

Special Issue

Advances in Corrosion and Protection of Materials (Third Edition)

Message from the Guest Editor

Corrosion significantly impacts various industries, influencing costs and material performance. As technological advancements progress, understanding corrosion mechanisms and protection methods becomes essential. The design of new materials and manufacturing methods must account for corrosion resistance, especially the correlation between chemical composition, processing parameters, metallurgical aspects, and surface characteristics. Recent research has focused on areas such as multiprinciple metallic alloys, additively manufactured alloys, friction stir-welded materials, localized corrosion studied by scanning probe techniques, biomedical alloys, and new protective coatings. This Special Issue aims to present the latest research on material corrosion and protection, focusing on novel alloys, corrosion mechanisms, surface chemistry-corrosion correlations, advanced manufacturing methods (additive manufacturing, friction stir welding), metallurgical influences (heat treatments, microstructure, grain size, phases), scanning probe techniques for localized corrosion, and protective coatings and surface treatments. We invite both research articles and reviews.

Guest Editor

Prof. Dr. Renato Altobelli Antunes

Center for Engineering, Modelling and Applied Social Sciences (CECS),
Federal University of the ABC (UFABC), Santo André 09210-580, SP,
Brazil

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Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

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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

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering,
State Key Laboratory for Advanced Metals and Materials, University of
Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083,
China

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