



Aluminum Alloys and Aluminum Matrix Composites

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Message from the Guest Editor

The challenge of this century is the reduction of greenhouse gas emissions to zero. Therefore, the interest in light metals and alloys has been increasing for many years. Among all of these, aluminum alloys are the most used due to their high strength/weight ratio combined with their good corrosion resistance and reasonable cost. The research community and industry have developed processes to manufacture even lighter components with higher strength from aluminum and its alloys. This Special Issue of *Metals* focuses on various aspects of advanced research to:

- Increase the strength by several manufacturing routes and processes in order to obtain nanocrystalline aluminum alloys.
- Design innovative processes routes for the manufacture of structural components from metal matrix composites (MMCs).
- Upgrade processing areas: surface engineering, joining methods (e.g., friction stir welding—FSW) and additive manufacturing methods.
- Conduct microstructural characterization in order to understand mechanical properties and performance (e.g., corrosion behavior and tribological studies).
- Run simulations and modelling of processing and heat treatment.





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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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