



Synthetic and Biological-Derived Hydroxyapatite Implant Coatings

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Message from the Guest Editors

Dear Colleagues,

HA is a well-known bioceramic which possesses a close chemical and structural resemblance to the mineral composition of bones and teeth of vertebrates. Despite their favorable bone regeneration properties, HA ceramics are very brittle, and this restricts their usage in high load-bearing applications. To overcome this drawback, HA can be applied as a coating on either metallic or polymeric implants, aiming to significantly improve the implant's overall performance by harmoniously combining the excellent bioactivity of the ceramic with the mechanical advantages of the substrate implants. In particular, the topics of interest of this Special Issue include, but are not limited to:

- Synthetic and biological-derived HA coatings for orthopedic and dental implants;
- Drug delivery;
- Composite HA-based coatings;
- Doping of synthetic and biological-derived HA coatings;
- Alternative methods for the deposition of synthetic and biological-derived HA coatings;
- Biofunctional assessment of synthetic and biological-derived HA coatings.





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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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