Special Issue

Recent Advances in Forming Processes of Lightweight Metals

Message from the Guest Editor

Lightweight metals (e.g., aluminum, magnesium, titanium, and their alloys) are highlighted as a sustainable material that has the ability to reduce environmental burdens as a result of their application in electric vehicles, aircrafts, trains, etc., in addition to their recyclability. A low energy consumption and high functionality is needed in casting and recycling. Environmentally friendly forming processes are used to minimize the quantity of lubricants that are used. High cost-competitiveness is required to reduce the number of steps in fabrication, as well as to avoid adhesive wear. In this Special Issue, we welcome articles that focus on the following areas:

- Casting: Direct fabrication of fine-grained titanium via highly conductive crucibles.
- Extrusion: Direct recycling of used drag-packing aluminum sheets to product via advanced extrusion.
- Application: Fabrication of medical magnesium clips for degradation after surgical preparations.
- Forming: Gelling-free, dry, and near-net shaping of titanium eyeglass frame parts.

Guest Editor

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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.

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