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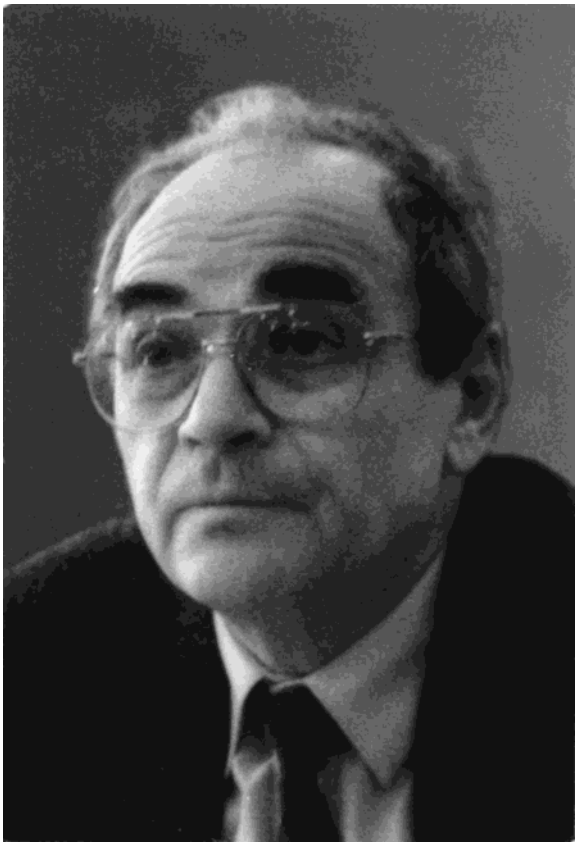
Victor A. Kabanov



On January 15, 1999, Victor A. Kabanov, Professor and Chair of Polymer Science, School (Faculty) of Chemistry, Moscow State University (MSU), marked his 65th birthday.

After graduating from the School of Chemistry, MSU, in 1956, V. A. Kabanov joined the recently founded (1955) Polymer Department starting as a junior research fellow, then associate professor (1962), and the head of Polymerization Lab (1966). He received his PhD (1960) and DSc (1966) degrees at MSU, and in 1970 he became the head of the Department and a meritorious successor to his teacher and supervisor Prof. V. A. Kargin, the founder of the Department. Victor is still chairing the Polymer Department, MSU, which now is recognized as one of the best polymer schools and research institutes in the world, covering all major areas of modern polymer science. Between 1962 and 1989 he also headed a polymerization research group at the Institute of Petrochemical Synthesis, USSR Academy of Sciences, closely associated with MSU.

Polymerization kinetics and mechanisms, interpolymer complexes and interpolyelectrolyte reactions, modeling of biopolymers and designing biologically active polymeric constructs (including synthetic immunogenes), polymer−metal complexes, and gel-immobilized metallocomplex catalysts are the important areas in which V. A. Kabanov and his students and co-workers have been doing research for almost 45 years.

Among Kabanov's contributions to fundamental science are the discovery and explanation of abnormally fast low-temperature polymerization reactions of solid monomers during glass−crystal and crystal−crystal phase transition[1] (Lenin Prize, 1980), the discovery of spontaneous polymerization of 4-vinylpyridine on polyanion templates,[2] and the discovery and investigation of certain other specific polymerization processes, in particular, low-temperature polymerization of acetone,[3] polymerization of nitriles via the C≡N bond, and ring-opening polymerization of aromatic heterocycles.[4] He also substantiated the concept of complex radical polymerization of vinyl and allylic monomers,[5] which is a specific kind of polymerization process in which the complexing agents perform as catalysts or retarders of chain propagation, termination, and transfer. In addition, he investigated the specific features of the radical polymerization reactions of ionic monomers[6] (Lebedev Prize of the USSR Academy of Sciences, 1984) and discovered and studied macromolecular exchange and substitution reactions in interpolyelectrolyte complexes (these reactions play a crucial role in "molecular recognition" and self-assemblage of supramolecular polyelectrolyte structures).[7,8] These, as well as many other noteworthy achievements, which can be found in his two monographs and more than 700 scientific papers, made V. A. Kabanov one of the leaders in polymer science. In 1968, the scientific achievements of V. A. Kabanov were publicly recognized when he was elected a corresponding member of the USSR Academy of Sciences; in 1987, he became a full member (Academician) of the Academy. In 1999 his contribution in chemistry was recognized by the award of the V. E. Sokolov Prize in chemistry established recently by the Russian Academy of Sciences and Charity Foundation for Science Support.

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Kabanov's scientific career began in the first years of detente between East and West. At that time Prof. Kargin was strongly involved in reestablishing international scientific contacts, which Russian scientists had lost during the worst period of the Cold War. Kargin's influence was enough to give Victor an exclusive opportunity to meet the leading polymer scientists all over the world at that time, and being still very young, it enabled him to enter the international scientific community. The meetings and discussions with Herman Mark and other outstanding polymer chemists of those years at Brooklyn Polytechnic institute are considered by V. A. Kabanov to be an extremely important part of his education and formation. Many people he met then became his collaborators and friends for life. In 1966, V. A. Kabanov was invited to give a plenary lecture on polymerization on chemically activated monomers[9] at the International Symposium on Macromolecular Chemistry (Tokyo−Kyoto), and that lecture brought him wide fame among polymer scientists.

V. A. Kabanov was the first Russian scientist elected to head a Division of the International Union of Pure and Applied Chemistry (IUPAC). From 1977 to 1982, he was president of the IUPAC Macromolecular Division. From 1966 to 1999, he delivered plenary and invited lectures at sixteen IUPAC Polymer Macrosymposia, two IUPAC Congresses, and ten IUPAC Microsymposia, as well as at many other scientific conferences and congresses in both Russia and other countries. In 1989, he was elected a foreign member of the Belgian Royal Academy, and in 1991, he became a member of the European Academy. In 1995, V. A. Kabanov was honored with the International Award of the Society of Polymer Science, Japan, for his contribution in Russian−Japanese scientific cooperation. One of the authors of this paper, who came to MSU from Japan in the 1960s to study chemistry, got his PhD degree under Kabanov's supervision.

V. A. Kabanov founded a fertile scientific school. More than 50 graduate students from Russia and other countries received PhD degrees under his guidance; eleven of them later became doctors of science, and one was elected as a corresponding member of the Russian Academy of Sciences.

From 1972 to 1977, the *Encyclopedia of Polymers* was published in the Soviet Union under the editorship of V. A. Kabanov. He was also on the Editorial Board of the *Encyclopedic Chemical Dictionary*, and, for many years, he was on the Editorial Board of *Vysokomolekulyarnye Soedineniya* (*Polymer Science*) and the *Journal of Polymer Science*. Since 1991, V. A. Kabanov has been the editor-in-chief of *Doklady Akademii Nauk* (*Proceedings of the Academy of Sciences*), which is the major periodical of the Russian Academy of Sciences. He is also on the Editorial Boards of a number of other Russian and international journals: *Priroda* (*Nature*), *Science in Russia*, *Journal of Biomaterials Science*, *Polymers for Advanced Technologies*, and *Polymer Journal* (Japan).

For many years, V. A. Kabanov has been actively involved in vigorous administrative activities in science. In 1988, he was elected a member of the Presidium of the USSR Academy of Sciences (Russian Academy of Science since 1991), and,in 1992, he became the academician−secretary of the Division of General and Technical Chemistry of the Academy. Since 1988, V. A. Kabanov has headed the Scientific Council for High-Molecular Compounds, Russian Academy of Sciences; he is also on the boards of several other councils coordinating scientific and technological programs in polymer chemistry and materials science.

The outstanding contributions of V. A. Kabanov to polymer science and technology were marked by the highest scientific awards in the Soviet Union. Kabanov's ability to find brilliant applications for fundamental scientific inventions is exemplified by the development in 1986 of a formulation based on interpolyelectrolyte complexes that was used, and still is being used, to prevent the migration of radioactive dust in a contaminated area around the Chernobyl atomic power plant. The technological solution rested on fundamental studies, which were performed earlier, and on the personal involvement of V. A. Kabanov in applied studies, including those that were conducted on-site in the contaminated area. These studies allowed swift transfer of the formulation from laboratory studies to field trials and to large-scale manufacture of the formulation and its use.

Victor had, in the past, a variety of conventional hobbies, such as autocamping, skating, and valley skiing, but those have now been completely replaced by devotion to his two granddaughters: Masha, 15, who published her first book of poetry this year in Moscow, and Dasha, 6, who won two golden medals at Midwest figure skating competition in Kansas City, MO.

References and Notes

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