

Special Issue on
Extracellular Matrix-Based Tissue as Biomaterial Scaffolds

CALL FOR PAPERS

From young to old age, disease, injury, and trauma can occur in the tissue of the human body. The damaged tissue could progressively degenerate and impair the physiological system. With the advancement of medical technology, many new strategies for treatment have been developed to facilitate tissue repair, replacement, or regeneration. For the material scientists, development of these strategies comes under various categories such as tissue engineering, tissue transplant, and biomimicking engineering materials for biomaterials. However, there are major problems with these treatments and consequently may diminish the long-term efficacy of the treatments. These problems suggest potential areas for improvement. How to develop viable solutions to the problems requires an understanding of the mechanisms by which the biomaterials function in the body at the fundamental levels.

The aim of this special issue is concerned with extracellular matrix- (ECM-) based tissue as biomaterial scaffolds.

The special issue will publish reports of original and substantial findings addressing the analysis of the physical properties of extracellular matrix-based tissue. These could be theoretical and computational as well as experimental papers that may be submitted; theoretical/computational papers will normally include comparison of predictions with experimental data, though this may not always apply. Experimental studies may include *in vitro* or *in vivo* investigations.

Potential topics include but are not limited to the following:

- ▶ Recent developments in multiscale studies of ECM-based biomaterials and ECM-based tissue scaffold biomechanics
- ▶ Extracellular matrix- (ECM-) based tissue scaffold biomechanics
- ▶ Computational modelling of ECM-based tissues for biomaterials
- ▶ Advances in imaging systems for studying ECM-based biomaterials
- ▶ Advances in X-ray diffraction and scattering for studying ECM-based biomaterials
- ▶ Latest technologies for micro- and nanomechanical testing of ECM-based biomaterials
- ▶ Recent investigations of the role of ECM components in ECM-based biomaterials
- ▶ Design of ECM-based biomaterials, bottom-up or top-down approaches
- ▶ Recent developments in ECM-based biomaterials for personalized medical applications
- ▶ Recent investigations in ECM-based biomaterials with associated tissues in the body, including fluid/soft tissue interactions
- ▶ Recent developments for cardiovascular applications
- ▶ Bioreactors for generating ECM for tissue engineering applications
- ▶ Synthesis and characterization of ECM-based scaffolds
- ▶ Recent advances in clinical applications of ECM-based scaffolds

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/ijbm/emtbs/>.

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First Round of Reviews

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