

Special Issue

Advanced Surface Coatings for Biomedical and Industrial Applications

Message from the Guest Editors

This Special Issue focuses on the latest advances in surface coatings designed to enhance material performance in biomedical and industrial environments. The development of functional, durable, and biocompatible coatings plays a critical role in improving the safety and efficiency of components exposed to demanding physical, chemical, and biological conditions. Key topics include, but are not limited to, the following:

- Thermal sprayed-based coatings (e.g., APS, Cold Spray, HVOF, Flame spray)
- Plasma-based coatings (e.g., Plasma-Enhanced CVD);
- Physical and Chemical Vapor Deposition (PVD, CVD);
- Sol-gel coatings and hybrid organic-inorganic films;
- Electrochemical and electrophoretic deposition techniques;
- Laser surface modification and laser cladding;
- Surface functionalization for controlled biological or chemical response;
- Multilayer and gradient coatings for enhanced interfacial performance;
- Smart coatings with stimuli-responsive or self-healing properties;
- Coating-substrate interface characterization and adhesion mechanisms;
- In vitro/in vivo evaluation of coated biomedical devices;
- Standardization and translational challenges of coating technologies.

Guest Editors

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About the Journal

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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