



Journal of Nanomaterials

Special Issue on  
**Nanoscale Biological Materials**

# CALL FOR PAPERS

Biological materials at nanoscale such as proteins, antibodies, lipids, and nucleic acids have recently received significant attention due to their importance in understanding biology as well as engineering and materials science. In particular, it is necessary to characterize the microstructures and material properties of nanoscale biological materials at nanoscale not only for understanding in depth their biological role but also for providing design methodologies and techniques to optimize engineering products and systems.

Over the past 20 years, with technological advance in single-molecule experiments and multiscale computer simulations, the function of biological materials has been significantly unveiled. Their functions are found to be related to their microstructures and material properties. Meanwhile, as inspired by some biological materials (e.g., muscle protein, water, and ion channel) that perform excellent mechanical functions, there are notable efforts to develop biomimetic and bioinspired materials with controllable performance.

With recent advancements in the area of nanoscale biological materials as described above, this special issue is aimed towards presenting the current state of arts in understanding the structures, material properties, and functions of nanoscale biological materials including DNA, RNA, protein, lipid, and self-assembled structures made of these building blocks. This special issue is aimed to publish high-quality research articles and review articles addressing the aforementioned aspects of nanoscale biological materials.

Potential topics include, but are not limited to:

- ▶ Nanoscale biomimetics and bioinspired applications
- ▶ Biosensors
- ▶ Biomolecular assembly
- ▶ Biomechanical response
- ▶ Bioinspired materials
- ▶ Self-assembled biological structures (e.g., protein fibrils, protein films, DNA condensation, and DNA origami) and their characterization
- ▶ Multiscale modeling of structure, dynamics, and assembly of biomaterials
- ▶ Single-molecule techniques for biological material characterization
- ▶ Mechanical tests of biological materials at nanoscale
- ▶ Material properties of biological materials
- ▶ Transport properties of biological molecules
- ▶ Mechanical tests of biological materials at nanoscale
- ▶ Interface between biological molecules and nanomaterials

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

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## Manuscript Due

Friday, 1 January 2016

## First Round of Reviews

Friday, 25 March 2016

## Publication Date

Friday, 20 May 2016