

**THE 45-TH ANNIVERSARY  
OF THE BOGOLYUBOV INSTITUTE FOR THEORETICAL PHYSICS  
OF THE NATIONAL ACADEMY OF SCIENCES OF UKRAINE**

On January 5, 2011, it was 45 years since the Bogolyubov Institute for Theoretical Physics of the National Academy of Sciences of Ukraine was founded. The founder of the Institute and its first director was the famous physicist-theorist and mathematician, Academician Mykola Mykolaiovych Bogolyubov.

During the years passed, the Institute became one of the leading centers of theoretical physics in Ukraine. An outstanding role in its formation and development was played by the scientific schools headed by M.M. Bogolyubov and O.S. Parasiuk (in mathematical physics and quantum field theory), by O.S. Davydov (in solid-state theory and nuclear theory), by O.G. Sitenko (in theoretical nuclear physics and plasma theory), and by P.I. Fomin (in relativistic astrophysics, cosmology, and elementary particle physics). Today, the following scientific directions are developed at the Institute:

- high-energy physics and astrophysics, quantum cosmology;
- theory of nuclear systems, quantum field theory, symmetry theory;
- theory of nonlinear processes in macromolecular structures, nanosystems, and plasma;
- dynamics of open, strongly nonequilibrium physical, biological, economic, and information systems.

On December 15, 2010, the Bogolyubov readings devoted to the 45-th anniversary of the Bogolyubov Institute for Theoretical Physics took place. The attendants heard 27 reports. This issue of the Ukrainian Journal of Physics includes some of those reports, which enable one to get an idea of the scope of problems and the scientific activity of the Institute.