Editorial

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Dear colleagues!

The editorial board of the journal *Nanotechnologies in Russia* continues to publish thematic issues. The idea of using nanomaterials in biomedicine arose from the very founding of the principles of atomic–molecular design in the early 2000s. This is primarily the creation of nanoparticles with the desired properties for diagnosing pathologies and their therapy. In modern literature, the term theranostics is often used in the case when the same objects are used for both of the mentioned purposes.

There have been numerous attempts to use nanoparticles for controlling plant reproduction. Certain successes have finally been achieved in realizing of the targeted delivery of drugs attached to small particles or in nanocontainers, in particular, with good magnetic properties.

A second, no less important, direction is the use of bulk nanostructured materials to create elements of substitutive medicine: artificial organs, orthopedic and surgical materials. A natural requirement for such materials is biocompatibility. Certain elements that, after a given time, complete their functions (suture

materials, screws, pins and plates for osteosynthesis) may have bioresorbability requirements.

The editorial board presupposes the formation of at least two thematic issues devoted to bio- and nanomedicine. In the current issue, a significant number of articles discusses the use of nanoparticles to ensure targeted delivery and controlled release of drugs, the creation of vaccines with antiangiogenic effects, and an increase in cultivated plant productivity; possible chemical modifications to create stable colloidal solutions of nanoparticles and synthesis of composite materials for osteosynthesis; the safe use of nano-objects is considered and possible risks of their use are analyzed.

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