Fazylkhan Bambetov (1939–2011) Doctor of Sciences, Professor, Academician of the National Academy of Sciences of the Republic of Kazakhstan

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Fazylkhan Baimbetov was born on December 22, 1939 in the village of Zhota, Dzhangeldy district of Kostanai region, Kazakhstan. His childhood fell on severe pre- and after Second World War years, thus, he early suffered hardships especially taking into account the fact that Fazylkhan Baimbetov lost his father when he was just 3 years old.

After finishing school in 1957, Fazylkhan Baimbetov, by the wheel of fortune, entered the Department of Mathematics of the Kazakh State Pedagogical Institute named after Abai. The capable student was soon get seriously interested in physics and started his selfstudy of hydraulics and gas dynamics. A year later he decided to transfer to the Department of Physics of the Kazakh State University (now Al-Farabi Kazakh National University) but encountered some bureaucratic obstacles. However, his lucky star did not betray him. In the autumn of 1959 the Siberian branch of the USSR Academy of Sciences founded the Novosibirsk State University (NSU) which started to enroll second year students from universities of the former Soviet Union. Fazylkhan Baimbetov was among the first students to be transferred to NSU in 1959 where he attented lectures and seminars of the outstanding Soviet researchers.

In 1965 he started his post-graduate study in theoretical physics at the Tbilisi State University where he defended his thesis entitled "On the transport theory in weak turbulent plasma" and obtained the diploma of the Candidate of Sciences under the supervision of the corresponding member of the Georgian Academy of Sciences, N.L. Tsintsadze.

In September of 1973 Fazylkhan Baimbetov was elected for a lecturer position at the Department of Methodology of Teaching Physics at the Kazakh State Unviersity. Since then his scientific and pedagogical career was completely devoted to Al-Farabi Kazakh National University where he progressively took position of the professor, the head of the Department, the dean of the Faculty and, ultimately, the vice-rector. The year of 1987 was crucial for all further development because under the auspice of the university authorities Fazylkhan Baimbetov founded a new Department particularly measuring in Plasma Physics.

All in all 80-s were the most fruitful period of his scientific career in which significant results were obtained on the kinetic theory of dense gases with non-additive potentials of interparticle interaction, on the statistical theory of equilibrium states and hydrodynamics, and on the relaxation and transport phenomena in turbulent plasmas. In 1985 this allowed Fazylkhan Baimbetov to complete his Doctoral Degree thesis entitled "Transport processes and relaxation phenomena in dense gases and plasmas". The main inferences and conclusions of his thesis were benevolently met by the outstanding researchers of the Soviet Union such as V.E. Zakharov, V.E. Fortov, Yu.L. Klimontovich, V.P. Silin, S.S. Moiseyev, A.A. Ruhadze, V.Y. Dubrovsky, etc.

It should be emphasized that in his Doctoral thesis Fazylkhan Baimbetov was the first to propose an idea of taking into account higher order correlations not only in the particle distribution functions of the system, but in the interparticle interaction potentials as well. This idea allowed him together with Tlekkabul Ramazanov to work out pseudopotential models of dense plasmas treating both quantum effects at short interparticle distances and correlation phenomena at long separations. Important results on thermodynamic, transport and electrodynamic properties of dense plasmas were summarized in the monograph entitled "Mathematical modeling in the physics of non-ideal plasmas" and -authored by T. Ramazanov. Fazylkhan Baimbetov was not only engaged in theoretical studies of plasma properties, but in early 80-s he initiated experimental investigations of plasma generators and plasma flows with applications to goal-seeking change in mechanical, physical and chemical properties of solids.

In the year of 2001 Professor Fazylkhan Baimbetov was elected an academician of the National Academy of Sciences of the Republic of Kazakhstan. In 2005 and 2010 for fruitful scientific and pedagogical results Fazylkhan Baimbetov was awarded the state title ≪Best university professor of higher education institution≫ issued by the Ministry of Education and Science of the Republic of Kazakhstan and in 2009 he was awarded a silver medal named after Al-Farabi for his invaluable contribution to the development of Al-Farabi Kazakh National University.

Such character traits, as humanity, simplicity in communication, especially, with students and young researchers, fundamentality of education, encyclopedic knowledge, independence and boldness of thinking, huge intuition and temperament were all inherent to Fazylkhan Baimbetov. Fazylkhan Baimbetov was the well known expert and outstanding supervisor who made great contribution to the development of domestic science and higher education. His scientific school of plasma physics now includes 10 Doctors of Sciences and about 50 Candidates of Sciences and PhDs, among them are Tlekkabul Ramazanov, Yuriy Arkhipov, Askar Davletov, Karlygash Dzhumagulova, Maratbek Gabdullin and many others. Fazylkhan Baimbetov co-authored more than 200 papers in peer reviewed journals published in many countries.

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