



Biomimetic Drug Delivery Coating

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Message from the Guest Editor

Dear Colleagues,

Biomimetic coatings have been developed for bone regeneration and repair because of their biocompatibility and osteoconductivity. They can be rendered osteoinductive by incorporating an osteoinductive agent such as bone morphogenetic protein 2 (BMP-2) into the crystalline lattice in physiological situations. The biomimetic calcium phosphate coating enables a controlled, slow, and local release of growth factors when it undergoes cell-mediated coating degradation induced by multinuclear cells such as osteoclasts and foreign body giant cells, which mimics a physiologically similar release mode.

The goal of this Special Issue is to present the major current areas of research and development in biomimetic coatings for biomaterials. The coating techniques, physico-chemical properties, and potential as drug carrier should be discussed, and the peri-clinical research results and the clinical related applications in implant dentistry as well as in orthopedics will be discussed. Biomimetic coatings may open a way forward for drug delivery and tissue engineering.

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Guest Editor





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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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