Journal of Clinical Pathology and Laboratory Medicine
Extended Abstract
2019
Vol. 1, Iss. 2

The International Debate on Environmentally Sustainable Green and Cost Effective Smart Synthesis of Carbon Nanomaterials (Cnms) From Waste Plastic and its Multiple Applications

Sunil Dhali, S.P.S. Mehta and Nanda Gopal Sahoo

PRS Nanoscience and Nanotechnology Centre, Kumaun University, India

In the present time the management of solid waste is the one of the most alarming condition which withdraws the attention of the international scientific community. In developing countries it is becoming more and more critical. However, the non-biodegradable nature of the plastic waste, one of the hazardous waste in the food supply waste chain (FSWC), it has created challenge in front of scientific community. In order to this, different types of waste can be categorized such as industrial, agricultural, sanitary and solid urban residues based on their origin. Solid wastes such as plastic, food waste, agriculture waste are exceptional materials rich in the carbon content. Fortunately the high carbon content present in plastic waste, gives us an opportunity to synthesize and produce cost-effective, environmentally-friendly, and self-sustaining CNMs, and value added fuel. Carbon nanomaterials, such as graphene, carbon nanotubes (CNTs), crystalline diamond, and diamond-like carbon, all display exceptional electrochemical properties which have resulted in their widespread application. Moreover, excellent properties of carbon nanomaterials, such as large surface-to-volume ratio, high conductivity, and electron mobility at room temperature, have led to numerous advances in many research areas such as energy, biomedical, polymer nanocomposites, water purification, biosensors and etc. Here we are proposing to "Green, cost effective and smart synthesis of carbon nanomaterials (CNMs) from "Waste Plastic" and its multiple applications. Our main focused in the remediation of solid waste into high quality carbon nanomaterials applications for multiple purposes.

Polymer creation and usage are right now far reaching and have extraordinarily improved individuals' ways of life. Be that as it may, because of their steady and nonbiodegradable nature, postconsumer polymers present moving issues to the earth and biological systems. Endeavors are being made not exclusively to contain the age of polymer squanders and related littering be that as it may, likewise, to discover methods of using them economically. Beside mechanical reusing, which transforms postconsumer polymers into new polymer items, and warm reusing, which discharges the warm vitality contained inside waste plastics through ignition, compound reusing changes over waste polymers into feedstock for synthetic compounds/materials/energizes creation. This original copy surveys earlier work on an extraordinary utilization of the specific synthetic reusing course that changes over polymers into carbon-based nanomaterials. These materials include phenomenal physical and concoction properties with colossal applications potential. Notwithstanding, their creation forms are both resource- and energy-intensive. However, by exploiting the high carbon substance of waste polymers, just as of their high vitality content, a cost-effective, environmentally-friendly, and self-sustaining creation of carbon nanomaterials can be accomplished.

During the generally brief timeframe since the disclosure of fullerenes in 1985, carbon nanotubes in 1991, and graphene in 2004, the one of a kind properties of carbon-based nanomaterials have pulled in incredible intrigue, which has advanced the improvement of techniques for enormous scope mechanical creation. The constantly expanding business utilization of built carbon-based nanomaterials incorporates specialized, clinical, natural and rural applications. Notwithstanding the application field,