

Special Issue

Environmentally-Assisted Degradation of Metals and Alloys

Message from the Guest Editor

The sustainability of metals and alloys in practical engineering is affected by their interaction with corrosive environments and/or stresses. The environmentally assisted degradation of metals and alloys as structural components has a detrimental effect on their mechanical and physical properties, which may lead to catastrophic failure. It is crucial for the evaluation of material performance under corrosive environments and/or stresses and increasing the durability of materials in service. The scope for this Special Issue is environmentally assisted degradation of metals and alloys, basically including corrosion, oxidation, creep, wear, corrosive wear, erosion, fretting, stress corrosion cracking (SCC), hydrogen-induced cracking (HIC), fatigue, corrosion fatigue, mechanisms and methods of corrosion control, etc. Research papers and critical reviews in the fields of corrosion and degradation of materials and their practical control are welcome in this Special Issue. Material design, modification, treatment, protection, corrosion testing, and corrosion simulation, which are relevant to the corrosion and prevention of materials, are also of great interest.

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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