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Editorial

Demand for advanced and high-performance materials specifically useful for the targeted application is increasing. Examples include materials for thermal barrier coatings, fire resistant materials, light weight-high-strength composites, catalytic materials, chromic materials, metamaterials, shape-memory materials, shear-thickening fluids/materials, superalloys, high T_c superconductors, magnetic and magneto-resistive materials, porous materials etc.

In the present issue, **Sinha et al.** presented their work on extraction of MnO₂ from manganese ore from TATA Steel Ltd. Such indigenous efforts are important. **Ashok et al.** have presented their work on effect of particle size, load and speed on the dry sliding wear behaviour of Aluminium 8011 - SiC composites. Authors have used Taguchi and ANOVA techniques to analyse the contribution / effect of different experimental parameters. Authors conclude that the increase in load and sliding speed the wear loss increases. **G. Raghavendra et al.** have enhanced dispersibility of carbon black particles by encapsulating them with poly(vinyl alcohol) polymer. **G. R. Revannasiddappa et al.** have synthesized Dy³⁺ doped (1 – 11 mol. %) MgSiO₃ nanostructures by sonochemical synthesis method and studied its photoluminescence. Various characterization techniques have been used for understanding the morphology, particle size, crystallinity of the samples. Morphology of the samples were found to be highly dependent on the surfactant (*mimosa pudica*) concentration, sonication time, pH, and sonication power used. Authors have speculated the formation mechanism of the nano/micro-structures. The synthesized material looks to be a promising material for white light LED's. **Tawan Chaiwon et al.** have studied adsorption behavior of methyl orange dye on activated carbon which in turn is prepared from sugarcane bagasse by chemical activation method. Although many similar studies have been reported in the past for synthesis of activated carbon by using bio-waste materials as feedstock; such studies are important from the view point of ever important topic of water purification. **Sathyanarayana P. et al.** have analysed the performance of solar photovoltaic arrays under partial shading conditions. Such studies are important from the view point of practical application of PV technology. **R. A. Fonseca-Correa et al.** have studied heterogeneity and hydrophilicity of a series of aerogels using adsorption calorimetry with molecules of different polarity. Detailed results are presented by authors in their interesting paper.

I am sure that you will find the present issue of 'Carbon – Science and Technology' journal stimulating.

With best wishes

Dr. Prakash R. Somani
Editor-in-Chief
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