

Special Issue

Microstructure and Mechanical Properties of High-Entropy Alloys

Message from the Guest Editor

The properties of High entropy alloys (HEA) are remarkable due to their special deformation mechanisms, which are due to their compositional complexities, which lead to unique microstructures. The microstructures of HEAs are normally dominated by solid solution phase(s), in addition, a series of local environments, such as lattice distortion and chemical short-range ordering, are frequently seen. These types of local environments were found to significantly affect the mechanical properties/behavior of HEAs. This new Special Issue of HEAs welcomes submissions on a variety of different topics. Fundamental studies on the identification and quantification of various strengthening mechanisms, phase formation/transformation during solidification/annealing/aging, microstructural evolution and deformation mechanisms during different types of loading, the characterization and analysis of local environments are equally welcome. We expect that the papers published in this SI will theoretically advance our understanding of the microstructure–mechanical property correlation for HEAs and practically contribute to the design of novel advanced materials with enhanced properties.

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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