# Special Issue

## Surface Modification and Treatment of Metals

### Message from the Guest Editor

Surface modification and treatment involve altering the microstructure, chemical composition, and physical state of metal surfaces through various methods to enhance their performance. Key processes include:

Mechanical surface treatment: techniques like sandblasting, polishing, and rolling remove surface defects, improving smoothness and precision. Surface deformation strengthening: methods such as shot peening induce plastic deformation on the metal surface, enhancing hardness and wear resistance. Heat treatments: processes like laser surface strengthening and induction heating modify the metal's microstructure through thermal action. Chemical treatments: involve chemical reactions between the metal surface and specific chemicals, as seen in oxidation, plating, and phosphating. Electrochemical surface treatments: techniques like electroplating and anodizing create protective layers or alter the surface's chemical properties.

These methods enhance wear resistance, corrosion resistance, aesthetics, or specific functional requirements. The current Special Issue of Metals focuses on the latest developments in these techniques, welcoming both reviews and research articles.


### Guest Editor

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### Deadline for manuscript submissions

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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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