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Synthesis, Characterization and Applications of High-Entropy Alloys

Guest Editor:

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Deadline for manuscript submissions:
closed (20 February 2023)

Message from the Guest Editor

Dear Colleagues,

High-entropy alloys (HEAs) are a lass of new multicomponent alloys with five or more components in equal or near-equal concentrations and have been investigated extensively since they were first described in 2004. Unlike conventional alloys that are normally based on a single host metal, the high entropy of mixing and disordered solution of several elements in HEAs competes with the enthalpy of phase formation. As a result, either single- or multi-phase HEAs can be produced. Resulting from the multi-element environment, slower diffusion rates, high friction forces on dislocations, and the propensity for twinning contribute to the excellent mechanical properties in HEAs.

The aim of this SI is to comprehensively understand the latest developments on the synthesis, characterization, and application of multicomponent HEAs. It is my pleasure to invite you to submit manuscripts on the subject of HEAs for this Special Issue.

- high-entropy alloys
- characterization
- microstructure
- mechanical properties
- thermodynamic properties
- thin films
- nanoparticles
- melting and casting
- mechanical alloying and milling
- additive manufacturing

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Message from the Editor-in-Chief

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