



Creep and Deformation of Metals and Alloys at Elevated Temperatures

Guest Editor:

Dr. Nadezhda Dudova

Laboratory for Mechanical
Properties of Nanostructured
Materials and Superalloys,
Belgorod State University, 308015
Belgorod, Russia

Deadline for manuscript
submissions:

closed (30 June 2021)

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.





an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Hugo F. Lopez

Department of Materials Science
and Engineering, College of
Engineering & Applied Science,
University of Wisconsin-
Milwaukee, 3200 N. Cramer
Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang

Beijing Advanced Innovation
Center of Materials Genome
Engineering, State Key
Laboratory for Advanced Metals
and Materials, University of
Science and Technology Beijing,
30 Xueyuan Road, Beijing 100083,
China

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.

Author Benefits

Open Access: free for readers, with **article processing charges (APC)** paid by authors or their institutions.

High Visibility: indexed within **Scopus**, **SCIE (Web of Science)**, **Inspec**, **CAPLUS / SciFinder**, and **other databases**.

Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q1 (*Metals and Alloys*)

Contact Us

Metals Editorial Office
MDPI, St. Alban-Anlage 26
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
[X@Metals_MDPI](https://twitter.com/X@Metals_MDPI)