Special Issue

Creep and Deformation of Metals and Alloys at Elevated Temperatures

Message from the Guest Editor

Various aspects of creep and deformation behavior of metals and alloys at elevated temperatures are of great interest to materials scientists. Creep resistance is an extremely important characteristic to be evaluated for structural materials that are used, for example, in aircraft gas turbines, fossil power plants, nuclear reactors, etc. New heat-resistant materials such as nickel-based superalloys, heat-resistant austenitic and martensitic steels, and light alloys are being developed to meet the requirements for components operating at high temperatures. Advanced materials are designed to withstand creep based on the different approaches increasing their strengthening from solid solution, second-phase particles, and dislocation structure. On the other hand, understanding of deformation behavior of metals and alloys can help us to increase their hot workability and obtain the desired microstructure and properties for the finished product. The aim of this Special Issue is to present the latest achievements in the theoretical and experimental investigations of creep and deformation behavior of metallic materials.

Guest Editor

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Message from the Editor-in-Chief

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.

Editor-in-Chief

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