



Creep and Fatigue Behavior of Alloys

Guest Editor:

**Prof. Dr. A. Toshimitsu
Yokobori, Jr.**

Advanced Comprehensive
Research Organization, Teikyo
University, Tokyo, Japan

Deadline for manuscript
submissions:

30 September 2024

Message from the Guest Editor

Dear Colleagues,

To achieve the goal of reducing carbon dioxide emissions and using fossil fuel effectively, high-efficiency electric power plants with a higher steam temperature have been developed. Because the operating conditions of these power plants are exposed to more severe conditions than conventional systems, such as high temperature, high pressure, start-stop, and multi-axial stress, it is required to develop a highly accurate life prediction technique. Therefore, it is essential to standardize the testing and estimation methods of crack initiation and growth lives under high temperature creep-fatigue conditions accompanied with studies on the clarification of the deteriorated mechanism based on material science, which is useful to clarify the mechanism of damage formation under creep and fatigue conditions. The scope of this Special Issue includes research fields focusing on the clarification of the mechanism of damage formation and crack growth, the prediction of fracture life, and the establishment of testing methods under both stress- and strain-controlled creep and fatigue conditions.

Prof. Dr. A. Toshimitsu Yokobori, Jr.





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)