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In Memoriam

Professor Alexander Grigorevich Merzhanov (1931–2013)

An outstanding Russian scientist, the director-founder of Institute of Structural Macrokinetics and Materials Science of Russian Academy of Sciences (ISMAN), a classic of combustion science, the initiator of Self-propagating High temperature Synthesis (SHS) and structural macrokinetics, and honorary citizen of Chernogolovka, Professor Alexander Grigorevich Merzhanov passed away on July 31, 2013, during the 82nd year of his life.

During his distinguished career, Alexander was awarded many major prizes, including State Prizes of Russian Federation, two Orders of Labor Banner, a State diploma for discovery of solid flame, the Zel'dovich Golden Medal for achievements in combustion theory, and many other governmental and academic honorable distinctions. He was elected also as a Member of the Russian Academy of Sciences.

Alexander was a successor of the scientific school of the Nobel prize winner Nikolai N. Semenov, world known leader in physical chemistry, combustion, and explosions. He gave a great impetus to the development of physical chemistry being one of the founders of a new branch of science – structural macrokinetics, which incorporates methods of physical chemistry, combustion science, and material science. Alexander's pioneering contributions in developing thermal theory of solid's combustion and original methods for non-isothermal kinetics are well known. He was the author of the scientific discovery of "solid flame." This discovery gave a huge impetus all over the world to theoretical and experimental studies of Self-propagating High temperature Synthesis (SHS). A World Symposium on SHS is being held bi-annually.

Alexander formulated basic principles, problems and approaches for the fundamental theory of SHS, and forecasted technological applicability of the phenomenon for creating new materials. Thanks to his and his colleagues and co-workers energy and enthusiasm, the Scientific Research institute for Structural Macrokinetics (ISMAN) was created in the system of the Academy of Sciences of the USSR in 1986. Nowadays it is one of the leading institutes of Russian Academy of Sciences. Alexander devoted 30 years of his life to ISMAN, and more than 40 D.Sc. Habilitated and 150 Ph.D. degrees were completed under his supervision. Many of his former students became distinguished leaders in different branches of physical chemistry, material science, mechanics, catalysis, and chemical kinetics. Along with developing combustion theory Alexander used its ideas, approaches, methods, and findings successfully in other branches of non-linear physics.

Alexander was one of the founders of science-city Chernogolovka. He was among the first young laboratory leaders assigned by Semenov for performing large-scale explosion experiments at the test cite of Chemical Physics Institute. Alexander distinguished himself in Chernogolovka not only as a scientist, but as a public figure as well. In his books, papers, and interviews he discussed problems of the Russian Science, society, and state. He was convinced that everybody should leave some tribute to the humanity. His motto "it's better to be necessary than free" is well remembered.

A great teacher and a leader of a large research community worldwide passes away, whose followers continue developing his ideas in different countries in all continents. The striking personality of Alexander Grigorevich, his humanity and hospitality, cheerfulness, and sense of humor have always been attractive not only for scientists but also for other intellectuals. The blessed memory of this outstanding personality will last forever in the hearts of those who ever knew him.

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