Journal of Nanoscience and Nanotechnology (JNN)

CALL FOR PAPERS

A Special Issue on

"Role of Nanotechnology in Stem Cell Research"

Guest editors

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Aim and scope

The aim and scope of this special issue relevant to "Stem Cell Nanotechnology" is to introduce JNN readers to this paramount and emerging theme and to provide a recent update on the advancements and significance of the nanotechnology in stem cell-based research and therapy.

Stem cells are defined as the cells that are able to self-renew and differentiate into specialized cells. Depending on the source of origination, stem cells can be classified into three types i.e., embryonic stem cells, adult stem cells and induced pluripotent stem cells. The addition of stem cells to tissue engineering and regenerative medicine armamentarium has opened up new avenues with the potential of developing stem cell-based constructs for the regeneration of damaged or diseased tissues. Some of the applications of stem cells include spinal cord injury, diabetes, macular degeneration, cancer, heart disease, bone and cartilage defects and Parkinson's disease. Owing to their remarkable properties and translational potential, stem cells have now been taken up for clinical therapy or clinical trials.

Depending of the specific application, the fate and functions of stem cells in terms of its adhesion, proliferation and differentiation can be controlled by modulating its microenvironment. Therefore, the cellular microenvironment engineering holds great promise for the advancements in the stem cell research. Nanotechnology offers tremendous ways to modulate cellular microenvironment using various nanomaterials and nanosystems, and provides a tool to study the interaction of stem cells with their microenvironment and neighboring cells. Stem cell nanotechnology is an emerging field and a new subset in tissue engineering and regenerative medicine. Stem cell nanotechnology refers to the application of nanotechnology principles and techniques with stem cells biology for the advancement of stem cell-based research. The editors therefore feel that it's a right time to bring a special issue on "Role of Nanotechnology in Stem Cell Research" for the benefit of readers.

Journal of Nanoscience and Nanotechnology (http://www.aspbs.com/jnn/), an international journal published by the American Scientific Publisher, is therefore inviting people from both academia and industry to submit their articles, both review and original research

articles, relevant to the following topics, but not limited to:

- Design and development of nanomaterials and nanosystems for stem cell applications
- Three-dimensional culture of stem cells using nanostructured scaffolds
- Nanomaterials for stem cell delivery
- Nanotechnology in engineering stem cell microenvironment/niche
- Nanotechnology in controlling stem cell fate and function
- Stem cell and nanomaterial interaction
- Nanotechnology in stem cell imaging and tracking
- Advances in nanotechnology-driven stem cell regenerative medicine
- Generation of induced pluripotent stem cells using nanotechnology
- Pre-clinical and clinical evaluation
- Safety/regulatory/other critical aspects of stem cell nanotechnology

Important dates

- Submission of abstract (~200 words) – May 15, 2015
- Submission of full manuscript – August 15, 2015
- Notification of acceptance/revision/rejection – September 15, 2015
- Submission of revised manuscript, if any - September 30, 2015
- Tentative date of publication - December, 2015

Submission guidelines

Manuscripts for submission should not have been previously published nor be currently under consideration for publication elsewhere. All manuscripts are refereed through a peer review process as per the JNN standards. A guide for authors, sample copies and other relevant information for submitting manuscripts are available at the "Instructions for Authors" page on the homepage of JNN, http://www.aspbs.com/jnn/. Authors are requested to submit their abstract and full manuscript in both MS Word and PDF formats by email to rmurug2000@gmail.com or to one of the following editors.

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