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Personalia

Ihor Stasyuk's 75th birthday

Quantum many body physics and solid state theory in Lviv and Ukraine have always been linked with the name of Professor Ihor Stasyuk, a prominent scientist who celebrates his 75th birthday.

Ihor Stasyuk was born on September 23, 1938 in Berezhany, Ternopil region, Ukraine. He entered the Department of Physics of the Ivan Franko State University of Lviv at the age of 16 and started his research already during student years, when, together with his supervisor Professor Abba Glauberman and V.V. Vladimirov, he developed a "new form of polar model" and introduced the "site elementary excitation" operators — predecessors of the well-known Hubbard operators. These results were acknowledged by N.N. Bogolyubov and summarized in the article published in Doklady Akademii Nauk SSSR [Soviet Physics — Doklady] in 1959.

Having graduated from the university in 1959 with *magna cum laude*, Ihor Stasyuk continued his research work during postgraduate studies (1959–1962). In 1963 he successfully defended the Ph.D. (Cand. Sci.) thesis "The Method of Site Elementary Excitations in the Theory of Nonmetallic Crystals" and received the position of an assistant professor at the Department of Solid State Theory and later at the Department of Theoretical Physics of the Ivan Franko State University of Lviv. At that period he obtained significant results in the theory of exchange interactions and ferromagnetism in strongly correlated electron systems. He developed the Wick's theorem and diagrammatic technique for Hubbard operators as well as provided a model description of dynamic and thermodynamic properties of complex hydrogen-bonded ferroelectric compounds. Simultaneously, he initiated the studies on the microscopic theory of optical effects in dielectric crystals.

The next period of his scientific activities is connected with the Institute of Applied Problems of Mechanics and Mathematics of the Academy of Sciences of Ukraine where in 1978–1983 Ihor Stasyuk started investigations of electron-deformation effects in semiconductors and in systems with narrow bands, as well as investigated the crystals with cooperative Jahn-Teller effect. At that time he developed the unified microscopic theory of the external field induced optical effects in dielectric crystals including electrogyration and piezooptic effect.

Since 1983 Ihor Stasyuk has been working at Lviv Division of the Institute for Theoretical Physics (ITP) of the Academy of Sciences of Ukraine. In 1985 he successfully defended the Doctor of Science (Habilitation) thesis "Theory of Induced by External Fields Effects in Crystals with Structural Phase Transitions" and in 1986 he became the Head of the Quantum Statistics Department. In 1990, Lviv Division of the ITP was transformed into the Institute for Condensed Matter Physics (ICMP) of the National Academy of Sciences of Ukraine. Starting from the foundation of the ICMP Ihor Stasyuk was the Research Deputy Director for 16 years. In 1995 Ihor Stasyuk was elected the Corresponding Member of the National Academy of Sciences of Ukraine.

It is in the field of condensed matter physics theory that Professor Ihor Stasyuk gained his most important scientific achievements. He is widely recognized for developing mathematical methods of the theory of multilevel systems and for his research of fermionic systems with strong short-range correlations and physical phenomena in crystals with phase transitions. Professor Stasyuk investigates the effect of the Hubbard-type correlations and anharmonicity in the theory of high-temperature superconductivity. He is one of the authors of kinematic mechanisms of superconducting pairing in the Hubbard model. Professor Stasyuk's scientific school is widely acknowledged for the development of microscopic theory of the effect of the fields of different nature (hydrostatic and uniaxial pressure, electric field, single-ion anisotropy, etc.) on the properties and thermodynamics of ferroelectric and Jahn-Teller crystals. Another field of his interests is connected with the protonic and ionic transport in the systems with superionic phases. Stasyuk's recent interests concern the theory of intercalation induced effects in various crystals, phase transitions and Bose-Einstein condensation in optical lattices.

He is the author of four books and about 700 scientific papers and contributions.

Professor Ihor Stasyuk is a prominent teacher. He always combines his research work with the educational activities. Twenty researchers under his supervision received Ph.D. degree; five of them became Doctors of Sciences. Numerous generations of students of the Ivan Franko National University of Lviv remember his brilliant lectures in theoretical physics, as well as more specific courses in quantum statistics, electrodynamics, solid state theory, phase transitions theory, mathematical methods in theoretical physics, etc.

Professor Ihor Stasyuk is an active organizer of science. He is a full member of the Shevchenko Scientific Society and resides in its Presidium, associate editor of the "Condensed Matter Physics", editor of international journals, member of the International Advisory Committee on Ferroic Domains and Mesoscopic Structures. For many years he was the vice-president of the Ukrainian Physical Society. Ihor Stasyuk was a head and a member of organizing and programme committees of many international and Ukrainian conferences in physics.

His scientific and public activities are acknowledged by many awards and titles. Professor Ihor Stasyuk is the Soros Professor (1996) and the "Excellence in Education of Ukraine" badge holder (1998). He was awarded by a Certificate of Honour of the Supreme Council of Ukraine in 2004 and by the Insignia "For Scientific Achievements" of the National Academy of Sciences of Ukraine in 2008. In 2009 I.V.Stasyuk became the Chevalier of the Order of Merit of the Third Class. In 2011 he became a *Doctor Philosophiae Honoris Causa* at the Bogolyubov Institute for Theoretical Physics of National Academy of Sciences of Ukraine.

The Editorial Board of "Condensed Matter Physics" and his numerous colleagues and friends congratulate Professor Ihor Stasyuk on the occasion of his anniversary and acknowledge his unique and valuable contribution to science wishing him to stay in good health and many enjoyable years of fruitful scientific work.