Special Issue

Next Generation Bioengineered Strategies for Musculoskeletal Regeneration

Message from the Guest Editors

Advanced biomaterial design looks at controlling cellular responses to refine microenvironmental properties, paving the way to generate physiologically relevant niches and engineer soft-to-hard tissue interfaces. In recent years, several fabrication methods have enabled control over different interdependent biophysical parameters (e.g., topography, stiffness, elasticity, porosity). However, several challenges still emerge regarding the establishment of adequate “artificial” microenvironments capable of precisely replicating the health and disease states of tissues (e.g., biophysical, biochemical, biomechanical and biological properties) while monitoring the cellular responses in situ. This Special Issue addresses the central role in defining proper bioengineered microenvironments and monitoring tools for the health and disease of musculoskeletal tissues. Therefore, contributions from worldwide studies on cell biology, on-chip technology, biosensing, bioprinting, bioreactor design and clinical translation of bioengineered solutions for musculoskeletal tissue and interface engineering and regeneration will be collected in this Special Issue.

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Editor-in-Chief

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