

Special Issue

Surface Treatment for Steel Materials

Message from the Guest Editor

In most cases, failure occurs at the surface of materials, such as wear, corrosion, and fatigue failure. In particular, surface corrosion and wear are the main problems that cause material loss of mechanical parts. In order to improve the surface property of certain steel materials, various surface treatments have been developed.

Chemical, electrochemical, metallurgical, physical, and mechanical treatments are the main surface treatment methods. These treatments can enhance the surface appearance of steel parts, and more importantly, they can improve their corrosion resistance, wear resistance, and other mechanical and chemical properties, which help to prolong the service life of steel parts. In this Special Issue, research areas may include (but not be limited to) the following:

- Surface treatments to improve the mechanical properties of steel materials;
- Surface treatments to improve the chemical properties of steel materials;
- Characterization of coatings on steel materials;
- Influences of surface modification (surface corrosion included) on mechanical properties of steel materials;
- Any other aspects of surface treatments for steel materials.

Guest Editor

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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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