



Journal of Nanomaterials

Special Issue on

Nanostructured Carbon Materials: From Nanoscale Modifications to Macroscopic Functional Materials

CALL FOR PAPERS

Carbon nanomaterials or nanocarbons, including carbon nanotubes and graphene, have a unique place in both nanoscience and materials science owing to their exceptional electrical, thermal, chemical, and mechanical properties widely claimed at the nanoscale. They have attracted special attention for applications in numerous areas: composite materials, energy storage and conversion, sensors, drug delivery, field emission devices, catalysis, and so forth. The challenge and opportunity are to exploit the nanocarbon potentialities and develop novel nanostructured materials. The transfer of the outstanding intrinsic properties of nanocarbons to bulk nanostructured materials mainly depends on the preparation methods and the chemical modifications at the nanoscale. Improvements in growth techniques, structural control, surface functionalization, large-scale synthesis, and characterization are all decisive to design new carbon materials. Moreover, determination of the mechanisms at the nanoscale that control interfacial phenomena and functional properties at the macroscale is challenging to design such nanostructured bulk materials.

This special issue gives an opportunity to contribute to the general understanding on the role of the preparation/modification routes in the structure of carbon nanomaterials in relation with their functional properties. Several aspects will be highlighted: (i) the understanding of the preparation and modification mechanisms (especially for graphene-related materials) including fine control of carbon structures, crystalline quality, uniformity, and repeatability; (ii) innovative nanocarbon routes for functionalization and decoration leading to new functionalities; (iii) nanocarbon processing, especially dispersion, assembly, and self-assembly approaches; (iv) structure versus property correlations in carbon nanomaterials.

In this special issue, we invite original research articles and review papers on carbon nanomaterials including but not limited to carbon nanotubes and graphene.

Potential topics include, but are not limited to:

- ▶ Synthesis of carbon nanotubes, graphene, few-layer graphene, graphene oxide, graphite oxide, and derivatives, either decorated or functionalized
- ▶ Chemical treatments on carbon nanomaterials
- ▶ Characterization at multiple length scales to the macroscale
- ▶ Investigation of structural and surface properties of carbon nanomaterials
- ▶ Chemical and physical properties of carbon nanomaterials
- ▶ Mechanisms of chemical modification
- ▶ Processing of carbon nanomaterials
- ▶ Assembly and self-assembly processes
- ▶ Macroscopic materials and devices from carbon nanomaterials

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

Lead Guest Editor

Brigitte Vigolo, Université de Lorraine,
Nancy, France
brigitte.vigolo@univ-lorraine.fr

Guest Editors

Abdul Rahman Mohamed, Universiti
Sains Malaysia, Pulau Pinang, Malaysia
chrahman@usm.my

Felipe Caballero-Briones, Instituto
Politécnico Nacional, Altamira, Mexico
fcaballero@ipn.mx

Gianrico Lamura, Istituto SPIN-CNR,
Genova, Italy
gianrico.lamura@spin.cnr.it

Manuscript Due

Friday, 18 December 2015

First Round of Reviews

Friday, 11 March 2016

Publication Date

Friday, 6 May 2016