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# Phase Transformations and Physical Properties of Alloys

Guest Editor:

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Deadline for manuscript submissions:
**closed (31 October 2023)**

## Message from the Guest Editor

Dear Colleagues,

The concept of classical metallurgy defines alloys as containing additional (to major constituent) elements which allow the attainment of improved physical properties. Using this approach, new steels (as an example) were developed, increasing the work temperature, corrosion resistance, achieving better strength/ductility combination, etc. Instead of one major constituent and minor impurities, equiatomic or near-equiatomic compositions of a minimum of five elements are used, attaining improved physical properties due to local disorder in the formed solid solutions. As a function of composition, pressure, and/or temperature, physical properties may change dramatically due to the occurring phase transformation. Regardless of the nature of the phase transformation, they always induce a change of physical properties that may be wanted or unwanted depending on the subsequent usage.

In this Issue we invite articles containing experimental research and/or theoretical calculations, reporting on the phase transformations occurring in alloys (both conventional and high-entropy alloys).

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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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