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Personalia

Alexandr Olemskoi (1949–2011)

Professor Alexandr Ivanovich Olemskoi, prominent Ukrainian scientist, Doctor of Physical and Mathematical Sciences passed away on August 3, 2011. An outstanding Physicist, a recipient of the Order of Merit in Science and Technology (Ukraine), foreign member of the Russian Academy of Natural Sciences, he made essential contributions to the theory of structural phase transitions in non-equilibrium condensed matter, statistical theory of hierarchical systems, supersymmetrical theory of disordered systems, statistical theory of complex self-similar and self-organized systems.

Alexandr Olemskoi was born on September 19, 1949 in the village of Ekatirinovka, Voronezh province in Russia. He graduated from the Voronezh Polytechnical Institute and defended his PhD in 1977. After a period of research and teaching in the Balakiev division of the Saratov Polytechnical Institute and Kursk Polytechnical Institute he continued research at the Tomsk Institute of Physics of Stability and Material Science. In 1987 at the Physics Department of the Moscow State University he defended his thesis for the degree of a Doctor of Physical and Mathematical Sciences. This thesis laid the basis for his first book: A.A. Katsnelson, A.I. Olemskoi, *Theory of ordered and heterophase structures with arbitrary non-homogeneity scale*, Moscow, Moscow State University Publ. House (1987). In 1988 he started working in Sumy (Ukraine), where he was invited to organize the Department of Theoretical Physics of the Sumy division of the Institute of Physics of Metals, Acad. Sci. of Ukraine (now – the Institute of Applied Physics of the National Acad. Sci. of Ukraine). In 1995 he was appointed Chair for Electronics of Sumy State University and in 2006 he was in addition appointed head of the Laboratory of Microstructural Research of Reactor Materials of the Institute of Applied Physics. In 1997 he was awarded the title of Soros professor for his achievements in research and teaching. He was invited to be member of the editorial board of the "Journal for Physical Studies". In 1999, together with Yu.I. Horobets and V.F. Klepikov, he was awarded the C.I. Pekar Prize of the Presidium of the National Acad. Sci. of Ukraine for his series of papers "Phase transitions and non-homogeneous structures in ordered systems". In 2004, by state award of Ukraine he received the honorary title of a Recipient of the Order of Merit in Science and Technology.

In 2005 he was elected a foreign member of the Russian Academy of Natural Sciences and in 2009 he was awarded the medal of the National Acad. Sci. of Ukraine for his scientific achievements.

The field of scientific interests of Alexander Olemskoi was very broad, both in the sense of the variety of objects of analysis (metallic alloys, spin glasses, polymers, complex systems) and the variety of methods he applied. In particular, his early contributions to the theory of fractals in condensed matter enabled him to offer an elegant and original theory of hierarchical systems in his later work. In turn, his theory is used to describe spin glasses and hierarchical defect structure formation in solid bodies. He has always been attracted by the beauty, elegance and cognitive strength of theories that, while based on simple physical language, are capable of explaining the behavior of complex systems that experience phase transitions and self-organization. Working with a group of young and devoted collaborators, students and colleagues he developed a supersymmetric description of condensed matter that was later successfully applied to polymer systems. His permanent interest in general problems of statistical physics and non-equilibrium systems brought him to develop a theory of stochastic systems with singular noise. The central ideas of this approach are summarized in his book: A.I. Olemskoi. *Theory of Structure Transformations in Non-equilibrium Condensed Matter*, NOVA Science, N.-Y. (1999). The theory of coherent state formation in systems of different nature is expounded in his later book: A.I. Olemskoi, A.A. Katsnelson. *Synergetics of condensed matter*. "Editorial URSS" Publ. House, Moscow (2003). Foundations of the theory of phase transitions in non-equilibrium stochastic systems and anomalous diffusion theory are given in his 2007 book: A.I. Olemskoi, D.O. Kharchenko, *Self-organization of self-similar stochastic systems*, NITs RKhD, Moscow, Izhevsk (2007). A year later there appeared his book: A.I. Olemskoi, *Synergetics of complex systems: Phenomenology and statistical theory*, KRASAND Publ. House, Moscow (2009). There, a subject of particular interest is the theory of self-similar complex systems, theory of complex networks with hierarchical structure, time series analysis. His last book: A.I. Olemskoi, I.A. Shuda. *Statistical theory of self-organized complex systems*, Sumy State University Publ. House, Sumy (2010) further elaborates on the application of deformed calculus in the theory of complex systems, multifractals and hierarchical structures.

His devoted and systematic activity resulted in the creation of a Sumy School of young talented physicists who will continue his work and pursue his ideas as will his students, many of whom work today at the best Centers of Physics all over the world. We mourn a talented Physicist, brilliant Lecturer and Teacher, and last not least – a very good friend.