Special Issue

Formation of Biofilms and Its Applications

Message from the Guest Editor

Biofilms are made up of attached (gathered) microbes and the extracellular polymeric substrates (EPS) produced by them, the feature of which depends on the species of microbe community and the components of EPS. In industrial fields, they often affect the performance and lifetime of (parts of) plants, buildings, storage tanks, and other facilities. In environmental fields, they contribute to ecosystems and bioremediation. Hence, biofilms can be interpreted as a part of coatings. Of course, chemical, physical, and electrical coatings are generally powerful tools for protecting and maintaining the targets without the influence of basal materials to both accelerate or inhibit biofilm formation. In particular, the topic of interest includes, but is not limited to, the following:

- The specific features of biofilm formed on a coating;
- Artificial biofilms and the application to industrial fields;
- The microbiomes of biofilms derived from wastewater treatment facilities, oil tanks, buildings, etc.;
- Regulating biofilm formation with intelligent coatings;
- The differences between non-treated biofilms and treated biofilms with biocides, chemical compounds, lights, coating, etc.

Guest Editor

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Deadline for manuscript submissions

closed (30 June 2025)

Coatings

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.4

mdpi.com/si/98561

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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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