To the memory of Yuri Rudavskii

On February 21, 2007 a sudden regrettable death took away Yuri Rudavskii, a renowned Ukrainian scientist in the field of theoretical physics, doctor of physics and mathematics, professor, head of the Chair of higher mathematics, Rector of Lviv Polytechnic National University.

Yu.K.Rudavskii was born in the city of Lviv to the family of a medical doctor. Having finished in 1965 the Lviv secondary school with honours of gold medal he entered the Physical Department of Ivan Franko Lviv State University, where he specialized in theoretical physics. In 1970 Yuri Rudavskii graduated from the University. In the same year he started his scientific activities under the supervision of Academician I.R. Yukhnovskii as a post-graduate student at the Chair of theoretical physics and later as a research fellow at the Lviv Department "Statistical Physics" of the Institute for Theoretical Physics of Ukrainian Academy of Sciences. Here the talented scientist has grown from a junior research fellow to the leading scientific researcher. In 1977 he defended his Ph.D. dissertation entitled "Investigation of the Ising model by means of collective variables method". Nine years later in the Joint Institute for Nuclear Research in Dubna Yu.K. Rudavskii defended his doctoral dissertation "Statistical theory of the regular and structurally disordered systems in the method of functional integration".

From 1987 Yuri Rudavskii was a Professor at the Chair of higher mathematics of Lviv Polytechnical Institute; a year later he became head of the Chair. In 1991 Yu.K. Rudavskii was elected for the rectorship of Lviv Polytechnic Institute (subsequently renamed to Lviv Polytechnic National University) by the majority of the votes at the staff meeting. Being a renowned scientist, Prof. Rudavskii was a full member of the Academy of Engineering, Doctor Honoris Causa of Wroclaw Polytechnic Institute and Szląsk Polytechnic Institute in Gliwice, corresponding member of the Academy of Pedagogical Sciences (from 2003), full member of Jan Komensky International Slavic Academy of Education.

Prof. Yu.K. Rudavskii published more than 100 scientific papers in the fields of statistical physics and mathematical modelling. His scientific interests primarily dealt with a statistical description of magnetic equilibrium and nonequilibrium properties of ordered and disordered systems of interacting particles. Yu.K. Rudavskii in collaboration with Academician I.R. Yukhnovskii and I.O. Vakarchuk made a considerable contribution to the development of the modern methods of the description of critical phenomena and phase transitions in topologically disordered systems. Together with I.R. Yukhnovskii he proposed collective variables representation for the statistical description of spin systems. Based on the continual integration method, Yu.K. Rudavskii together with I.O. Vakarchuk and G.V. Ponedilok proposed a universal approach to the calculation of Green's functions and correlation functions at the same time considering both long- and short-range interactions in the quantum Heisenberg model. Thermodynamic and correlation properties of amorphous Heisenberg magnets with liquid-like structural disorder were investigated; a double

averaging procedure was performed correctly, which is an important problem in the modern statistical theory of disordered systems. Such an approach is being actively developed while describing the magnetic properties of the metallic surfaces. The obtained results and applications of the functional integration methods in the theory of random processes, quantum mechanics problems, field theory, and quantum statistics are collected in the textbook "Functional integrals and their application" (2002) by Yu.K. Rudavskii and G.V. Ponedilok.

Starting from 1999 Yuri Rudavskii was actively studying nonequilibrium properties of liquid magnets. In 2003 Yu.K. Rudavskii together with his colleagues I.M. Mryglod and M.V. Tokarchuk became a laureate of S.I.Pekar's Award of the National Academy of Sciences of Ukraine for the series of papers "Theory of dynamic properties and phase transitions in liquid magnets", highly appreciated by Ukrainian and international scientific communities.

Yu.K. Rudavskii paid considerable attention to the applied aspects of statistical mechanics. He developed a method of boundary elements with application of trigonometric functions to the construction of mathematical models of deformation of elastic bodies and thin-walled elements of constructions. He proposed and explored mathematical models for the calculation of thermoelastic state of electroconducting systems, being under the action of the external non-stationary thermal and electromagnetic fields (together with V.M. Kolisnyk, M.A. Sukhorolsky, and R.S. Musij). From 1999 Yu.K. Rudavskii in collaboration with M.V. Tokarchuk and P.P. Kostrobij investigated reaction-diffusion processes in spatially inhomogeneous systems for the description of the adsorption processes and catalysis at the metallic surfaces. He actively supported experimental and theoretical elaborations in promissing directions of the science, especially in nanotechnology. Due to his initiative a new Laboratory of nanophysics and molecular power engineering was organized in 2002, whose main directions of investigation are technology development for nanostructure formation with matrix isolation for the devices of molecular power engineering and spin electronics.

Under the supervision of Prof. Yu.K. Rudavskii there were defended four Ph.D. dissertations, one Ph.D. dissertation was submited to the defence, two doctoral dissertation are at the stage of completion. Yuri Rudavskii is an author of the textbooks "Mathematical methods in chemistry and chemical technology", "Competitive problems in mathematics", "Competitive problems in physics" and many others.

Prof Yu.K. Rudavski, being the head of one of the leading Ukrainian academies, directs Lviv Polytechnic National University toward being the outpost of the renascense of the national school of higher education. Under his leadership a reconstruction of the educational processes was successfully realized to guarantee modern highly professional training of students. For the purpose of integration into the European educational system, a transition to the multilevel system of the specialist training was accomplished in Lviv Polytechnic National University for the first time in Ukraine; student, post-graduate and trainee exchange with leading foreign academies was established.

Being highly qualified scientist and educational specialist, Yu.K. Rudavskii was an adviser of the Committee for Education and Science of the Supreme Council of Ukraine, a member of the State Accreditation Committee of Ukraine, a member of the Certifying Commission for graduation of the Ministry of Education and Science of Ukraine, a member of the section of information science of the State Award Committee for science and technology of Ukraine, vice-chairman of the Council of rectors of West-Ukrainian institutes of higher education.

Owing to his fruitful scientific and substantial organizing activities, personal contribution to the development of the higher education, Yu.K. Rudavskii received the Award of the President of Ukraine (1994), Honorary Diploma of the Government of Ukraine (2002) and of the Supreme Council of Ukraine (2006), State Award of the Republic of Poland "Cavalier Cross for Merits" (2004), Johannes Joseph Richter von Prechtel medal of Vienna Technical University (2005).

At the threshold of his 60^{th} anniversary Yu.K. Rudavskii was full of creative scientific ideas, plans of developing the higher education system in Ukraine. The Editorial Board of "Condensed Matter Physics" present their condolences to his family, colleagues and friends in connection with his untimely death.