

Special Issue on
**Innovative Polymeric Scaffold Designs to Fabricate
Biomimetic Tissue Interfaces**

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Polymeric scaffolds made of natural and synthetic polymers represent a well-known option for regenerative medicine purposes. The type of polymer, the degree of crosslinking, and the process of fabrication can impact the physical and mechanical properties of the designed polymeric scaffolds.

However, the available strategies fail to generate networks that can mimic the structural organization of different types of native tissues. Specifically, there is a need to create new material that can resemble the interface between hard and soft tissues. This next generation of scaffolds can potentially improve existing strategies to address the need for grafting materials for tissue engineering applications.

The aim and scope of this special issue are to identify emerging strategies to modulate the chemistry and physical properties of synthetic polymers to design scaffolds closely resembling natural tissue composition and organization. Novel studies investigating alternative crosslinking strategies for polymeric scaffolds are also welcomed. Additionally, synthesis and characterization of natural polymers will be considered as a valuable approach to achieve the formation of innovative polymeric networks. Finally, reviews about the concepts mentioned above can also be considered in this issue.

Potential topics include but are not limited to the following:

- ▶ Chemical characterization of synthetic polymers as backbone for biomimetic polymeric scaffolds
- ▶ Synthesis and characterization of derivatives of natural polymers to fabricate biomimetic polymeric scaffolds
- ▶ Innovative crosslinking approaches to control the degree of crosslinking
- ▶ Strategies to fabricate polymeric scaffolds resembling native tissue interfaces
- ▶ Fabrication techniques to control the internal porosity of polymeric scaffolds
- ▶ Cryogel and gas foaming techniques to design porous polymeric scaffolds
- ▶ Hydrogel designed by double network strategies
- ▶ Nanocomposite-based hydrogels
- ▶ Fabrication techniques to produce bilayer structures
- ▶ Strategies aimed to modulate surface properties of polymeric scaffolds

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

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