

Special Issue

Advanced Biomaterials and Surface Coatings: Design, Characterization and Biomedical Applications

Message from the Guest Editors

This Special Issue aims to collect cutting-edge contributions that advance the design, fabrication, in-depth characterization, and application of next-generation biomaterials and surface coatings for biomedical purposes. It seeks to gather a collection of at least 10 high-quality articles, which may enable the Special Issue to be compiled and printed in book form. Research areas may include (but are not limited to) the following:

- The design and synthesis of novel biomaterials and functional coatings (e.g., bioactive, antibacterial, anti-fouling, or drug-eluting).
- Advanced deposition and surface modification techniques (e.g., plasma spraying, sol-gel, layer-by-layer assembly, CVD/PVD, and electrochemical methods).
- Comprehensive characterization of surface properties (e.g., topography, chemistry, wettability, mechanical behavior, and corrosion resistance) using state-of-the-art methods.
- In vitro and in vivo evaluation of biocompatibility, bioactivity, osseointegration, and tissue response.
- Multifunctional and stimuli-responsive coatings for implants, stents, catheters, tissue scaffolds, and diagnostic devices.
- Computational modeling and simulation of biomaterial surfaces and interfaces.

Guest Editors

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About the Journal

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.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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