Journal of
Materials Engineering and Applications

Abstract

Interfacial Modifcation in Nanocomposites to Tailor Functionalities

Sabu Thomas
Mahatma Gandhi University, India

Abstract:
The talk will concentrate on various approaches being used to engineer materials at the nanoscale for various applications in future technologies. In particular, the case of clay, carbon nanostructures (e.g. nanotubes, graphene), metal oxides, bionanomaterials (cellulose, starch and chitin) will be used to highlight the challenges and progress. Several polymer systems will be considered such as rubbers, thermoplastics, thermoetts and their blends for the fabrication of functional polymer nanocomposites. The interfacial activity of nanomaterials in compatibilising binary polymer blends will also be discussed. Various self assembled architectures of hybrid nanostructures can be made using relatively simple processes. Some of these structures offer excellent opportunity to probe novel nanoscale behavior and can impart unusual macroscopic end properties. I will talk about various applications of these materials, taking into account their multifunctional properties. Some of the promising applications of clay, metal oxides, nano cellulose, chitin, carbon nanomaterials and their hybrids will be reviewed. Finally the effect of dewetting up on solvent rinsing on nano scale thin films will also be discussed.

Biography:

Sabu Thomas, Mahatma Gandhi University, Priyadarshini Hills P. O. Kottayam, Kerala, India is Submitted his abstract on the Webinar on Biopolymers and Bioplastics; October 15, 2020; Paris, France.

Recent Publications:

1. Sabu Thomas et al; Effects of nanofillers on morphology and surface wetting of microporous polypropylene composite membranes, 2020.

2. Sabu Thomas et al; Influence of reduced graphene oxide on flow behaviour, glass transition temperature and secondary crystallinity of plasticized poly(vinyl chloride), 2020.
3. Sabu Thomas et al; Gold nanoparticles against respiratory diseases: oncogenic and viral pathogens review, 2020.
4. Sabu Thomas et al; Confinement effects at nanoscale in natural rubber composites: Influence on macroscopic properties, 2020.
5. Sabu Thomas et al; Dielectric Properties of PMMA Films Reinforced with Ag/rGO Hybrid Composites, 2020

Webinar on Biopolymers and Bioplastics; October 15, 2020; Paris, France.

Citation: Sabu Thomas; Interfacial Modifcation in Nanocomposites to Tailor Functionalities; Biopolymers Webinar; October 15, 2020; Paris, France.