

Akif D. Gadjiev

(commemorating the 70th anniversary)



Akif Gadjiev was born on December 8, 1937 in Baku. After graduating from Mechanics-Mathematics faculty of Azerbaijan State University he was directed to work to the Institute of Mathematics and Mechanics of Azerbaijan Academy of Sciences where he has worked as a junior research associate (1960-1961), scientific secretary (1961-1966), senior research associate (1966-1978), head of department (1978-1992, 1999-2005), director of the institute (from 2004 up to present). In 1964 he defended his PhD dissertation “Some families of operators as a tool of application” in Azerbaijan State University and in 1982 the doctor of sciences dissertation “Investigations on the theory of multidimensional convolution type operators” in Steklov Mathematical Institute in Moscow. In 1985 by the decision of the Supreme Attestation Commission of USSR A.Gadjiev was conferred the academic title of professor in the branch “mathematical analysis”. In 1991 after his presentation at the Turkish-Azerbaijan mathematical symposium in Istanbul A.Gadjiev was invited to work at Ankara University where he has worked until 1999 as a visiting professor.

In Mathematical department of Ankara University A.D.Gadjiev begins to work with students holders of Master’s degree and doctoral students (post-graduate students) give them such courses as “Linear positive operators and approximation theory”, “Harmonic function”, “Integral operators with delta-shaped kernels”, “Fourier transformations”, “Interpolation spaces”. In 1995 together with the head of the department, the known Turkish geometry specialist G.Hacisalihoglu he publishes the book “Convergence of sequences of linear positive operators”. At Ankara University seven holders of Master’s degree and fifteen Ph.D. thesis were defended under the guidance of A.D.Gadjiev by the themes suggested by him. Five persons working under his guidance now are the associate professors (in Turkey “associate professor” is conferred in very complicated way after all-Turkish exams). Now A.D.Gadjiev’s

followers work at many Universities of Turkey and publish many papers in different mathematical journals.

From 1999 A.D.Gadjiev continues to work as a head of the department “mathematical analysis” at the Institute of Mathematics and Mechanics of the Academy of Sciences of Azerbaijan. At the same year he was appointed a head of the chair “Mathematics and Mechanics” at National Aviation Academy (for 0,5 staff).

In 30 June 1989 prof. A.D.Gadjiev was elected a corresponding member and in 30 June 2001 a full member (academician) of Azerbaijan National Academy of Sciences. Beginning from July 2001 to present time academician A.D.Gadjiev works as an academician-secretary of Division of physical-mathematical and Technical Sciences of National Academy of Sciences of Azerbaijan.

Academician A.D.Gadjiev is the known specialist in the field of theory of linear operators in functional spaces and harmonic analysis. Among his main results in these directions we would like to mark the following ones:

He showed that the classical Korovkin approximation theorem does not take place in the normed linear spaces of continuous functions of one and several variables defined on unbounded sets and proved an analogy of approximation theorems in these spaces as soon as in the spaces of locally integrable functions.

He introduced the notion of k -positive operators in the space of analytic functions and gave approximation theorems for a sequences of linear k -positive operators in complex domain.

A.D.Gadjiev proved important theorems on differentiability properties of symbols of multidimensional singular integrals in the spaces of Bessel potentials on the sphere and solved the problems, which were open until 1938. These results allowed him to establish the exact theorems on oscillatory L_p -multipliers of spherical harmonic expansions and multipliers in the Hardy spaces on the sphere. The principal result was obtained by A.D.Gadjiev in the theory of entire functions of several variables where he firstly obtained the Bernstein type inequality by using indicators being a support function of a bounded convex domain. A.D.Gadjiev jointly with his follower I.A.Aliyev obtained important results on two weight estimates of multidimensional singular integrals generated by the generalized shift operators, introduced the parabolic potentials generated by generalized shift and investigated some basic properties of Fourier-Bessel harmonic analysis which were first results in this theory.

In 2006-2007 A.D.Gadjiev jointly with his followers published very important results on weighted L_p -approximation by positive operators on unbounded sets, on approximation by using a new type modulus of continuity and on approximative properties of the family of Riesz and Bessel potentials and parabolic potentials for a critical value of parameter.

Academician A.D.Gadjiev is an author of more than 90 scientific papers, 4 monographs and under his leadership 26 PhD and 1 doctor of sciences theses were defended.

In 2004 for his services to Azerbaijan science by decree of the Prezident of Azerbaijan Republic A.D.Gadjiev was awarded with Order “Shohrat” (“Glory”) and in 2005 by the decree of the Prezident of Azerbaijan Republic he was awarded with honorary title “Honoured scientist of Azerbaijan Republic”