Special Issue

Advanced Coating Technologies for Metals

Message from the Guest Editor

In recent years, coating technologies have become essential for enhancing the performance and durability of metallic materials under demanding service conditions. Research in materials engineering, particularly in corrosion and surface protection, shows that integrating theory, experimentation, and real-world applications is crucial for further advancement in this field. This Special Issue aims to collect contributions addressing both fundamental and applied aspects of advanced coatings for metals. Topics include thermal spray coatings, PVD/CVD processes, laser-based techniques, and hybrid or multilayer systems, with emphasis on improving resistance to corrosion, wear, and high-temperature degradation. Emerging approaches such as environmentally friendly coatings, bio-inspired strategies, and natural inhibitors are also encouraged. Submissions combining experimental studies with modeling or simulation to better understand degradation mechanisms and coating performance are particularly welcome. This Special Issue highlights research that advances scientific understanding while providing practical solutions to industrial challenges in energy, marine, and manufacturing sectors.

Guest Editor

Prof. Dr. Willian Aperador
Faculty of Engineering, Universidad Militar Nueva Granada, Bogotá 111111, Colombia

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

mdpi.com/journal/metals

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About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

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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