

Special Issue

Advanced Surface Treatment Technologies of Alloys/Steels: Mechanical and Tribological Performances

Message from the Guest Editors

Advanced surface engineering technologies enhance component life, reduce costs, and boost energy efficiency—key to developing sustainable and high-performance industrial products. Industry demand stems from the need to improve wear, corrosion, and oxidation resistance; adjust surface mechanics; enhance biocompatibility; lower friction; and introduce tailored optical, electrical, or chemical properties. Applications span automotive, aerospace, energy, medical, electronics, and tooling sectors. This Special Issue of *Coatings* covers the following research areas:

- Coating production via laser/plasma processing, ion implantation, PVD/CVD, thermochemical treatment, and related methods
- Experimental and theoretical studies on coating processes
- Research on tribological, mechanical, and structural properties
- New concepts in surface layer design and performance
- Industrial applications of coatings and surface layers
- Modeling and simulation for predicting coating behavior and durability

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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