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Editorial Board Members' Collection Series: Improving Structural Integrity of Metals: From Bulk to Surface

Guest Editors:

Dr. Francesca Borgioli

Dr. Denis Benasciutti

Prof. Dr. Umberto Prisco

Prof. Dr. Tomasz Tański

Deadline for manuscript submissions:
closed (31 May 2024)

Message from the Guest Editors

Dear Colleagues,

Metals and alloys continue to play a paramount role in the design and construction of load-bearing structures and mechanical components. When it comes to guarantee the structural integrity and safety of critical parts, a variety of protection and strengthening mechanisms—not only at the bulk level, but also at the surface—may be exploited, not to mention the role of the manufacturing process in establishing the material microstructure and, in turn, its strength. Topics that can be covered are rather broad and may include, but are not limited to, the modification of alloy elements and the formation of new alloys such as high-entropy alloys; heat treatments; advanced manufacturing techniques such as additive manufacturing; and surface engineering techniques such as shot-peening, diffusion treatments, and coatings.

This Special Issue aims to present up-to-date methods and approaches for preserving and improving the structural integrity of metallic components, with a look at phenomena occurring at the bulk and surface level while considering the role of the manufacturing process as it correlates to the microstructure.

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Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

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

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.

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Journal Rank: JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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mdpi.com/journal/metals
metals@mdpi.com
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