Preface

The paradigm of converged technologies (NBIC) aims to develop and accelerate scientific and technical progress by utilizing mutual influence of various fields of science on each other, namely, nanotechnology, biotechnology, information and cognitive technologies. Within the framework of NBIC technologies, nanotechnologies are one of the most advanced components.

Nanotechnology is a fundamental modernization of all existing disciplines and technologies through directed manipulation at the level of atoms and molecules. Transfer to nano size has changed the paradigm of development from analysis to target synthesis. But nano size is not the ultimate target. Miniaturization and nanotechnology have no sign of equality. The nano approach is important in research and development of new knowledge, functional materials and technologies.

As an integral part of the NBIC technologies paradigm, nanotechnologies in their turn are rather convergent. Convergence of nanotechnologies leads to creation of new materials and technologies which are needed in almost all fields of human activity. A vivid example of the convergence of nanotechnology is this collection of papers, which includes materials of scientific and experimental research from different disciplines, but which are united by one concept – convergent nanotechnologies.

We hope that our collection of papers will be useful in your scientific work.

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December 2014