## In Memory Of Mukminov Farit Khamsaevich

On June 6, 2025, Farit Khamzaevich Mukminov, a Russian and Soviet mathematician, Doctor of Physical and Mathematical Sciences, Professor, Honorary Worker of Higher Professional Education of the Russian Federation, and Leading Researcher of the Department of Theory of Functions and Functional Analysis of the Institute of Mathematics with the Computer Center of the Ufa Federal Research Center of the Russian Academy of Sciences (IMCC UFRC RAS), passed away at the age of 70 after a serious illness.

F.Kh. Mukminov was born on July 2, 1955 in Kumertau. In 1977 he graduated with honors from the Mechanics and Mathematics Department of the Lomonosov Moscow State University. He defended his candidate dissertation (PhD) in 1981 and his doctoral dissertation (Habilitation) in 1994.

Farit Khamzaevich is a recognized specialist in the field of partial differential equations, and the author of more than 70 scientific papers. His main results are devoted to the theory of parabolic and elliptic equations in unbounded domains, as well as the theory of integrable differential equations. Among the main objects of his research are the Navier–Stokes equation and systems of equations in domains with

non-compact boundaries, the Neumann problem and the Zaremba exterior problem for an elliptic equation with a measure–valued potential, equations with a measure–valued potential in hyperbolic space, parabolic equations with double non–power nonlinearity, integrable evolutionary and hyperbolic equations, and parabolic problems in anisotropic Sobolev–Orlicz spaces. In a number of his works, he obtained final results, which completed the corresponding scientific directions. For instance, he established a criterion for the uniform stabilization of solutions to the first mixed problem for a parabolic equation in an unbounded domain, characterized the decay rate of solutions to the Navier–Stokes equation system in an unbounded three-dimensional domain, obtained upper and lower estimates for the decay rate at infinity for the solution to non–unformly second order elliptic equation with alternating Dirichlet and Robin boundary conditions in an unbounded region, and proved the sharpness of the estimate for the decay rate of the solution both for a sufficiently arbitrary alternation of Dirichlet and Robin boundary conditions and for an equation degenerating on the boundary of an unbounded domain.

Farit Khamzaevich worked in the higher education system of the Republic of Bashkortostan for over thirty years. In 2011 he moved to the Institute of Mathematics with Computer Center of Ufa Federal Research Center of Russian Academy of Sciences continuing at the same time his teaching activities at Ufa universities: he taught basic and special courses on differential equations. He trained scientific personnel for the republic. Under his supervision candidate (PhD) and doctoral (Habilitation) dissertations were defended.

Farit Khamzaevich was an expert of the Russian Academy of Sciences, the Russian Foundation for Basic Research and the Russian Science Foundation, he was a member of the dissertation councils of the Institute of Mathematics with Computer Center of Ufa Federal Research Center of Russian Academy of Sciences and the Ufa University of Science and Technology and was a member of the editorial board of the Ufa Mathematical Journal.

Despite his serious illness, Farit Khamzaevich continued an active scientific work and took an active part in scientific events. He presented his last report on the topic "Existence and uniqueness of the entropy solution of the Neumann problem for an elliptic equation with a measure–valued potential" on June 4, 2025, two days before his death, at an online conference organized by two academic institutes, the Southern Mathematical Institute of the Vladikavkaz Scientific Center of Russian Academy of Sciences and the Institute of Mathematics with Computer Center of Ufa Federal Research Center of Russian Academy of Sciences together with the South Ossetian State University named after A.A. Tibilov.

In the person of Farit Khamzaevich, the Russian science has suffered an irreparable loss. The bright memory of him, as a bright representative of Russian science, will forever remain in our hearts.

V.F. Vil'danova, A.G. Kusraev, I.Kh. Musin, D.M. Polyakov,
A.F. Tedeev, Z.Yu. Fazullin, B.N. Khabibullin, I.T. Habibullin,
R.S. Yulmukhametov.