Special Issue

Investigation of Microstructural and Corrosion Properties of Steels and Light Alloys (2nd Edition)

Message from the Guest Editors

Very few metals can be found in metallic form in nature; the vast majority have to be processed from their ores at a great cost in terms of energy and money. It is therefore energetically favorable for them to reverse to their initial state. This process is commonly known as corrosion or anti-metallurgy, and great efforts are made worldwide to limit this process.

A proper alloy design in terms of composition, heat treatments, microstructural features, etc. is mandatory in order to obtain the best combination of mechanical properties and corrosion resistance during operation, reducing maintenance costs and the overall impact on the global economy. In fact, microstructural features can affect both the corrosion of the material itself and also the eventual production of protective layers on their surfaces.

The purpose of this Special Issue is to correlate the key role of the microstructure of steels and light alloys to their corrosion properties.

I invite you to submit both original contributions and review works on this topic, with papers that deal both with the characterization and with corrosion resistance evaluation of different alloys.

Guest Editors

Dr. Claudio Gennari

Department of Industrial Engineering, University of Padua, Padua, Italy

Dr. Luca Pezzato

Department of Industrial Engineering, University of Padova, Via Marzolo 9, 35131 Padova, Italy

Deadline for manuscript submissions

closed (20 April 2025)

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

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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