

**IVAN VASYLYOVYCH SIMENOG**  
(to the 75-th anniversary of his birthday)

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On January 17, 2014, the known physicist-theorist, Doctor of Science in Physics and Mathematics, Professor, the Head of the Department for Applied Problems in Theoretical Physics at the Bogolyubov Institute for Theoretical Physics of the National Academy of Sciences of Ukraine (NASU) Ivan Vasylyovych Simenog celebrated his 75-th anniversary.

Ivan Vasylyovych was born in 1939 in the village of Kyseli (the Oleksiivskiy, now Pervomaiskiy, district of the Kharkiv province). He graduated from V.N. Karazin National University of Kharkiv in 1961 and worked at the Institute of Physics of the NASU from 1962 to 1968. Since 1968, Ivan Vasylyovych has been working at the Bogolyubov Institute for Theoretical Physics of the NASU and, since 1993, he is the Head of the Department for Applied Problems in Theoretical Physics. Since 1999, he is also Professor at the Taras Shevchenko National University of Kyiv.

Ivan Vasylyovych started his scientific activity under the guidance of Academician Oleksii Grygorovych Sitenko, who was a representative of the well-known Kharkiv school of physicists-theorists. The

first works by I.V. Simenog were devoted to the problems of plasma theory and theoretical nuclear physics. Afterward, Ivan Vasylyovych concentrated his main attention on the fundamental problems in the quantum-mechanical theory of systems with strong and Coulomb interactions.

The following list of the results obtained by Ivan Vasylyovych (it is far from being complete) shows the scope of his scientific interests. He created the theory of fluctuations in superconductors, substantiated the mean-field approximation for Bose and Fermi systems, developed the strong coupling approximation, and established the universal properties of energy states for systems with a few particles. He proposed a model-free approach to few-nucleon systems. Ivan Vasylyovych constructed the stability diagrams for few-particle systems with the strong and Coulomb interactions, found structural features for the states of the three-particle Efimov effect, derived an exact soliton-like solution for the Schrödinger equation with a non-local nonlinearity, and obtained solutions for low-dimensional equations. The gas approximation for systems with a finite number of particles was developed, a possibility for multineutron droplets and a tetra-neutron to exist was studied, and non-perturbative relativistic equations were formulated. In the domain of theoretical nuclear physics, Ivan Vasylyovych developed a representation without isospin, which substantially facilitates the theoretical researches of few-nucleon and light nuclei. He studied the structural peculiarities in few-nucleon and multicluster systems, and developed effective variational methods of precise calculations for systems of particles with interactions of different nature. After the Chernobyl disaster, Ivan Vasylyovych analyzed the migration of radioactive contaminations in soils and water.

Ivan Vasylyovych Simenog is a researcher completely devoted to science. For the last years, he works

with inspiration and fruitfully and has obtained new important results. Recently, Ivan Vasylyovych solved a general problem of the delta-interaction efficiency in quantum-mechanical systems with a few particles. He also proposed to consider the generalized interactions that cause a node structure and a degeneration in the ground states of quantum-mechanical particle systems. Ivan Vasylyovych Simenog always has new non-trivial scientific ideas and creative plans for their realization.

Under the supervision of Ivan Vasylyovych, a significant number of Ph.D. theses were prepared and defended. Some of his disciples work far abroad. The first of his disciples has already defended the thesis for a Doctor of Science degree. Since 1999, Ivan Vasylyovych is Professor at the Taras Shevchenko National University of Kyiv, where he lectured a number of courses in theoretical physics.

Ivan Vasylyovych Simenog is a winner of the O.S. Davydov Prize of the NASU. He was also awar-

ded the Decorations of the NASU “For professional achievements” and “For training the young scientific generation”.

As a member of the Editorial board of the Ukrainian Journal of Physics, Ivan Vasylyovych put a lot of efforts to improve and to develop this scientific edition and to raise its rating. A number of known papers were published by him just in this journal.

Ivan Vasylyovych Simenog meets his 75-th birthday with a considerable scientific masterpiece, being full of new creative plans. We sincerely congratulate dear Ivan Vasylyovych with this anniversary! We wish him the strong health, happiness, creative inspiration, and new scientific achievements that will bring fame to the Ukrainian science!

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