



Fabrication and Biomedical Applications of Multifunctional Bio-Interfaces

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Message from the Guest Editor

Dear Colleagues,

Biomaterials and biomaterial coatings play a crucial role in various biomedical applications, ranging from enhanced osseointegration with inert ceramic coatings to the prevention of thrombosis via heparin-eluting stents. These coatings' success or failure depends on factors such as surface roughness and chemical functional groups, which greatly impact the bio-interface and its interactions. Understanding these effects is essential to the optimization of the bio-interface and its interactions; for example, reducing stem cell differentiation or increasing osteointegration via the surface roughness.

In this Special Issue, original research articles and reviews are welcome. Research areas may include, but are not limited to, the following:

- Intriguing fabrication methodologies and recent developments in biomaterials and bio-interfaces;
- Multi-functionality of biomedicine, and bio-interfacing and devices;
- Investigations into the interaction of the material–biological environment and its effects on in vitro/in vivo research;
- Applications of materials for tissue engineering, including orthopedics, dentistry, etc.





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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

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