures covered the following aspects: "Biocatalytic evolution of novel function" (Prof. J. Wild), "Junction of one- and multi-electron steps in biological and chemical catalyses" (Prof. A. Shilov), "Enzymes in hyperthermophiles" (Prof. R. Cunin), "Genetic engineering for protein stabilization" (Prof. V. Tishkov), "Ecobiocatalysis" (Prof. S. Kalyuzhnyi), "Supramolecular protein structures in reverse micelles" (Profs. N. Klyachko and A. Levashov), "Genetic engineering of proteins and enzymes for medicine" (Prof. A. Egorov), "Regulation of proliferation and apoptose. Telomerase" (Prof. E. Severin), "Hydrolytic enzymes in the synthesis of optically active heteroatom compounds" (Prof. M. Mikolajczyk), "Natural genetically engineered proteins from unnatural amino acids" (Prof. S. Varfolomeev). "Mo and W enzymes isolated from sulfate reducers" (Prof. J. Moura).

The Symposium materials are published as Abstracts, and as a issue of "Vestnik Moskovskogo Universiteta, Khimiya" (Moscow University Chemistry Bulletin), and its Supplement. The issue of "Vestnik Moskovskogo Universiteta, Khimiya", No. 6, 2000, is published in Russian following by its translation into English. The Supplement is published in English. This issues of the Journal include the works of only those participants who have submitted the manuscripts to the Organizing Committee of the Symposium. Note that the manuscripts were not subjected to peer review. So, the editors take no responsibility for the scientific content, and for the style of the papers.

The editors are sure that the specialists will find, in this issues, a fairly rich and updated information stimulating their interest in enzymes and biological technologies.

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Editors