Special Issue

New Horizons in High-Temperature Deformation of Metals and Alloys

Message from the Guest Editors

As a result of rapid technological advances in the field, understanding the high-temperature deformation of metals and alloys remains a key issue in terms of addressing the problems related to the optimization of both production and industrial applications. With the introduction of innovative technologies such as additive manufacturing, the microstructures of alloys can be altered in novel ways. This poses new problems as regards estimating the high-temperature strength of these materials, whose behavior was thought to be fully characterized. The introduction of new constitutive equations for the description of the creep response of metals and alloys, based on the physics of these materials and with the aim of replacing traditional phenomenological approaches, is just another example of many recent interesting developments. We can thus undoubtedly conclude that much remains to be investigated in this field, thanks to the rapid advances in technology and material science. This Special Issue of MDPI seeks to bring together articles focusing on the most recent developments related to the different aspects and mechanisms of the high-temperature deformation of metals and alloys.

Guest Editors

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About the Journal

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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