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Antibacterial Coating in Biomedical Applications

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Message from the Guest Editors

Dear Colleagues,

Despite considerable progress in the development of nanobiotechnology and nanofabrication techniques, the quest to design and fabricate new antibacterial surfaces of advanced biomaterials remains a high research priority. It is well established that sessile microorganisms in biofilms are up to 1000 times more resistant to antibacterial agents compared to the same bacteria in planktonic status. These materials used in clinic may be failed due to the infection by bacteria. The drug resistance caused by antibiotic abuse is an important problem that needs to be solved urgently in clinic. Using coating biotechnology to inhibit bacterial infection is helpful and meaningful. Recently, a great deal of effort has been devoted to designing a new generation of coatings with antibacterial functionality, in order to eliminate adverse effects of the biofilm on the function of a variety of specific bio-interfaces.









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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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