Special Issue

High-Temperature Corrosion and Protection of Alloys

Message from the Guest Editors

Alloys of various kinds are widely used in applications where high-temperature and aggressive environments are both present. Regardless of the application, durability is a key factor of success. Research activities are meant to understand the mechanism of degradation in operando of the metal components and its dependence on working parameters such as the environment, temperature, side reactions, contact with other materials, presence of electric or magnetic fields, mechanical stress, and phase changes. It is thus of fundamental importance to discuss the materials selection and the eventual protection strategies applied to enhance correspondence amid application issues and materials science responses. This Special Issue of *Metals* will welcome papers regarding all kinds of alloys and practical solutions (consolidated, experimental and theoretical) regarding:

- High-temperature corrosion, oxidation;
- Protection of metal supports;
- Accelerated tests;
- Modeling (both descriptive and predictive);
- Interaction between microstructural features and corrosion behavior;
- Failure risk assessment.

Guest Editors

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About the Journal

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

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

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