Full Name : Yuvaraj Selvaraj

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Research areas : Plasma processing; Nanomaterials for biomedical applications

Title of the research : Plasma based materials processing for bio-medical applications

ResearchGate : https://www.researchgate.net/profile/Selvaraj-Yuvaraj

Google scholar : https://scholar.google.co.in/citations?user=Ib0rYbAAAAAJ&hl=en&oi=ao

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Current position :Research Scholar

Description of current and past research:

I am currently working on Non-Thermal Plasma processing to modify the surface properties of materials such as polymers, cotton fabrics, metal-oxide nanocomposites. The aim of the research is to produce the biocompatible materials by Plasma immersion technique. The carbon in the form of nano particle is the main element for coating over the aforementioned substrates. During the processing/coating the materials surfaces were subjected through the high vacuum condition (~$5x10^{-6}$ m.bar.,) to prevent the contamination with atmospheric gasses. This physical method is to modify the surface of the materials mainly to use as industrial and medical field such as UV shield, and surgical equipment respectively. Plasma processed Nano-carbon plays a vital role in microbial activity and non-cytotoxic to human cell lines even in 24 hours of incubation condition. This unique processing technique frames with several operating condition such as input plasma voltages (up to 1kV; applying across the water-cooled copper electrodes), processing time(s) and reactive gas concentration(sccm). These peripherals are to specify the unique formation of the surface/interface alteration for the numerous needs and necessities in science community.