

## EDITORIAL

This issue of the Ukrainian Journal of Physics collects the contributions presented at the Second International Conference “NANOBIOPHYSICS: fundamental and applied aspects” (Kyiv, October 6–9, 2011).

This event is organized by the Institute of Physics of the NAS of Ukraine together with B.I. Verkin Institute of Low Temperature and Engineering of the NAS of Ukraine on the biannual basis. The first conference took place in Kharkiv in 2009 and got positive response from the scientists from Ukraine, Russian Federation, the USA, France, Czech Republic, Germany, Canada, Bulgaria, and Hungary.

The conference has brought together the scientists working in the fields of nanosciences, nanotechnologies, and molecular biophysics and dealing with the biological macromolecules or their complexes with any kind of nanoparticles or nanostructured media. The goal of the conference is to discuss recent achievements and to push forward this innovative area of science and technology.

Official languages of the conference were English, Ukrainian, and Russian. The abstracts, posters, and oral talks were prepared in any of these languages.

The works satisfy the following criteria:

- Biological macromolecules or their complexes with any kind of nanoparticles or nanostructured media should be involved. The studies of inorganic nanoparticles, non-biological polymers, *etc.*, are beyond the scope of the conference.
- The biological molecules should be treated by *physical* methods as *self-contained nanosystems* or as the parts of *artificial compound nanosystems*. Pure molecular biology or biochemistry is beyond the scope.
- The theories and the computer simulations should be targeted at the whole nanostructures rather than their elementary parts (like isolated ligands or individual amino acids).

The organization of the Conference was the responsibility of the International Organizing Committee: L. Yatsenko – Chairman, Institute of Physics of the NASU, V. Kharkyanen – Vice-Chairman, Institute of Physics of the NASU. The program of the Conference included the following

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topics: Theory and computer simulations of the nanosystems based on biological macromolecules; Interactions of biomolecules with the nanoparticles and nanostructured surfaces; Nanomaterials, nanocomposites, and their applications; Biomedical applications of nanostructures; Studies of biological molecules and inorganic substances; Synthesis and characterization of nanoparticles and nanostructured surfaces.

The conference gathered 54 researchers including the participants from Ukraine, Russian Federation, Belarus, the USA, Italia, Finland, and Germany.

The papers included in this issue were reviewed in the regular manner.