Special Issue

Biofilms: Composition and Applications

Message from the Guest Editors

Biofilms are composed of a complex three-dimensional extracellular matrix in which bacteria are embedded. As biofilms provide mechanical cohesive stability, the microorganisms embedded in the biofilm matrix show a high survival rate and persistence. In addition, biofilm formation promotes the colonization of bacteria in almost all kinds of surfaces, including natural and synthetic surfaces. Recently, biofilms have been intentionally engineered for various applications exploiting their unique properties. In this Special Issue, we focus on the composition of biofilms (natural and artificial) and their application in different fields, including agricultural, environmental, medical, and industrial biotechnology. The topics of interest for this Special Issue include: Application of biofilms in industry;
Biofilms for improved enzymatic activity;
Nanoparticles and biofilm formation;
Biofilms and improved plant growth;
Biofilms and bioremediation;
Viscoelastic properties and surface topography of biofilms for biotechnological applications;
Biofilms for erosion resistance;
Biofilms for medical applications;
Biofilms in construction materials;
Other applications.

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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.
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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