

Special Issue

Advances in Research on the Corrosion Properties of Metal Compounds in Alloys

Message from the Guest Editors

This Special Issue will present research that deepens scientific understanding of corrosion phenomena in metal alloys and compounds. Contributions that address experimental, theoretical, and simulatory aspects of corrosion in various alloy systems are particularly encouraged. In addition, interdisciplinary studies that integrate materials science, surface engineering, electrochemistry, and computational modeling are highly welcome. Topics of interest include, but are not limited to, the following:

- The corrosion behavior of high-entropy, refractory, and lightweight metal alloys.
- The influence of alloying elements and microstructure on corrosion resistance.
- Passivation, localized corrosion, and pitting mechanisms.
- Oxidation and high-temperature corrosion phenomena.
- Surface treatments, coatings, and corrosion-resistant layers.
- The electrochemical characterization of corrosion processes.
- Computational modeling, machine learning, and data-driven corrosion prediction.
- Corrosion behavior in extreme environments (e.g., marine, high-temperature, and nuclear environments).
- Life prediction and analysis of failure due to corrosion.
- Novel testing methods and in situ/operando characterization techniques.

Guest Editors

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Deadline for manuscript submissions

31 August 2026



Processes

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