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VALENTIN VITAL'YEVICH RUMYANTSEV (19/7/1921–10/6/2007)[☆]

Obituary



Valentin Vital'yevich Rumyantsev, an outstanding scientist of our time, Senior Research Fellow at the A. A. Dorodnitsyn Computing Centre, Emeritus Professor at the M. V. Lomonosov Moscow State University and Editor-in-Chief of the journal *Prikladnaya Matematika i Mekhanika*, passed away on 10 June 2007.

Professor Rumyantsev was an acknowledged world leader in the field of analytical mechanics and the theory of the stability of motion. He developed the theory of the stability of motion of bodies with cavities containing fluid, and the theory of stability with respect to a part of variables, and obtained other fundamental results in the field of the analytical mechanics and rigid-body dynamics. In recent years he had broadened considerably the framework of the applicability of methods of analytical mechanics, developed the Poincaré–Chetayev theory of generalized equations and extended variational principles to systems with unilateral constraints.

His main workplace was the A. A. Dorodnitsyn Computing Centre of the Russian Academy of Sciences, where he set up the mechanics section and assembled a highly skilled team to work on the theory of stability and the mechanics of controllable systems. In the difficult "perestroika" years, he succeeded not only in retaining but also in almost

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doubling the workforce of the research team he headed at the Computing Centre by recruiting new, talented young people, enthusiastic about science.

He published some 200 scientific papers, including seven monographs. The main stages of his scientific activity can be followed from the prizes and awards he gained: the Prize of the Presidium of the USSR Academy of Sciences (1950) for the development of new technology, the S. A. Chaplygin Prize of the USSR Academy of Sciences (1958) for a series of studies on rigid-body dynamics, the State Prize of the USSR (1980) for a series of studies on the dynamics of rigid bodies with cavities containing fluid, the State Prize of the Russian Federation (1996) for a series of studies on the dynamics of a rigid body on a string and associated problems, and the A. M. Lyapunov Prize of the Presidium of the Russian Academy of Sciences (2004) for a series of studies on the modification and development of the method of Lyapunov functions in the theory of the stability and stabilization of motion with respect to a part of variables. He was awarded the "Valiant Labour" Medal (1970), two "Red Banner of Labour" Orders (1971, 1975), the "October Revolution" Order (1981) and the "Honour" Order of the Presidium of the Russian Federation (2002), and he was elected a Corresponding Member of the USSR Academy of Sciences (1970) and a Full Member of the Russian Academy of Sciences (1972). For his great service to the training of research personnel, he was awarded the title of Emeritus Professor of Moscow State University.

His scientific activity received international recognition. He was elected a Corresponding Member (1995) and then a Full Member (2000) of the International Academy of Astronautics, was awarded the Humboldt Foundation Prize (1996), was elected a Foreign Member of the Serbian Academy of Arts and Sciences (1997) and was awarded the A. G. Agostonelli International Prize of the Accademia Nazionale dei Lincei (1999).

He was born in the village of Novaya Skatovka in the Saratov region on 19 June 1921. He was a graduate of the Physics & Mathematics Faculty of Saratov State University (1945) and a postgraduate student at the Institute of Mechanics of the USSR Academy of Sciences (1948) under the supervision of N. G. Chetayev, who had a key influence both on Rumyantsev's scientific interests and on his entire subsequent destiny. Rumyantsev not only became a worthy recipient of the scientific wisdom of his unforgettable supervisor but also took up his ideas.

From 1948 he was a candidate of Physics & Mathematics Sciences, from 1953 he was a Doctor of Physics & Mathematics Sciences and from 1956 he was a Professor at the Mechanics & Mathematics Faculty of Moscow State University, where he gave the main mechanics course and a special course on the theory of the stability of motion. He managed the All-Russia scientific seminars on analytical mechanics and the stability of motion. From 1948 to 1964 he worked at the Institute of Mechanics of the USSR Academy of Sciences, following the path from junior research fellow to head of the General Mechanics Section. From 1965 he worked at the A. A. Dorodnitsyn Computing Centre of the Russian Academy of Sciences, initially as a senior research fellow and then as head of the Mechanics Section, and as an advisor to the Russian Academy of Sciences.

Under his supervision, over 20 doctors and 50 masters of science were trained. The school of analytical mechanics and stability theory he created attracted numerous brilliant specialists, effectively determining the scientific face of these areas of knowledge. Many of his students, both in Russia and abroad, occupy leading scientific positions in their countries.

Much of his effort was devoted to scientific and organizational work on the National Committee of the Russian Federation for Theoretical and Applied Mechanics, in the scientific council of the Russian Academy of Sciences on the problem of general mechanics and in the office of the Division of Problems of Engineering, Mechanics and Control Processes of the Russian Academy of Sciences. Until the end of his life, he ran the scientific seminars on analytical mechanics and stability theory in Moscow State University. He took an active part in organizing practically all the national and many international scientific forums on mechanics and the stability of motion.

From 1981 he was Editor-in-Chief of the journal *Prikladnaya Matematika i Mekhanika*. It is many ways through his efforts that the journal not only retained a leading position among Russian journals on mechanics but also occupied a worthy place among world-class journals. His erudition and adherence to principles played a significant role in determining the main directions of the development of the subject matter of the journal and in selecting the most interesting and important papers.

Professor Rumyantsev was noted for the remarkable attention and sensitivity he showed towards his colleagues and students and to all those with whom he associated and worked. He will always be very warmly remembered.

The staff and editorial board of the journal *Prikladnaya Matematika i Mekhanika* express their deep condolences to those closest to him, and to his friends and colleagues.