Special Issue

Transformative Approaches in Musculoskeletal Tissue Regeneration: From Bench to Bedside

Message from the Guest Editor

This Special Issue highlights groundbreaking therapeutic strategies for musculoskeletal tissue regeneration, particularly addressing the increasing challenge of chronic bone loss in aging populations. Traditional treatments are limited, but tissue engineering using stem cells, biomaterials, and multidisciplinary approaches offers promising solutions. We invite original research articles and reviews focusing on transformative approaches for tissue repair and regeneration, encompassing:

- Understanding MSC lineage commitment mechanisms
- Developing cutting-edge biomaterials for cell/gene/drug delivery
- Creating innovative animal models for pre-clinical evaluations
- Exploring cell-free strategies like MSC-derived exosomes
- New therapeutic approaches targeting tissue repair in chronic degenerative conditions
- Translational strategies bridging lab innovations with clinical applications

Guest Editor

Dr. Jiabing Fan

Department of Pharmaceutical Sciences, School of Pharmacy and Health Professions, University of Maryland Eastern Shore, Princess Anne, MD 21853 USA

Deadline for manuscript submissions

closed (30 May 2025)



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Bioengineering Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 bioengineering@mdpi.com

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Editor-in-Chief

Prof. Dr. Anthony Guiseppi-Elie Department of Biomedical Engineering, Texas A&M University, College Station, TX 77843, USA

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