



NIKOLAI KOSOV

(1922 – 1995)

Nikolai Kosov (1922-1995) – Kazakhstan’s physicist, an acknowledged expert in the field of heat – mass transfer and thermal physics, Honored Scientist of the Kazakh SSR (1984), Doctor of Physical and Mathematical Sciences (1972), Professor (1974).

Nikolai Kosov was born in Kustanai in 1922, since 1937 he lived in the city of Alma-Ata. In 1940 after graduating from high school, he conscripted into the army and from the first day he was the Great Patriotic War at the front. Eighteen year old N.D.Kosov was seriously wounded and after recovery in 1942, he entered the Physics and Mathematics of Kazakh State University. After graduation, he was included in graduate school to the Soviet Union, a nuclear physicist, Doctor of Physics and Mathematics also Professor V.V.Cherdyntsev. Defended his thesis «Study of emanation of radon, thoron and action of natural minerals» N.D.Kosov, since 1951 goes to a teaching job. In the same period, he began problems heat – mass transfer and fluid dynamics in gases.

He defended his thesis «Study of emanation of radon, thoron and action natural minerals» N.D. Kosov since 1951 goes to a teaching job. In the same period, he began problems heat – mass transfer and fluid dynamics in gases. N.D.Kosov has proved as an organizer of science from 1959 to 1962. He was the first dean of the Faculty of Physics of Kazakh State University. Due to his efforts, the new faculty created the conditions for successful work and further development for the University, later known schools in theoretical physics, solid state physics, physical hydro-gas dynamics, nuclear physics from 1962 to 1994. He was professor of general and molecular physics, molecular physics, and thermal physics department. In these years, Professor N.D Kosov intensively were developing the theoretical and experimental research in the field of heat and mass transfer, and became the founder of the largest in Kazakhstan Scientific Research School of diffusion in gases and liquids.

In 1972 N.D.Kosov at the Physics Department of Moscow State University successfully defended his doctoral thesis «Molecular and hydrodynamic components of diffusion in gases» in the specialty of molecular

physics. He became a Professor in the Department of Molecular Physics in 1974. He got the great scientific achievements in 1984. He awarded the honorary title «Honored Worker of Science of the Kazakh SSR.». He has published about 300 scientific papers in international and national journals on such specialized fields of physics, the theory of heat – mass transfer, thermal, gas and fluid mechanics. N.D.Kosov created a new research field: molecular diffusion and hydrodynamic components in gases. Works of N.D.Kosov widely recognized international scientific community and published in the United States, Britain, the Netherlands and the Commonwealth of Independent States. The most important results obtained N.D.Kosov is to consist the individual components of the gas diffusion (molecular and hydrodynamic) in closed systems. Department of transport due to the thermal molecular motion (actually diffusion) on the transfer of hydrodynamic flow arising in the diffusion process in a closed system allowed a new level of depth to explore the physical nature of diffusion and showed such specific features of the phenomenon that the traditional approach did not open or fully manifested. He is a one of the classics of Soviet experimental physicist, and academician of I.K Kikoin said about N.D Kosov's studies: «The diffusion of gases – the area of physics, well developed both theoretically and experimentally. It seemed that there is nothing substantial can be done. And Nikolai Dmitrievich shows falsity of such representation. The issues involved in the diffusion of gases classical physics Maxwell, Boltzmann, Jeans, Knudsen, etc. so, he got into the best 'Colleges'. «

N.D.Kosov prepared more than 30 candidates of physical and mathematical sciences, working in all regions of Kazakhstan, as well as Russia, Ukraine, and Belarus. Subsequently, seven of his students have defended their doctoral dissertations, each of which leads major research efforts in the field of heat – mass transfer.

N.D.Kosov as one of the major organizers of science in Kazakhstan, represented the Republic of the Scientific Council on the Complex Problem «Thermo-physics and combined heat and power» in the USSR and the State Committee on Science and Technology of the USSR, Chairman and member of the organizing committees of many international conferences, school boards and lectures. For the feat of arms in the Great Patriotic War awarded the Order of the Patriotic War I and II degrees.

The whole life of N.D.Kosov has not only an example of selfless service to science and higher education in Kazakhstan but also purposeful, active work aimed at understanding the secrets of nature.