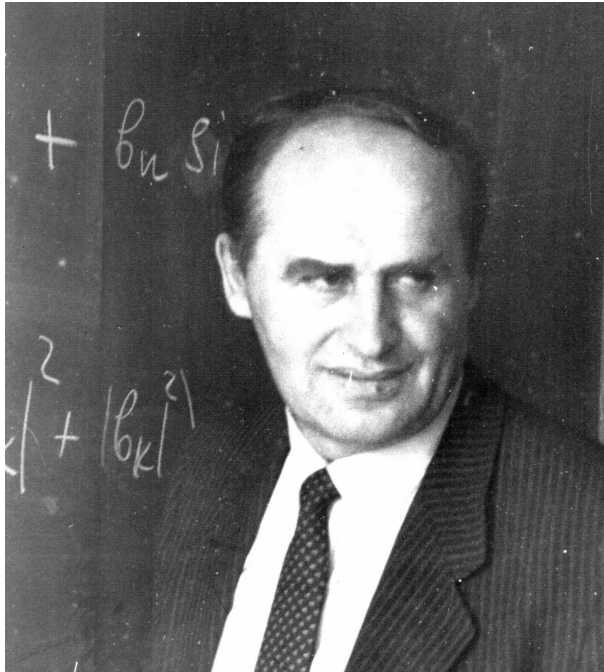# MYROSLAV LVOVYCH GORBACHUK

Myroslav Lvovych Gorbachuk, an outstanding Ukrainian mathematician, died on January 8, 2017, after a long illness. He was born on March 8, 1938, in Rybotychi, Przemysl region (now a part of Poland), in a peasant family with seven children. After the World War II, the family was forced to leave its fatherland and move to Western Ukraine. They settled in the village P'yanovychi, Lviv region. Having graduated from the school, M. L. Gorbachuk entered in 1956 the I. Franko University of Lviv to study this subject at the Mechanics and Mathematics Faculty. His term and graduation papers was guided by V. E. Lyantse, who recommended M. L. Gorbachuk for the postgraduate education at the Institute of Mathematics of Academy of Sciences of USSR in Kyiv. In 1961 Myroslav became a research student of the Mathematical Analysis Department of this Institute. The education was guided by the Department Head, Yu. M. Berezansky. Under his influence and support, the initial and subsequent M. L. Gorbachuk's scientific interests were formed. An important role was played also by M. G. Krein's works with which he was acquainted as he was still a student of the Lviv University. Later personal contacts with this great scientist were very fruitful. The whole scientific activity of M. L. Gorbachuk was going on at the Institute of Mathematics. Here he obtained both the Candidate/PhD (1965) and the Doctor of Science (1973) degrees in Mathematics for the theses Positive definite operator-valued functions and Some problems of the spectral theory of differential operators in spaces of vector-valued functions, respectively (the scientific adviser was Yu. M. Berezansky), here he held the positions of a junior and a senior scientific researchers at the Mathematical Analysis Department, a chief of the Partial Differential Equations Laboratory, and here, since 1986, he headed the Department of the same name. In 2000, he was elected an associate member of the National Academy of Sciences of Ukraine. The mathematical works of M. L. Gorbachuk include 3 monographs and about 200 papers which are of high level and quality, and broad in topics. Here is a list of main directions around which M. L. Gorbachuk's scientific interests are concentrated: spectral theory of operators, solvability problems for differential equations in a Banach space in various

classes of vector-valued functions, initial and boundary value problems for operator differential equations, theory of nonselfadjoint operators, generalized functions and their applications, approximation theory, theory of semigroups of linear operators, harmonic analysis, problems of hydrodynamics, history of mathematics. In the spectral theory of operators he solved a long-standing problem of describing, in terms of boundary values, various classes of extensions of the minimal operator generated by a differential expression in a Hilbert space and investigating their spectral properties. M. L. Gorbachuk developed a general (operator) approach to the theory of boundary values for solutions of differential equations. This approach made it possible to obtain from a general point of view a number of classic results, in particular, for harmonic functions, to specify and strengthen them. He described all solutions of differential equations of various types in a Banach space and established the conditions for their stability and stabilization. He found also the conditions guaranteeing the existence of a solution to the Cauchy problem in some classes of analytic vector-valued functions. In the approximation theory M. L. Gorbachuk has also found the operator approach to direct and inverse theorems, which embraces a lot of well-known and new concrete problems of approximation of functions and gives a possibility to obtain the exact a priori estimates of the approximation error for a solution of an operator equation using the variational methods. For his mathematical works M. L. Gorbachuk was awarded with the State Prize of Ukraine (1998), Krylov Prize (1994), and was the first to obtain the Krein Prize founded by National Academy of Sciences of Ukraine in 2008. M. L. Gorbachuk participated actively in the scientific public work as a President of the Kyiv (1993 - 2006) and then Ukrainian (2005 - 2012) Mathematical Societies. He was a member of Editorial Boards of the "Ukrainian Mathematical Journal", "Methods of Functional Analysis and Topology" and other journals, one of the heads of the well-known Kyiv Seminar on Functional Analysis. He lectured at the T. Shevchenko National University of Kyiv (1965 - 2001) and National Technical University "KPI" (1997 - 2011). He has taught a number of talented students among whom there are 7 Doctors of Sciences and 29 Candidates working in Ukraine and abroad. He was a sincere patriot of Ukraine. Even in the times of the highest level Russification at Ukrainian universities and schools, when a majority of pedagogues turned to the Russian language, he continued to teach in Ukrainian. We express our heartfelt condolences to relatives and friends of M. L. Gorbachuk. Blessed memory about the outstanding scientist and wonderful personality will be always with those who knew him.

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