



## Bioactive Coatings on Medical Implants

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### Message from the Guest Editors

Dear Colleagues,

The development of coatings for medical implants, to improve the performance and enrich the field of action of the materials, had a great boost, thanks to the advance in manufacturing and in functionalization techniques, at both micro- and nano-levels.

Such coatings are required to address multiple needs, such as the following:

- ameliorating the integration in the implanted site;
- assuring biocompatibility, tissue functionality, and biomechanical properties;
- preventing bacterial growth and the onset of pre-implant infections;
- delivering pharmacological treatments.

Despite the advances in this field, we are far from having designed “ideal” coatings, able to successfully achieve the above mentioned goals in all clinical situations. Many aspects, in fact, can bias and influence the outcome of coated implants.

In particular, the topics of interest include, but are not limited to, the following:

- design and development of new bioactive coatings
- functionalization strategies
- preclinical models
- biocompatibility and bioactivity assessment
- antibacterial efficacy studies
- retrospective studies/clinical trials





## Editors-in-Chief

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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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