

TO MEMORY OF MAKHMUD S. SALAKHITDINOV

Makhkmud S. Salakhitdinov (1933–2018) had a strong influence on the development of science and education in Uzbekistan, being Director of the Institute of Mathematics (1967–1985), Minister of Higher and Special Secondary Education (1985–1988), and President of the Academy of Sciences (1988–1994) of the Republic of Uzbekistan. At the same time, his personal contribution to mathematical sciences is also very significant and influential. The special issue 274(2) of JMS presents current results on local and nonlocal boundary value problems for mixed type equations, integral equations of fractional order, and other topics close to the research of M. S. Salakhitdinov.



Makhmud Salakhitdinovich Salakhitdinov
November 23, 1933 – April 27, 2018

Makhmud Salakhitdinovich Salakhitdinov was born in the city of Namangan in eastern Uzbekistan on November 23, 1933. In 1950, M.S. entered the Central Asian State University (now, the National University of Uzbekistan named after Mirzo Ulugbek) and graduated with honors from the Faculty of Physics and Mathematics (1955) and postgraduate studies (1958). He received

his Ph.D. in 1958 and defended his doctoral thesis on the theory of third order equations of mixed-composite type under the supervision of A. V. Bitsadze in 1967.

From 1959 to 1985 M. S. Salakhitdinov worked at the Institute of Mathematics of the Academy of Sciences of UzSSR, going through the entire career ladder: from junior researcher, senior researcher, Head of department, Deputy Director to Director of the Institute.

M. S. Salakhitdinov made a great contribution to the development of the theory of equations of mathematical physics, boundary value problems for partial differential equations, integral equations, and function theory.

Being a young mathematicians, M. S. Salakhitdinov proposed the full classifications of third order partial differential equations and established canonical forms of mixed or mixed-composite equations. He studied well-posed local and nonlocal boundary value problems for partial differential equations of the second and higher order, in particular, the dependence of the well-posedness on the coefficients of the equations and the spatial dimension.

M. S. Salakhitdinov formulated and studied various well-posed problems for mixed type equations, many of which are reduced to functional or integral equations of independent interest. Based on his works devoted to boundary value problems for general composite type equations of the third order with degeneration on the boundary of a domain and also hyperbolic and parabolic-hyperbolic equations of the third order, M. S. Salakhitdinov developed the theory of loaded integro-differential equations.

Fundamental results were also obtained by M. S. Salakhitdinov in the study of mixed type equations with smooth and nonsmooth degeneration lines, spectral properties of solutions to boundary value problems for mixed type equations with a spectral parameter, boundary value problems for parabolic-hyperbolic equations in domains with deviation from characteristic (in particular, the well-posedness of the generalized Tricomi problem was established).

In the last years of his research activity, M. S. Salakhitdinov studied special functions of hypergeometric type. He found various properties of hypergeometric functions of many variables and apply the obtained results to the study of boundary value problems for degenerate equations.

M. S. Salakhitdinov is an author of 247 scientific publications, including 5 monographs and 6 textbooks, and 74 science popularization articles.

For fundamental results in the field of the theory of partial differential equations M. S. Salakhitdinov was awarded the State Prize of Uzbekistan named after Abu Raykhan Beruni and received the title *Honored Worker of Science of Uzbekistan*.

M. S. Salakhitdinov always paid special attention to the education of young mathematicians: 40 candidate and 10 doctoral dissertations were defended under his scientific supervision. Mathematical results and ideas of M. S. Salakhitdinov find their continuation in the studies of his former students.

The special issue of JMS (vol. 274, No. 2 (2023)) covers the topics closely connected with the research of M. S. Salakhitdinov and presents new results obtained by colleagues of M. S. Salakhitdinov and new generation mathematicians.