Special Issue

Novel Magnetic Alloys

Message from the Guest Editor

Magnetic alloys and compounds constitute one of the most prominent classes of materials with many present and emerging applications, including permanent magnets, soft magnets, magnetic recording media, sensors, magnetic refrigerators, and spin-transport-based electronics. Some magnetic alloys exhibit novel phenomena, such as half-metallic and spin-gapless semiconducting properties, colossal magnetoresistive effect, giant magnetocaloric effect, magnetoelastic effect and non-collinear magnetic texture. One attractive class of materials exhibiting these novel phenomena are Heusler alloys. The discovery of materials exhibiting such properties has been possible due to recent advances in theoretical understanding, computational ability and materials processing. This Special Issue is expected to collect articles reporting original results on the fabrication, characterization, experimental investigation, theoretical understanding and practical application of magnetic alloys exhibiting some of above-mentioned novel phenomena, as well as review papers about particular topics.

Guest Editor

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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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