

Special Issue

Phase Transformations in Aluminium Alloys

Message from the Guest Editor

Aluminium alloys are widely used nowadays because they combine a set of properties depending largely on the microstructure obtained after a sequence of phase transformations. With the developments of alloys dedicated to operating at high temperatures and incorporating minor additions of high melting point or transition elements, one must better assess the factors making these additions to be detrimental or beneficial and develop guidelines helping the optimization of alloy compositions for a given set of operating conditions. For alloys processed following non-conventional routes particularly multicomponent alloys, there is a strong need for a better understanding of the critical transformation processes involved. A lot of research must still be done to better characterize and model phase transformations in aluminium alloys occurring under a variety of conditions. The Special Issue is therefore dedicated to contributions in the field of phase transformations in aluminium alloys revealing the marked effect on the microstructure that alloy composition and temperature history may have, including the morphology and size of grains and second phase particles.

Guest Editor

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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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