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Surface Treatment and Functionalization of Metal Materials: Electrochemical, Catalytic, Bioactivity, Corrosion and Wear Behaviour

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Message from the Guest Editors

The development of new processes of functionalization and treatment of metallic surfaces seeks to meet demands for improvement and optimization of properties such as wear and corrosion resistance for increasingly challenging applications in various areas that employ metallic material. Furthermore, when properties such as improved biocompatibility are required for biomedical applications, surface treatment allows the modification of the alloy surface to optimise the performance of the material according to the required characteristics (this is dependent on the application). Surfaces with photocatalytic properties supported on metallic materials have also been developed, and environmentally friendly processes are being proposed, observing issues related to sustainability and cost of the raw materials.

This Special Issue of Metals focuses on surface treatment and functionalization of metal materials and intends to collect the latest developments in electrochemical, catalytic, bioactivity, corrosion, tribocorrosion and wear behaviour of metal materials, as well as environmentally friendly processes to treat or recover metal materials.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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