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Journal of Nanoscience and Nanotechnology

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A special issue on

Nanotechnology in Green Science and Engineering

AIM AND SCOPE

The aim and scope of this special issue relevant to “Nanotechnology in Green Science and Engineering” is to introduce JNN readers to this important and emerging topic and to update the advances in the research and development of Nanotechnology and its application in Green Science and Engineering. Green Nanotechnology is a versatile technique, which has always been focused on the important challenges and latest advances in the chemistry, physics, biology, engineering, and other scientific aspects of nanotechnology as well as on their societal impact and the policies that have been or should be developed to address them. Green Nanotechnology has two goals: producing nanomaterials and products without harming the environment or human health, and producing nano-products that provide solutions to environmental problems. It uses existing principles of Green Chemistry and Green Engineering to make nanomaterials and nano-products without toxic ingredients, at low temperatures using less energy and renewable inputs wherever possible, and using lifecycle thinking in all design and engineering stages.

In addition to making nanomaterials and products with less impact to the environment, Green Nanotechnology also means using nanotechnology to make current manufacturing processes for non-nano materials and products more environmentally friendly. For example, nanoscale membranes can help separate desired chemical reaction products from waste materials. Nanoscale catalysts can make chemical reactions more efficient and less wasteful. Sensors at the nanoscale can form a part of process control systems, working with nano-enabled information systems. Using alternative energy systems, made possible by nanotechnology, is another way to "green" manufacturing processes. The second goal of Green Nanotechnology involves developing products that benefit the environment either directly or indirectly. Nanomaterials or products directly can clean hazardous waste sites, desalinate water, treat pollutants, or sense and monitor environmental pollutants. Indirectly, lightweight nanocomposites for automobiles and other means of transportation could save fuel and reduce materials used for production; nanotechnology-enabled fuel cells and light-emitting diodes (LEDs) could reduce pollution from energy generation and help conserve fossil fuels; self-cleaning nanoscale surface coatings could reduce or eliminate many cleaning chemicals; and enhanced battery life could lead to less material use and less waste. Green Nanotechnology takes a broad systems view of nanomaterials and products, ensuring that unforeseen consequences are minimized and that impacts are anticipated throughout the full life cycle. Therefore, the editors feel that it's a right time to bring a special issue on “Nanotechnology in Green Science and Engineering” 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:

(1) Theoretical analysis\design\fabrication \experimental and technological advancement of Green Nanotechnology relevant Physics and Chemistry: Articles present work in chemistry and physics toward green nanoparticle production, characterization, and their properties—all leading to green nanotechnology

development. These original articles and reviews present new green-nanotechnological processes for the production of well-known nanoparticulate constructs that are in some cases already in use.

(2) **Advances and Optimization process of Green Nanotechnology relevant Biomedicine:** Articles address biocompatibility and nanomedical applications of green nanotechnologies, including the development of new medical diagnostic and therapeutic agents and biological sensors. And Articles deal with naturally occurring materials, biomaterials, new eco-friendly and safer chemicals, methods and techniques for biomedical application, including cell culture, tissue engineering, regenerative medicine, wound dressing, drug delivery, protein or growth factor delivery, bio-implants/devices and other relevant biomedical fields.

(3) **Green Nanotechnology based Materials Science and Engineering:** Articles explore the engineering challenges of green-nanotechnological processes and applications, including the design and development of chemical sensors, smart electronic materials, nanoscale robots, medical devices and industrial wastes utilization and recycling.

In addition, the special issue will publish articles and commentaries on the societal impacts of green nanotechnologies, including socioeconomic and regulatory impacts, and perceptions of these among academics, policymakers, corporate decision makers, and the public.

IMPORTANT DATES

Submission of full manuscripts - **August 30, 2012**

Notification of acceptance/revision/rejection – September 30, 2012

Submission of revised manuscript, if any - October 31, 2012

Tentative date of publication - December 2012

MANUSCRIPT SUBMISSION TO GUEST EDITORS

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 at JNN website <http://www.aspbs.com/jnn>. Authors are requested to submit their full manuscript in both MS Word and PDF formats by email to nyhe1958@163.com or to one of the following **Guest Editors**.

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