World Academy of Science, Engineering and Technology
International Journal of Materials and Metallurgical Engineering
Vol:8, No:11, 2014

Functional Nanomaterials for Environmental Applications

Authors : S. A. M. Sabrina, Gouget Lammel, Anne Chantal, Chazalviel, Jean Noël, Ozanam François, Etcheberry Arnaud, Tighlit Fatma Zohra, B. Samia, Gabouze Noureddine

Abstract : The elaboration and characterization of hybrid nano materials give rise to considerable interest due to the new properties that arising. They are considered as an important category of new materials having innovative characteristics by combining the specific intrinsic properties of inorganic compounds (semiconductors) with the grafted organic species. This open the way to improved properties and spectacular applications in various and important fields, especially in the environment. In this work, nano materials based-semiconductors were elaborated by chemical route. The obtained surfaces were grafted with organic functional groups. The functionalization process was optimized in order to confer to the hybrid nano material a good stability as well as the right properties required for the subsequent applications. Different characterization techniques were used to investigate the resulting nano structures, such as SEM, UV-Visible, FTIR, Contact angle and electro chemical measurements. Finally, applications were envisaged in environmental area. The elaborated nano structures were tested for the detection and the elimination of pollutants.

Keywords : hybrid materials, porous silicon, peptide, metal detection
Conference Title : ICPAM 2014 : International Conference on Physics of Advanced Materials
Conference Location : Venice, Italy
Conference Dates : November 13-14, 2014