

Special Issue

Lightweight Metal Alloys & Metal Matrix Composites

Message from the Guest Editors

The advancement of technologies is supported by new materials and/or functional modification of existing materials. Light metals such as aluminium (Al) and magnesium (Mg) have immense potential to cater for the current and emerging technologies, such as in automotive, aviation, defense, biomedical, sporting equipment, etc. They are attractive material candidates due in part to their light weight, energy efficiency and environmental friendliness. With Al and Mg, new alloys/composites are being developed to effectively match the demands in industries, by (i) materials design, (ii) new manufacturing technologies such as additive manufacturing, spark plasma sintering, microwave sintering, etc., and (iii) microstructural manipulation via heat treatments, deformation processing, etc. This Special Issue invites both experimental and theoretical research works on the light-weight materials and their performance. Suggested topics include, but are not limited to, (i) materials design, (ii) materials processing, (iii) characterization and properties evaluation such as physical, mechanical and surface properties and (iv) processing–microstructure–properties correlation.

Guest Editors

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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.

Editors-in-Chief

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