

Special Issue on
Nanobiointerface: Advances and Challenges

CALL FOR PAPERS

With the rapid development of nanotechnology, the interface between nanomaterials and biological systems has become one of the most intriguing areas in biomedical applications such as diagnostics and therapeutics, biosensing and bioimaging, bioelectronics and biophotonics, and nanomedicine. The nanomaterial/biological interfaces, the key for the bionanotechnologies, can be defined as the interaction of nanomaterials with the surface of biological components, such as biomolecules and ions, proteins, phospholipids, membrane, cells, endocytosis vesicles, organelles, and biological fluids. Current researches on the nanobiointerface comprises three important components, including surface chemistry of nanoparticles, interface of nanoparticles and surrounding medium, and the interaction of nanoparticles with biological substrate. These fundamental researches on interface science are providing the exciting prospect for engineering advanced functional nanomaterials for biological applications.

On the other hand, challenges associated with the practical use of nanomaterials also encountered in applying nanotechnologies in biological system, especially the researches associated with the applications of nanomaterials in animals and humans. The interactions of nanomaterials with biological systems may change the properties of nanomaterials and in return affect their biological responses. Therefore, studies on the cutting edge nanomaterial preparations, innovative methodologies on the surface chemistry, unique mechanisms of the nanobiointerface, and relevant biological applications are of great importance.

This special issue intends to discuss and present recent progresses and challenges in nanobiointerfaces science. The editors are pleased to invite high quality, original research articles as well as review articles that provide new methods, new procedures, new results, or new understanding in this field.

Potential topics include but are not limited to the following:

- ▶ Design, synthesis, and characterization of next generation inorganic/organic nanomaterial
- ▶ New or novel methodologies of the surface modification of nanoparticles
- ▶ New understanding the mechanisms of the nanobiointerface science
- ▶ Surface chemistry of nanomaterials and bioconjugation techniques
- ▶ Toxicity, physiological, and physiochemical metabolisms of new nanomaterials
- ▶ Functional nanomaterials in disease diagnostic and treatment, including chemo-/gene-/immune-/radio-/photodynamic/photothermal therapy
- ▶ Engineering surface of nanoparticles for biosensing and bioimaging applications
- ▶ Fabrication of nanomaterials for bioelectronics and biophotonics

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jnm/niac/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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