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ANNIVERSARIES

To the 80th Anniversary of Academician S.N. Vassilyev

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GOLDEN JUBILEE OF AN ACADEMICIAN: A LIFE FOR THE BENEFIT OF SCIENCE

On July 5, 2026, Academician of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences Stanislav Nikolaevich Vassilyev celebrates his 80th birthday.

The jubilarian is an outstanding scientist, a specialist in the fields of mathematical cybernetics, systems analysis, control theory, and artificial intelligence. His scientific developments, which combine fundamental mathematics with applied problems of dynamics analysis and intellectualization of control of complex systems, have gained recognition both in Russia and far beyond its borders.

Stanislav Nikolaevich was born on July 5, 1946, in the town of Chistyakovo (now Torez) in the Donetsk region. A gold medal at school set the tone for all his further education: in 1970, he graduated with honors and a recommendation for postgraduate studies from the Radio Engineering Faculty of the Kazan Aviation Institute named after A.N. Tupolev.

Beginning his career at his alma mater, in 1975 he followed his teacher, Academician V.M. Matrosov, to Irkutsk. It was in Siberia that his talent fully blossomed. Having progressed from junior researcher to director of the Institute of Dynamics of Systems and Control Theory of the Siberian Branch of the Russian Academy of Sciences (formerly the Irkutsk Computing Center), he established himself as a major organizer of science. In 2006, already a full member of the Russian Academy of Sciences, he took over as director of the V.A. Trapeznikov Institute of Control Sciences of the Russian Academy of Sciences in Moscow, a position he held until 2016. Today, he continues to work there as a chief researcher, passing on his experience to the younger generation.

Academician S.N. Vassilyev is distinguished by his combination of depth in fundamental research and its practical implementation. Having started with the development of a system for automatic pointing of a telescope from the Moon to the geometric center of the Earth of variable phase, he moved on to the development of methods for model reduction (simplification) that allow analyzing the behavior of complex systems. This is reflected in his work on the transformation of dynamical system models and allows control of both mechanical objects and ecological-economic systems of regions.

Together with V.M. Matrosov, he developed the comparison method in mathematical systems theory and made a significant contribution to the qualitative theory of dynamical systems for analyzing stability, controllability, optimality, and other properties of nonlinear systems, including logic-dynamical and hybrid systems that combine continuous dynamics with discrete events or logical conditions. Together with his students, he developed algorithms for the machine derivation of theorems on the dynamical properties of systems, which made it possible to automate this process and obtain hundreds of new theorems on computers. These results were presented in the monographs (co-authored) "The Comparison Method in Mathematical Systems Theory" (1980), "Algorithms for Deriving Theorems Using the Method of Vector Lyapunov Functions" (1981), and a series of his articles in the journal "Differential Equations" (I–IV, 1981–82).

Since the 1990s, S.N. Vassilyev has been actively developing logical methods and artificial intelligence methods for control problems. His approach is based on the formalization of knowledge and the automation of logical inference, which led to the creation of a new direction — intelligent control of dynamical systems. One of the significant results was the creation of a system of automatic theorem proving, which is used for processing dynamical knowledge and control. This direction is devoted to the monograph "Intelligent Control of Dynamical Systems" (2000, co-authored).

An important part of S.N. Vassilyev's activity is the application of theoretical developments to solve real-world problems. The most striking example is comprehensive modeling and analysis for ensuring sustainable development of the Baikal region. Special attention deserves the contribution of Stanislav Nikolaevich to the training of the scientific elite. He founded the Department of "Physical and Mathematical Methods of Control" at the Faculty of Physics of Lomonosov Moscow State University, and for many years headed departments at MIPT, Irkutsk State University, and Buryat State University. Under his supervision, more than 20 candidates and doctors of sciences have been trained. For 15 years, Stanislav Nikolaevich was the editor-in-chief of the journal "Automation and Remote Control." In total, he has authored more than 400 scientific works, including authoritative monographs. Their significance was recognized by the USSR State Prize back in 1984 (for a series of works in the field of control theory of complex systems and mathematical modeling). For his services to the state and science, he has been awarded the titles of Laureate of the Prize of the Government of the Russian Federation in the field of education (2010) and the Prize of the Government of the Russian Federation in the field of science and technology (2012), and has been awarded the Order of the Badge of Honor, the Order of Friendship, a number of medals, including the S.P. Korolev Medal, as well as other state and scientific awards, diplomas, and letters of gratitude.

Eighty years is an age of wisdom and maturity, but colleagues and students know Stanislav Nikolaevich as a person who retains an inexhaustible interest in a wide range of pressing scientific problems, as a person of creative search and creation of original solutions (today, first of all, at the intersection of automation and intelligent control). From the bottom of our hearts, we congratulate the jubilarian and wish him good health, new discoveries, and grateful students.

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