Special Issue

Study on Surface Modification and Corrosion Prevention of Materials

Message from the Guest Editors

Corrosion is a major issue for the increase of service life and reliability of materials, including steel, light alloys, and additive manufacturing alloys employed in the practice. In this sense, this requires a high-quality material surface modification in the industry and a delicate design of internal microstructure such as protective coating, cathodic protection methods, corrosion inhibitors, alloying design and microstructural control. This Special Issue focuses on a new and detailed understanding of corrosion mechanisms and an improvement of corrosion performance with the support by new research methods, high-quality surface modification technologies, service life estimation methods with consideration of corrosion problems, corrosion simulation, electrochemical methods, high resolution microstructure characterization methods and others.

Guest Editors

Dr. Jiantao Qi

College of New Energy, China University of Petroleum (East China), Qingdao 266580, China

Dr. Wu Wei

Associate Professor, Faculty of Materials and Manufacturing, Beijing University of Technology, Beijing 100124, China

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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.

Editors-in-Chief

Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

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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