Special Issue

Structure and Mechanical Properties of Aluminum Alloys

Message from the Guest Editor

Aluminum alloy is the most extensively utilized lightweight metal structural material in modern industrial applications, such as in aerospace, automobiles, rail vehicles, smart furniture, mobile phones, and weapons and equipment. The mechanical properties of aluminum alloys are one of their most important features, and their higher comprehensive mechanical properties are key to expanding their further application. Generally, mechanical properties are dependent on the microstructure of the alloy. Exploring and regulating the microstructure and mechanical properties of the material is crucial to achieving the preparation of a high-performance aluminum alloy. The current Special Issue of *Metals* focuses on the structure and mechanical properties of aluminum alloy; this includes, but is not limited to, the latest developments in aluminum-based composite materials, welding, novel manufacturing methods (additive manufacturing), and new methods for the characterization of the microstructure and mechanical properties of alloys. We welcome the submission of both reviews and research articles.

Guest Editor

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Deadline for manuscript submissions

closed (31 July 2025)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/203795

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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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