Journal of Nanomaterials

Special Issue on

Functional Nanocomposites in Environmental Remediation

CALL FOR PAPERS

Air, water, and soil pollution have become serious environmental challenges to maintain sustainable development of human society and ecosystem. The problem is even worse since we now know pollution significantly affects the global warming. With increasing demands of people's living quality, it becomes ever more urgent to control the release of hazardous materials to our living environment as well as take effective measures to remediate the existing damages and alleviate our environmental burdens. Existing facilities meet significant challenges either technologically or economically to satisfy the newly established stringent regulations (Euro VI emission standards, US-EPA water standards, etc.), especially in developing countries. It is well known that the upgrading of technology strongly relies on the advancement of new materials.

Nanotechnology provides a great platform to catalyze the upgrading of materials and revolutionize system and process efficiencies. However, directly using nanomaterials brings separation challenges, which may trigger secondary pollution of nanomaterial toxicity. Therefore, it seems more realistic to decorate functional nanostructures onto substrates with the following benefits: (a) synergistically integrate the advantages of both substrate and nanomaterials; (b) effectively prevent nanomaterial agglomeration to enhance material performance; (c) significantly reduce nanomaterial migration to environment. All these benefits allow functional nanocomposites promising applications to address environmental challenges.

The purpose of this special issue is to publish high-quality research papers as well as review articles addressing environment related challenges by using functional nanocomposite materials. Original, high quality contributions that are not published or that are not currently under review by other journals or peer-reviewed conferences are welcomed.

Potential topics include, but are not limited to:

- Adsorption/coagulation/precipitation
- Ion exchange
- Membrane process/filtration
- Nanocomposites for stabilization/solidification/neutralization of contaminants and heterogeneous/homogeneous catalysis
- Photocatalysis/photodegradation
- Toxicity assessment of nanomaterials
- Transport and fate of nanomaterials
- Toxicity assessment of nanomaterials
- Biodegradation
- Biomass based nanocomposites
- Modeling of nanomaterials in association with pollutants
- Process simulation

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

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