

Tissue Engineering Applications

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LETTER TO EDITOR

Due to the tissue and organ shortage, tissue engineering methods combining engineering principles and ways and biological sciences in making implantable tissues are viewed because the most promising technologies for make broken tissues and organs. As native tissues or organs square measure composed of proteins at intervals Nanoscale and cells directly move with nanostructured living thing matrices (ECM), Nano biomaterials like nanofibers, nanotubes, nanoparticles and alternative nanofabricated devices with smaller than 100 nm in a minimum of one dimension square measure capable of causative to cell growth and tissue regeneration.

The aim of this special issue is to demonstrate the newest accomplishment of technology and its development in tissue engineering field. The eleven analysis articles comprising this special issue cowl topics as well as the fabrication, characterization, and application of Nano biomaterials. Analysis articles on biomaterial surface technology, cell-biomaterials interaction and Nano biomaterials properties also are enclosed during this issue.

Electro spinning may be a well-established technique aiming at manufacturing ultrafine fibres by electrically charging a suspended drop of chemical compound softens or resolution. There square measure varied styles of materials that may be electro spun into Nano fibrous structures that have promising applications in tissue engineering. The primary four papers of this special issue mentioned the electro spinning technique for tissue engineering application. The primary paper "Fabrication of perishable polyester Nano composites by electro spinning for tissue engineering" reviewed many perishable polyester-based Nano composites for tissue engineering applications. The second paper "Electro spun collagen: a tissue engineering scaffold with distinctive practical properties during a wide range of applications" specifically cantered on the collagen-based electro spun nanomaterial's with variable applications. The third paper "Quantitatively controlled fabrication of uniaxial aligned

Nano fibrous scaffold for cell adhesion" developed uniaxial aligned nanofibers via quantitatively controlled fabrication technique. The fourth paper "Electro spinning of poly (ethylene-co-vinyl alcohol) Nano fibres encapsulated with conductor nanoparticles for skin wound healing" achieved fabrication of a medication Nano fibrous scaffold with the encapsulation of conductor nanoparticles in poly (ethylene-co-vinyl alcohol) nanofibers.

The following 2 papers square measure associated with surface morphology and micro patterning technology. Specifically, the fifth paper "Dependence of spreading and differentiation of mesenchymal stem cells on micro patterned surface area" mentioned the result of micro patterning technology on the differentiation of Mesenchymal stem cells (MSCs). The sixth paper "Surface modification of metal with heparin-chitosan multilayers via layer-by-layer self-assembly technique" showed a surface modification technique via chitosan-heparin layer-by-layer self-assembly technique.

Particle size management ready via a coconut water-assisted sol-gel technique," a kind of Eu³⁺-doped Y₂O₃ nanoparticle was created through super molecule sol-gel technique and also the adjustment of pH scale was tested so as to manage the particle size of the powders. Within the eighth paper, "BN nanoparticles/wave-transparent composites with high strength and low insulator constant," the addition of the BNnp/ nanoparticles improved the insulator properties of BNnp/ composites and attenuates the mechanical properties. The ninth and tenth papers "Analysis of carbon nanotubes on the mechanical properties at atomic scale" and "Some observations on carbon nanotubes condition to cell bodily process" mentioned the carbon nanotubes in terms of their mechanical properties and their condition to cell phagocytosis. The eleventh paper "Enhanced photo catalytic activity for degradation of acid-base indicator over silica-titania" rumoured a way of constructing silica-modified titania (SMT) powders with increased photo catalytic activity.

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