Special Issue

Surface Treatment and Coatings for Metals

Message from the Guest Editor

The aim of this Special Issue is to study the performance of corrosion protection surface coatings for metals and/or alloys surfaces. For this purpose, chemically or electrochemically creating nano-composites on these metals or alloys surfaces is required. Nano-composite coatings are preferred, using different nanoparticles, polymers and/or others. Such coatings should be characterized using scanning electron microscopy (SEM), Energy-Dispersive X-ray Analyses (EDX) or other analytical methods. Additionally, they should be tested electrochemically using potentiodynamic polarization, electrochemical impedance spectroscopy or others. Such studies should show that the nano-composite coatings can significantly enhance the corrosion resistance of the tested metal, such as magnesium, aluminum, steel, and alloys that are important industrially or biologically. This Special Issue focuses on relationships among the compositions of nano-composite coatings and the characteristics of the tested metals or alloys. We welcome research work that studies the influence of synthesizing a novel nano-composite coating on the properties of these metals and its significance on protecting them.

Guest Editor

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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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