Tentative Outline

Special Issue for Current Graphene Science

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Polymeric Nanocomposites Reinforced with Graphene

Aims & Scope:

'Graphene (G) and its derivatives, graphene oxide (GO) and reduced graphene oxide (rGO) have enormous potential for a wide number of applications owed to their 2D structure, large specific surface area, high electrical and thermal conductivity, optical transparency, huge mechanical strength combined with inherent flexibility. The combination of G-based materials with polymers leads to new nanocomposites with enhanced structural and functional properties due to synergistic effects. In particular, the properties of G-based polymer nanocomposites can be easily tuned by carefully controlling the graphene synthesis route and additionally the versatile synergistic interactions amongst graphene and polymers.

This Special Issue is aimed to offer a forum for the publication of original research/review articles regarding graphene-reinforced polymeric nanocomposites. The Special Issue includes all types of graphene-filled polymeric composites (e.g., thermoplastics, epoxies, conducting polymers, bio-polymers, coatings, *etc.*), and covers all branches and aspects of new processing techniques, testing methods, and standards, along with their applications. Novel surface modifications of graphene to develop nanocomposites are welcome, as well as the investigation of the advanced, physicochemical properties of the nanocomposites (as compared with conventional materials). Authors are encouraged to submit their original works stressing the applications of the nanocomposites in a variety of fields, such as in electronics, energy storage, automobiles, aerospace engineering, biomedicine and so forth.

Keywords:

tribological properties, graphene polymeric, Thermal, nanocomposites, Biomedical applications, Energy applications.

Subtopics:

- Novel techniques for the development of graphene polymeric nanocomposites
- Morphological characterization of graphene-based polymer nanocomposites
- Mechanical and tribological properties of graphene/polymer composites
- Thermal studies of graphene polymeric nanocomposites
- Conducting or/optical properties of graphene polymer nanocomposites
- Surface modification of graphene for improving the interaction with functional groups of polymers and sensing studies
- Biomedical applications of graphene-polymer nanocomposites
- Energy applications of graphene-based polymeric nanocomposites

• Application of bioinformatics tools for investigation on natural products • Toxicity/ Safety/ Regulatory issues with poly-herbal formulations Schedule:

Tentative date of submission of manuscripts: June 1, 2018