

# **Journal of Nanoengineering and Nanomanufacturing (JNAN)**

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## ***A Special Issue on “Engineering Nanomaterials for Biomedical Applications”***

### **Call for Papers**

Nanomaterials have attracted broad attention from researchers in various fields for both in terms of their fundamental size dependent properties and their potential applications. These nanomaterials (e.g. carbon nanotubes, graphene, ZnO nanocrystals, quantum dots, quantum rods, gold nanorods, metal nanoshells, core/shell nanoparticles, semiconductor nanowires, magnetic nanocrystals, etc) exhibit size and shape-dependent characteristics, including novel electronic, magnetic, optical, chemical, and mechanical properties that cannot be achieved using their bulk counterparts. The synthesis of these nanomaterials with bio-functionalities has become an important area of biomedical research as methods of imaging, sensing, and therapy utilizing such materials have dramatically expanded globally over the past decade. This interest is also driven by advances in developing straightforward and facile techniques for nanomaterials with desirable bio-functionalities such as conjugation of biomolecules with nanomaterials and coating nanomaterials with polymer materials that makes them biocompatible for in vitro and in vivo applications. The main goal of this special issue is to highlight the development of wide varieties of bio-functionalized nanomaterials for biomedical applications and future opportunities that we encounter in using these bio-functionalized nanomaterials for clinical research. Understanding the underlying interaction of these bio-functionalized nanomaterials with biological systems will provide us helpful guidelines in tailoring and optimizing these nanomaterials for specific biotechnological applications. In this special issue, we invite researchers and scientists in related fields to contribute their original research, review, and perspective articles that cover but are not limited to the following research topics:

- Synthesis and characterization of bio-functionalized nanomaterials with unique physical properties
- New approaches of applying nanomaterials for bioimaging, biosensing, and therapy
- Studies of toxicity of bio-functionalized nanomaterials
- Bio-functionalized nanomaterial-based probes for cell trafficking, MR imaging, Raman spectroscopy imaging, and CARS imaging
- Bio-functionalized nanomaterials for the treatment of cancer and other diseases
- Bio-functionalized nanomaterials for clinical diagnostics

- Bio-functionalized nanomaterials-based therapeutics, such as gene delivery, photothermal and photodynamic therapy

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## Manuscript Submission:

Manuscripts must be prepared according to Journal's guidelines, available at <http://www.aspbs.com/jnan>. Submit your manuscripts in MS word or PDF format directly to one of the listed Guest Editors.

All papers submitted to this issue will be subject to a strict peer review process to ensure high quality articles. Please make sure in the cover letter that the submitted paper has not been published previously and is not currently submitted for review to any other journal and will not be submitted elsewhere before a decision is made by this journal. We also encourage the authors to recommend in the cover letter at least three potential reviewers in the related research field.

Please notify well in advance for your intension to submit a research paper.

## KEY TIMETABLE DATES

**Manuscript due: May 30, 2012**

**Authors' notification: June 30, 2012**

**Publication date: August, 2012**