Special Issue

Corrosion and Oxidation of Metals: Mechanisms, Kinetics, and Protection

Message from the Guest Editor

Corrosion and oxidation are major challenges in industrial environments, resulting in significant costs for the protection, replacement and maintenance of parts. These phenomena are the primary cause of degradation of the metallic parts used in machinery, infrastructure and critical components of various types. Corrosion and oxidation are complex phenomena that are highly dependent not only on the composition of the metal being corroded, but also on the environment and temperature. Therefore, research is needed to understand the mechanisms behind these phenomena and to develop highly resistant materials or protective techniques and applications. This Special Issue invites the submission of original research papers, short communications, and reviews dealing with corrosion and oxidation of metals and alloys, with a focus on mechanisms, kinetics, scale characterization, and other related topics. The scope includes metals and alloys exposed to corrosive environments of any kind, including aqueous corrosion phenomena as well as atmospheric corrosion. Studies of atmospheres that reflect modern industrial applications.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

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