



M.Imanaliev was born on 13 September 1931.

He graduated from the Kyrgyz State University (1953).

Scientific degrees: candidate of physical-mathematical sciences (1956). Thesis: On

behavior of solutions of integro-differential equations with a small parameter by the highest derivative.

Doctor of physical-mathematical sciences (1965). Thesis: Asymptotical methods in the theory of non-linear systems of integro-differential equations with a small parameter by the highest derivative.

Scientific titles: Docent (1959). Professor (1996).

Corresponding member of the Academy of Sciences of Kyrgyzstan (1969).

Academician of the Academy of Sciences of Kyrgyzstan (1979).

Corresponding member of the USSR Academy of Sciences (1981), now Russian Academy of Sciences.

Awards:

Order of Labor Red Banner (1979).

Order of Manas of Degree III (1998).

Honorable Worker of Science of Kyrgyz Republic (1981).

Honorable Gold Medal of the President of Kyrgyz Republic "For Outstanding Scientific Achievements in XX Century" (2001).

Order of Manas of Degree I (2003).

State Prize of Kyrgyz Republic (2014).

Now he is the director of the Institute of Theoretical and Applied Mathematics

of the National Academy of Sciences of Kyrgyz Republic.

Main obtained results:

He demonstrated the essential difference of theory of integro-differential equations from the corresponding theory of differential equations and created the general method to investigate such equations with small parameters by derivatives. He proved convergence of solutions of Cauchy problem and boundary value problems for some new classes of singularly perturbed non-linear Volterra and Fredholm integro-differential equations to solutions of corresponding degenerate equations. He developed the theory of branching of periodical, almost periodical and bounded solutions of singularly perturbed equations and obtained equations of branching as asymptotical series and asymptotical solutions as series by integer and fractional powers of a small parameter. He found conditions under which integral perturbations of differential equations transform stable solutions into non-stable ones and vice versa.

He developed the theory of linear and non-linear integral equations of the first kind in the spaces of functions defined on a bounded segment and offered methods to regularize solutions of such equations based on techniques of the theory of singularly perturbed systems. He with his disciples discovered the phenomena of "rotating boundary layer", of "receding boundary layer" and of "splash" in the theory of singularly perturbed ordinary differential equations.

He with his disciples created the original method of additional argument by for investigation of nonlinear partial differential equations and integro-differential equations. Its main idea is reducing of an initial value problem or boundary value problem for a differential equation or an integro-differential equation to such system of integral equation with one more variable that it is more convenient for proving of theorems of existence and uniqueness and for calculation of solutions. This method is successfully applied for investigation of wide classes of problems.

He published more than 300 scientific works including six monographs:

1. Asymptotical methods in the theory of singularly perturbed integro-differential equations. "Ilim" Publishing House, Frunze (Bishkek), 1972 (in Russian).
2. Oscillations and stability of solutions of singularly perturbed differential and integral equations. "Ilim" Publishing House, Frunze (Bishkek), 1974 (in Russian).
3. Methods to solve non-linear inverse problems and their applications. "Ilim" Publishing House, Frunze (Bishkek), 1977 (in Russian).
4. Generalized solutions of integral equations of the first kind. "Ilim" Publishing House, Frunze (Bishkek), 1981 (in Russian).
5. Non-linear partial integro-differential equations. "Ilim" Publishing House, Bishkek, 1992 (in Russian).
6. Methods to solve problem of arrangement of multi-product production (with co-authors). "Ilim" Publishing House, Bishkek, 1998 (in Russian).

He prepared more than 10 doctors of sciences (two of them became corresponding members of republican Academy of Sciences) and more than 40 candidates of sciences.