Journal of Healthcare Engineering

Hindawi

Special Issue on

Emerging Approaches on Musculoskeletal Tissue Regeneration

CALL FOR PAPERS

Though patients with musculoskeletal (bone and articular cartilage) damage, which is the leading cause of osteoarthritis and other major osseous defects including long bone cancer, have been increasing day by day all over the world, repairing and regeneration of articular cartilage and long bones are quite difficult and remain a clinical challenge. Emerging tissue engineering approach holds the promise to use innovative biomaterials (scaffolds), stem cells, growth factors, and, more recently, drugs and material based medicine (nanomedicine) to aid the repair and regeneration of articular cartilage and bone.

We invite investigators and researchers to contribute original research as well as review articles that will stimulate the continuing global efforts to find the promising solutions for musculoskeletal regeneration.

Potential topics include but are not limited to the following:

- Emerging tissue engineering approaches for musculoskeletal tissue repair
- Micro- and nanostructured biomaterials for bone and cartilage regeneration
- Endogenous stem cells in tissue growth and regeneration
- Growth factors for repairing bone and cartilage defects
- Biomechanics of tissue scaffolds applicable for bone and cartilage
- Promising cell sources for musculoskeletal tissue regeneration
- Scaffold-free techniques for tissue regeneration applicable to bone and cartilage
- Controlled therapeutic delivery approaches for reconstructive surgeries
- In vitro and in vivo analyses of the functional biomaterials
- Functional biomaterials for cartilage and bone tissue engineering
- 3D bioprinting of the tissue models and organs for cartilage and bone tissue engineering
- Autografts and allografts for BTE/CTE (Bone Tissue Engineering/Cartilage Tissue Engineering)
- Bone grafts and cartilage grafts
- Augment bone repair and regeneration
- Bone defect repair
- Bone and cartilage development
- Physical process of bone/cartilage formation
- Critical genes and growth factors in bone/cartilage formation
- Recent advances in BTE and CTE
- Advanced hydrogels used in BTE and CTE
- Osteoinductive materials
- Hybrid materials for BTE and CTE
- Biodegradable scaffolds for BTE/CTE
- Scaffold porosity and BTE/CTE
- Nanofeatured scaffolds for BTE and CTE
- New scaffold fabrication techniques for BTE and CTE
- Cellular approaches for bone/cartilage repair
- Embryonic Stem Cells (ESCs) for BTE and CTE
- Induced pluripotent stem cells for BTE and CTE
- Adult stem cells in BTE/CTE
- Functional bone tissue engineering
- Limitations and challenges faced in BTE/CTE

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/jhe/acte/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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